



ENGE 2018

The 5th International Conference on Electronic Materials
and Nanotechnology for Green Environment

November 11-14, 2018

Ramada Plaza Jeju Hotel, Jeju, Korea

Hosted by



Organized by



Sponsored by



CONTENTS

003

Conference Information

- 003 Welcome Message
- 004 Overview
- 005 Committee

026

Useful Information

- 026 Registration
- 027 Useful Tips
- 028 Social Programs

007

Technical Programs

- 007 Program at a Glance
- 008 Venue Layout
- 009 Poster Session Layout
- 010 Session Timetable
- 013 Conference Topics
- 018 Plenary Speakers
- 019 Key Speakers
- 023 Sponsor Session
- 024 Satellite Session
- 025 Presentation Guidelines

029

Presentation Schedule

- 030 1. Materials and devices for VLSI applications
- 038 2. Materials, processes and devices for wearable and stretchable electronic applications
- 049 3. Materials for frontier displays and optoelectronics
- 060 4. Two-dimensional materials and their heterostructures
- 070 5. Materials and processes for nanofabrication
- 077 6. Materials for renewable solar energy
- 086 7. Electrochemical and photoelectrochemical energy conversion materials
- 093 8. Materials for sustainable energy storage
- 101 9. Energy harvesting materials
- 112 10. Biomaterials
- 118 11. Computational materials science
- 126 12. Advanced materials characterization
- 133 13. General program

155

Author Index

WELCOME MESSAGE

"We hope you will join us for a symphony of outstanding sciences, and enjoy the bonus of the spectacular beauty of Jeju island."

Dear Colleagues and Friends,

On behalf of the organizing committee, I am delighted to welcome you to ENGE 2018, the 5th International Conference on Electronic Materials and Nanotechnology for Green Environment running from November 11 to 14, 2018 in Jeju, Korea.

ENGE has been held biennially since 2010 to provide a special platform for researchers to share their latest progresses in and explore future directions of studies of electronic materials and nanotechnology. ENGE stands as a highly acclaimed meeting with the reputation of pursuing high standards particularly in oral presentations as well as an atmosphere of close interactions with world-renowned scientists.

ENGE 2018 is ready to move forward in upgrading the status and the tradition of the conference. As it turned out, ENGE 2018 would accommodate 1,051 presentations by researchers from 16 countries in 13 technical programs comprising 46 sessions, the largest in the conference history. They include 3 plenary lectures, 11 keynote and 198 invited speeches by distinguished and leading scholars and oral and poster presentations by young Ph.D's and students. Overall, these will provide enlarged opportunities for the exchange of high-quality, the most up-to-date scientific and technical information than before.

I would like to express my deepest appreciation to each and every one of you for attending and contributing your expertise to ENGE 2018. I wish you rewarding and valuable experiences in ENGE 2018 and a very enjoyable and entertaining stay in Jeju as well.

Sincerely,



A stylized, handwritten signature in black ink, consisting of several fluid, connected strokes.

Byung-ki Cheong

*Chairman of ENGE 2018
Korea Institute of Science and Technology*

OVERVIEW

Title

The 5th International Conference on Electronic Materials and Nanotechnology for Green Environment

Date

November 11-14 (Sun-Wed), 2018

Location

Ramada Plaza Jeju Hotel, Jeju, Korea

Hosted by

The Korean Institute of Metals and Materials

Organized by

BK21 PLUS SNU | Materials Division for Educating Creative Global Leaders
BK21 PLUS POSTECH | Center for Creative Industrial Materials
BK21 PLUS KAIST | R&E Initiative for Emerging Materials-based Creative Convergence
BK21 PLUS Yonsei University | Creative Materials Division
Flexible ThermoElectric Device Center
IBS-Center for Artificial Low D Electronic Systems
IBS-Center for Multidimensional Carbon Materials

Sponsored by

Jeju Convention & Visitors Bureau
Korea Tourism Organization

Thanks to

Platinum	POSCO
Gold	THERMO FISHER SCIENTIFIC
Silver	SK SILTRON
Angel	RIGONG INTERNATIONAL

Platinum	ULVAC
Silver	SAMSUNG ELECTRO-MECHANICS
Bronze	AMOGREENTECH

Program

Welcome Reception, Technical Session (Plenary, Keynote, Tutorial, Invited, Oral, Poster), Banquet

History

ENGE 2010	ENGE 2012	ENGE 2014	ENGE 2016	ENGE 2018
				
Nov. 21-24, 2010 558 presentations 477 attendees 13 countries	Sep. 16-19, 2012 906 presentations 852 attendees 12 countries	Nov. 16-19, 2014 897 presentations 1,019 attendees 21 countries	Nov. 6-9, 2016 981 presentations 1,180 attendees 19 countries	Nov. 11-14, 2018 1,051 presentations 1,400 attendees 16 countries

Secretariat

6th FL., Seocho-daero 56-gil 38, Seocho-gu, Seoul 06633, Korea
Tel: +82-2-565-3571 E-mail: secretary@enge2018.org

COMMITTEE

STEERING COMMITTEE

Chairman	Byung-ki Cheong	<i>Korea Institute of Science and Technology</i>
Co-Chairman	Euijoon Yoon	<i>Seoul National University</i>
Vice Chairman	Moon-Ho Jo	<i>Institute for Basic Science / Pohang University of Science and Technology</i>
General Secretary	Ho Won Jang	<i>Seoul National University</i>
Program	Cheolmin Park	<i>Yonsei University</i>
	Byoung Hun Lee	<i>Gwangju Institute of Science and Technology</i>
Publication	Soo Young Kim	<i>Chung-Ang University</i>
	Byungha Shin	<i>Korea Advanced Institute of Science and Technology</i>
Global Cooperation	Hyeon Suk Shin	<i>Ulsan National Institute of Science and Technology</i>
	Myung-Han Yoon	<i>Gwangju Institute of Science and Technology</i>
	Sung-Yool Choi	<i>Korea Advanced Institute of Science and Technology</i>
Publicity	Yoon Sung Nam	<i>Korea Advanced Institute of Science and Technology</i>
	Haein Yim	<i>Sookmyung Women's University</i>
Treasurer	Ji-Won Son	<i>Korea Institute of Science and Technology</i>
Local	Chong-Yun Kang	<i>Korea Institute of Science and Technology</i>
	Hojun Ryu	<i>Electronics and Telecommunications Research Institute</i>
	Keon Jae Lee	<i>Korea Advanced Institute of Science and Technology</i>

PROGRAM COMMITTEE

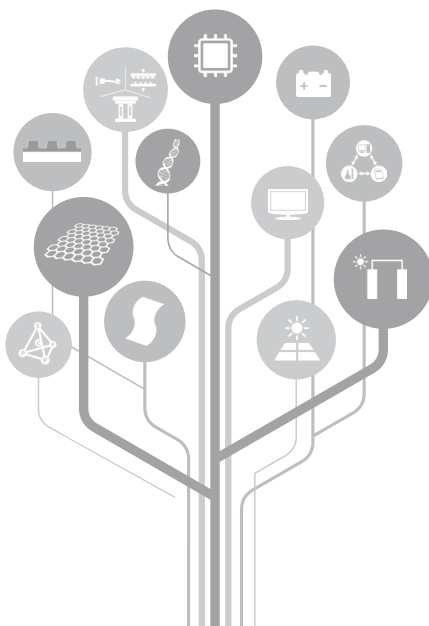
Chairman	Cheolmin Park	<i>Yonsei University</i>
	Byoung Hun Lee	<i>Gwangju Institute of Science and Technology</i>
Member	Rino Choi	<i>Inha University</i>
	Jong-Hyun Ahn	<i>Yonsei University</i>
	Tae-Woo Lee	<i>Seoul National University</i>
	Hyeon Suk Shin	<i>Ulsan National Institute of Science and Technology</i>
	Yeon Sik Jung	<i>Korea Advanced Institute of Science and Technology</i>
	Min Jae Ko	<i>Hanyang University</i>
	Ho Won Jang	<i>Seoul National University</i>
	Byoungwoo Kang	<i>Pohang University of Science and Technology</i>
	Sung Wng Kim	<i>Sungkyunkwan University</i>
	So-Jung Park	<i>Ewha Womans University</i>
	Sang Soo Han	<i>Korea Institute of Science and Technology</i>
	Jae Pyoung Ahn	<i>Korea Institute of Science and Technology</i>

ADVISORY COMMITTEE

Chairman	Young-Ho Kim	<i>Hanyang University</i>
Member	Joonyeon Chang	<i>Korea Institute of Science and Technology</i>
	Nak-Woong Eum	<i>Electronics and Telecommunications Research Institute</i>
	Young Keun Kim	<i>Korea University</i>
	Young-Chang Joo	<i>Seoul National University</i>
	Hyuck Mo Lee	<i>Korea Advanced Institute of Science and Technology</i>
	Jong-Lam Lee	<i>Pohang University of Science and Technology</i>
	Byungwoo Park	<i>Seoul National University</i>
	Kyung-Ho Shin	<i>Korea Institute of Science and Technology</i>
	Ji-Beom Yoo	<i>Sungkyunkwan University</i>

INTERNATIONAL ADVISORY COMMITTEE

Member	Sean J. Hearne	<i>MRS President / Sandia National Laboratories</i>
	Hideo Hosono	<i>Tokyo Institute of Technology</i>
	Yuichi Ikuhara	<i>The University of Tokyo</i>
	Karl Leo	<i>IAPP, Technische Universitat Dresden</i>
	Rodney S. Ruoff	<i>Ulsan National Institute of Science and Technology</i>



PROGRAM AT A GLANCE

	(SUN) Nov.11	(MON) Nov.12	(TUE) Nov.13	(WED) Nov.14
09:00				
10:00		Oral Session 09:00-12:00	Oral Session 09:00-12:00	Oral Session 09:00-12:00
11:00				
12:00		Lunch 12:00-13:20	Lunch 12:00-13:20	Lunch 12:00-13:00
13:00		Plenary Session 1 & 2 13:20-14:40		Plenary Session 3 13:00-13:40
14:00			Oral Session 13:20-16:20	
15:00		Oral Session 15:00-18:00		Oral Session 13:50-16:50
16:00			Poster Session 16:40-18:10	Poster Session 16:50-17:50
17:00			Tutorial Session 16:40-17:40	
18:00	Welcome Reception 18:00-19:30	Poster Session 18:00-19:30	Banquet 18:15-20:00	
19:00				
20:00				

EVENTS

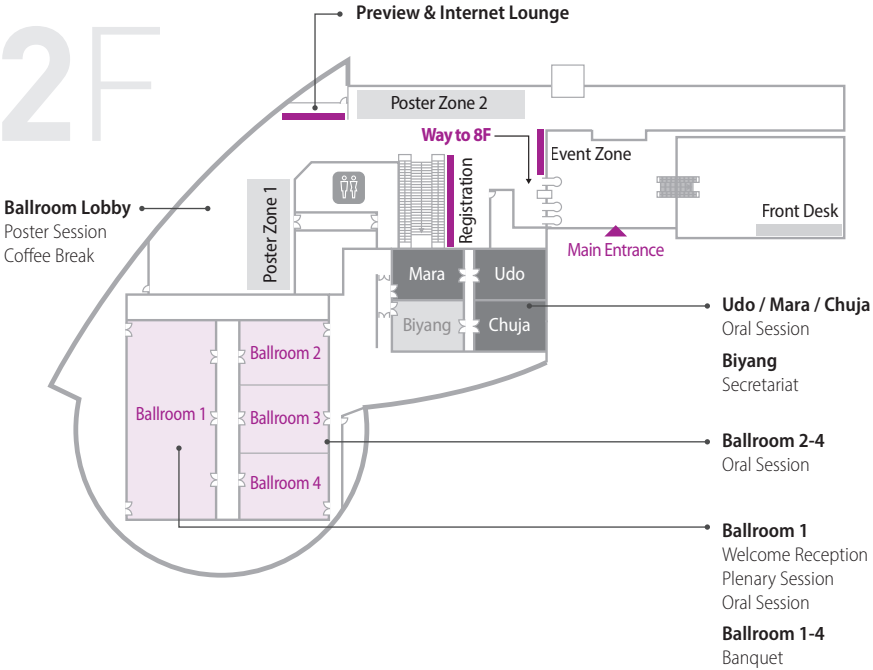
Welcome Reception	SUN	Nov. 11	18:00-19:30
Doughnut Time	MON-WED	Nov. 12-14	08:30-08:50
Beer Time	MON	Nov. 12	18:00-19:30
Banquet	TUE	Nov. 13	18:15-20:00
Event Voting	SUN	Nov.11	16:00-18:00
	MON-WED	Nov. 12-14	09:00-18:00

PLENARY SPEAKERS

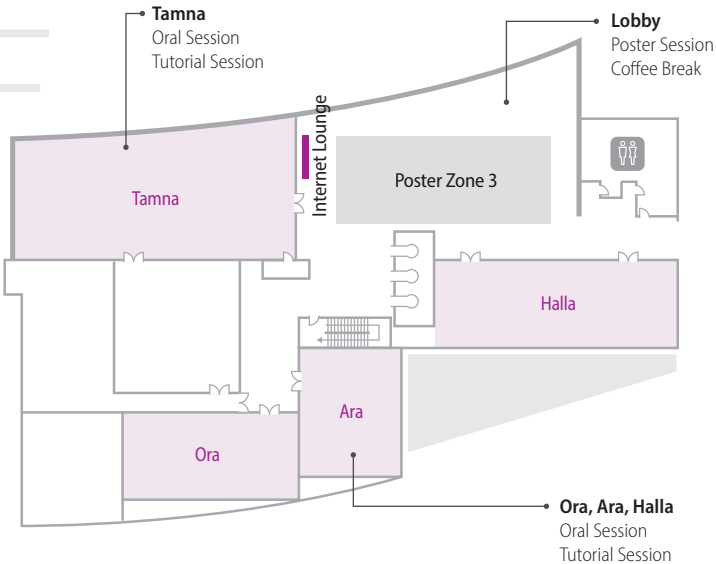
Plenary Speaker 1	Matthias Wuttig (RWTH Aachen University, Germany)
Plenary Speaker 2	Hui-Ming Cheng (Chinese Academy of Sciences, China)
Plenary Speaker 3	Nicholas A. Kotov (University of Michigan, USA)

VENUE LAYOUT

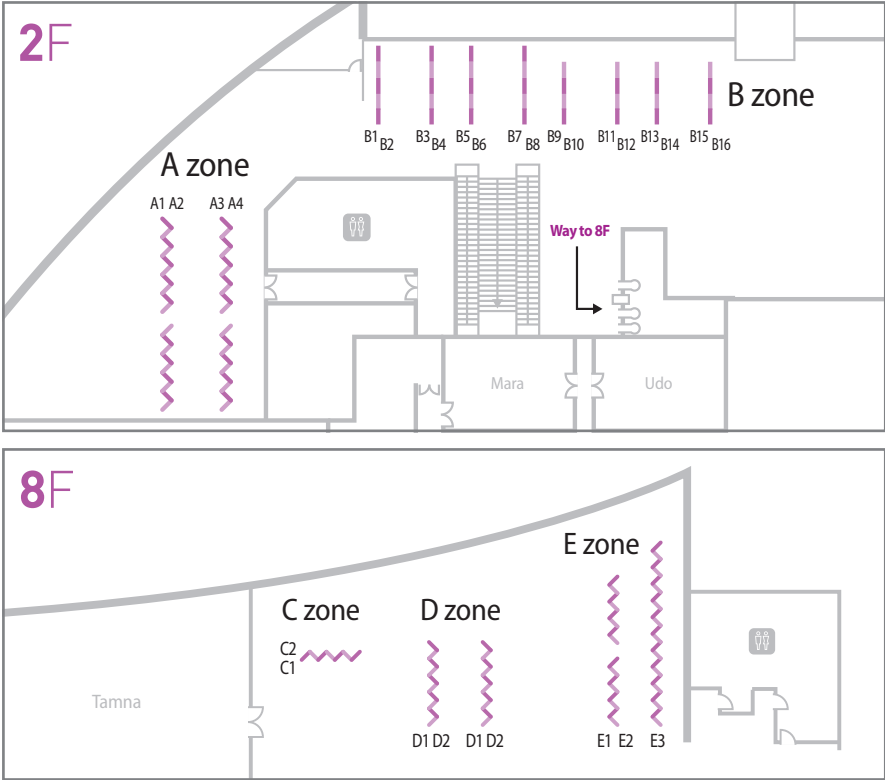
2F



8F



POSTER SESSION LAYOUT



Program	(MON) November 12	(TUE) November 13	(WED) November 14
1	2F A1	2F A1-A2	
2	2F A1-A3	2F A2-A3	
3	8F C1-C2	8F C1-C2, D1-D2	8F C1-C2
4	2F A3-A4	2F A3-A4	
5	2F B1-B3		2F A1-A2
6	8F D1-D4	8F D2-D3	
7	8F E1-E2	8F D3	
8		8F D4	8F D1-D4
9		8F E1-E3	8F E1
10		8F E3	8F E2-E3
11	2F B4-B6	2F B1-B3	
12		2F B3-B7	
13	2F B6-B15	2F B8-B14	2F A2-A4, B1-B8

SESSION TIMETABLE

(SUN) November 11												
18:00-19:30	Welcome Reception (Ballroom 1 - 2F)											
(MON) November 12												
Floor	2F					8F						
Place	Ballroom 1	Ballroom 2	Ballroom 3	Ballroom 4	Udo	Maria	Chuja	Ora	Ara	Halla	Tamna	
09:00-12:00	2-1 p. 038	1-1 p. 030	4-1 p. 060	11-1 p. 118	Center for Advanced Materials Discovery towards 3D Displays	13-2 p. 133	12-1 p. 126	6-2 p. 077	5-1 p. 070	7-1 p. 086	3-1 p. 049	
12:00-13:20	Lunch											
13:20-14:00	Plenary 1 Matthias Wuttig	Flexible Thermoelectric Semiconductor Device Technology Center										
14:00-14:40	Plenary 2 Hui-Ming Cheng											
14:40-15:00	Coffee Break											
15:00-18:00	2-2 p. 038	1-3 p. 031	4-2 p. 060	11-4 p. 118	Center for Advanced Materials Discovery towards 3D Displays	13-6 p. 133	12-1 p. 126	6-1 p. 078	Flexible Thermoelectric Semiconductor Device Technology Center	7-2 p. 086	3-2 p. 049	
Poster Session												
Lobby 2F												
Lobby 8F												
18:00-19:30	1-1. Materials and devices for novel memory/logic applications 2-1. Nanomaterials for wearable and stretchable electronics 2-2. Nanomaterials for flexible optoelectronics 4-1. Fundamental properties of 2D materials 4-2. Synthesis, large-area growth, and integration of 2D materials 5-1. Next-generation EUV lithography and nanoimprint lithography 11-1. Material design by machine-learning 11-4. Computational design of energy materials 13-2. Nano materials					3-1. Materials and devices for novel memory/logic applications 6-1. Materials for perovskite photovoltaics 6-2. Materials for inorganic photovoltaics 7-1. Materials and devices for photoelectrochemical energy conversion 7-2. Electrochemical catalysts					3-1. Organic LEDs and TFTs 6-1. Materials for perovskite photovoltaics 6-2. Materials for inorganic photovoltaics 7-1. Materials and devices for photoelectrochemical energy conversion 7-2. Electrochemical catalysts	p. 034 p. 043 p. 044 p. 065 p. 066 p. 073 p. 122 p. 122 p. 139

(TUE) November 13											
Floor	2F					8F					
Place	Ballroom 1	Ballroom 2	Ballroom 3	Ballroom 4	Udo	Mara	Chuja	Ora	Ara	Halla	Tamna
09:00-12:00	2-3 p. 039	1-4 p. 032	4 p. 062	11-3 p. 119	13-3 p. 135	Sponsor Session	12-3 p. 127	6-3 p. 079	9-3 p. 101	7-3 p. 087	3-2 p. 050
12:00-13:20	Lunch										
13:20-16:20	2-4 p. 040	1-2 p. 032	4-3 p. 063	11-2 p. 120		7 p. 088	12-2 p. 128	10-1 p. 112	9-1 p. 102	8-3 p. 093	3-3 p. 051
16:20-16:40	Coffee Break										
						12-2 p. 129				Tutorial 1 Zonghoun Lee	Tutorial 2 Sang Soo Han
	Poster Session										
	Lobby 2F					Lobby 8F					
16:40-18:10	1-2. Materials and processes for 3D integration, interconnects and packaging					3-2. Organic/inorganic hybrid LEDs and optoelectronics p. 035					
	1-4. Ferroelectric and advanced materials and applications					3-3. Low dimensional emitters and quantum dots for displays p. 037					
	2-3. Materials and process for wearable sensor and electronic skin					6-3. Organic and hybrid materials for photovoltaics p. 046					
	2-4. Flexible materials and devices for bio-integrated electronics					7-3. In-situ and operando characterization p. 048					
	4-3. 2D materials for optoelectronic & energy applications					8-3. Next-generation of batteries p. 068					
	11-2. Computation of interfaces and surfaces					9-1. Thermoelectric energy conversion and harvesting p. 123					
	11-3. Multiscale modeling of mechanical properties of materials					9-3. Piezoelectric energy harvesting and related hybrid system p. 124					
	12-1. In-situ experiment and characterization by (S)TEM and synchrotron X-ray techniques					10-1. Nanobiomaterials and interfaces p. 130					
	12-2. Characterization of local electronic structures and chemical states										
	12-3. Atomic level analysis of low dimensional structures by aberration corrected (S)TEM										
	13-3. Magnetic materials										
	13-6. Materials for sensors and actuators										
18:15-20:00	Banquet (Ramada Ballroom - 2F)										

Floor	2F						8F					
Place	Ballroom 1	Ballroom 2	Ballroom 3	Ballroom 4	Udo	Mara	Chuja	Ora	Ara	Halla	Tamna	
09:00-12:00	Atomic 2D Materials Science Forum	2 p. 041	Creative Materials Discovery Program/ Center for Electric Materials	13-1 p. 136	5-2 p. 070			10-2 p. 112	9-2 p. 103	8-1 p. 094	3-4 p. 052	
12:00-13:00	Lunch											
13:00-13:40	Coffee Break											
13:40-13:50	Coffee Break											
13:50-16:50	Atomic 2D Materials Science Forum		Creative Materials Discovery Program/ Center for Electric Materials	13-4 13-5 p. 137 / p. 138	5-3 p. 071			10-3 p. 113	9 p. 104	8-2 p. 095	3 p. 052	
16:50-17:50	Lobby 2F 5-2. Alternative top-down nanofabrication for scalable manufacturing 5-3. Bottom-up nanofabrication based on small molecules, polymers, and nanoparticles 13-1. Energy materials 13-4. Electronic & optical materials 13-5. Structural & composite materials Lobby 8F 3-4. Inorganic and hybrid TFTs 8-1. Materials for Li-ion and Na-ion batteries 8-2. Developing solid electrolyte and solid-state batteries 9-2. Triboelectric energy harvesting 10-2. Polymers for advanced biomaterials 10-3. Nanomaterials for biological and medical applications p. 074 p. 075 p. 146 p. 148 p. 151 p. 058 p. 096 p. 099 p. 110 p. 114 p. 115											

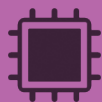
CONFERENCE TOPICS

1

Materials and devices for VLSI applications

Rino Choi

Inha University



1-1

Materials and devices for novel memory/logic applications

Changhwan Choi, Hanyang University

Sorin Cristoloveanu, IMEP-LAHC

1-2

Materials and processes for 3D integration, interconnects and packaging

Bongyoung Yoo, Hanyang University

Nosang Vincent Myung, University of California at Riverside

1-3

Materials, processes and devices for neuromorphic architecture and novel computation

Doo Seok Jeong, Hanyang University

Isao Inoue, National Institute of Advanced Industrial Science and Technology

1-4

Ferroelectric and advanced materials and applications

Sanghun Jeon, Korea Advanced Institute of Science and Technology

Akira Toriumi, The University of Tokyo

2

Materials, processes and devices for wearable and stretchable electronic applications

Jong-Hyun Ahn

Yonsei University



2-1

Nanomaterials for wearable and stretchable electronics

Jong-Hyun Ahn, Yonsei University

2-2

Nanomaterials for flexible optoelectronics

Coskun Kocabas, The University of Manchester

2-3

Materials and process for wearable sensor and electronic skin

Do Hwan Kim, Hanyang University

Lijia Pan, Nanjing University

2-4

Flexible materials and devices for bio-integrated electronics

Ki Jun Yu, Yonsei University

Huanyu (Larry) Cheng, The Pennsylvania State University

3

Materials for frontier displays and optoelectronics

Tae-Woo Lee

Seoul National University



3-1

Organic LEDs and TFTs

Changsoon Kim, Seoul National University

Max Shtein, University of Michigan

3-2

Organic/inorganic hybrid LEDs and optoelectronics

Tae-Woo Lee, Seoul National University

Tzung-Fang Guo, National Cheng Kung University

3-3

Low-dimensional emitters and quantum dots for displays

Heesun Yang, Hongik University

Ru-Shi Liu, National Taiwan University

3-4

Inorganic and hybrid TFTs

Jae Kyeong Jeong, Hanyang University

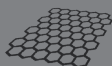
Yukiharu Uraoka, Nara Institute of Science and Technology

4

Two-dimensional materials and their heterostructures

Hyeon Suk Shin

Ulsan National Institute of Science and Technology



4-1

Fundamental properties of 2D materials

Seokhoon Ahn, Korea Institute of Science and Technology

Manish Chhowalla, Rutgers University

4-2

Synthesis, large-area growth and integration of 2D materials

Chul-Ho Lee, Korea University

Yang Hui Ying, Singapore University of Technology and Design

4-3

2D materials for optoelectronic & energy applications

Gwan-Hyoung Lee, Yonsei University

Minoru Osada, National Institute for Materials Science

5

Materials and processes for nanofabrication

Yeon Sik Jung

Korea Advanced Institute of Science and Technology



5-1

Next-generation EUV lithography and nanoimprint lithography

Yeon Sik Jung, Korea Advanced Institute of Science and Technology

Xiaogan Liang, University of Michigan

5-2

Alternative top-down nanofabrication for scalable manufacturing

Seungwoo Lee, Korea University

Xiaodan Gu, The University of Southern Mississippi

5-3

Bottom-up nanofabrication based on small molecules, polymers and nanoparticles

So Youn Kim, Ulsan National Institute of Science and Technology

Joel Yang, Singapore University of Technology and Design

6-1

Materials for perovskite photovoltaics

Jangwon Seo, Korea Research Institute of Chemical Technology
Seigo Ito, University of Hyogo

6-2

Materials for inorganic photovoltaics

Byungha Shin, Korea Advanced Institute of Science and Technology
Jiang Tang, Huazhong University of Science and Technology

6-3

Organic and hybrid materials for photovoltaics

Jung-Yong Lee, Korea Advanced Institute of Science and Technology
Jianhui Hou, Institute of Chemistry, CAS

6

Materials for renewable solar energy

Min Jae Ko

Hanyang University



7

Electrochemical and photoelectrochemical energy conversion materials

Ho Won Jang

Seoul National University



7-1

Materials and devices for photoelectrochemical energy conversion

Jihun Oh, Korea Advanced Institute of Science and Technology
Gang Liu, Institute of Metal Research, CAS

7-2

Electrochemical catalysts

Uk Sim, Chonnam National University
Yanguang Li, Soochow University

7-3

In-situ and operando characterization

Chang Hyuck Choi, Gwangju Institute of Science and Technology

8

Materials for sustainable energy storage

Byoungwoo Kang

Pohang University of Science and Technology



8-1

Materials for Li-ion and Na-ion batteries

Yong-Mook Kang, Dongguk University
Ziqi Sun, Queensland University of Technology

8-2

Developing solid electrolytes and solid-state batteries

Yoon Seok Jung, Hanyang University
Yifei Mo, University of Maryland

8-3

Next-generation of batteries

Hye Ryung Byon, Korea Advanced Institute of Science and Technology
Qiang Zhang, Tsinghua University

9

Energy harvesting materials

Sung Wng Kim

Sungkyunkwan University



9-1

Thermoelectric energy conversion and harvesting

Kyu Hyoung Lee, Yonsei University

Yifeng Wang, Nanjing Tech University

9-2

Triboelectric energy harvesting

Jeong Ho Cho, Sungkyunkwan University

Qijun Sun, Beijing Institute of Nanoenergy and Nanosystems, CAS

9-3

Piezoelectric energy harvesting and related hybrid system

Miso Kim, Korea Research Institute of Standards and Science

Sohini Kar-Narayan, University of Cambridge

10

Biomaterials

So-Jung Park

Ewha Womans University



10-1

Nanobiomaterials and interfaces

Jae-Seung Lee, Korea University

Dongsheng Liu, Tsinghua University

10-2

Polymers for advanced biomaterials

Byeong-Su Kim, Yonsei University

Michiya Matsusaki, Osaka University

10-3

Nanomaterials for biological and medical applications

In Su Lee, Pohang University of Science and Technology

Jonathan Choi, The Chinese University of Hong Kong

11

Computational materials science

Sang Soo Han

Korea Institute of Science and Technology



11-1

Material design by machine-learning

Sang Soo Han, Korea Institute of Science and Technology

Yongjin Lee, ShanghaiTech University

11-2

Computation of interfaces and surfaces

Hyun You Kim, Chungnam National University

Dong-Hwa Seo, Samsung Research America

11-3

Multiscale modeling of mechanical properties of materials

Seunghwa Ryu, Korea Advanced Institute of Science and Technology

Yongxing Shen, Shanghai Jiao Tong University

11-4

Computational design of energy materials

Hyungjun Kim, Korea Advanced Institute of Science and Technology

Sebastien Lebegue, The National Center for Scientific Research

12

Advanced materials characterization

Jae Pyoung Ahn

Korea Institute of Science and Technology



12-1

In-situ experiment and characterization by (S)TEM and synchrotron X-ray techniques

Sang Ho Oh, Sungkyunkwan University

Gerhard Dehm, Max Planck Institute

12-2

Characterization of local electronic structures and chemical states

Hyun-Joon Shin, Pohang Accelerator Laboratory

Masaharu Oshima, The University of Tokyo

12-3

Atomic level analysis of low-dimensional structures by aberration corrected (S)TEM

Zonghoon Lee, Ulsan National Institute of Science and Technology

Juan-Carlos Idrobo, Oak Ridge National Laboratory

13

General Program

Eun Soo Park

Seoul National University

Jong Joo Rha

Korea Institute of Materials Science

13-1

Energy materials

Seok-In Na, Chonbuk National University

13-2

Nano materials

Han-Bo-Ram Lee, Incheon National University

13-3

Magnetic materials

Haein Yim, Sookmyung Women's University

13-4

Electronic & optical materials

Se Hun Kwon, Pusan National University

13-5

Structural & composite materials

Sangyong Shin, University of Ulsan

13-6

Materials for sensors and actuators

Chong-Yun Kang, Korea Institute of Science and Technology

PLENARY SPEAKERS

MONDAY, November 12

13:20-14:00, Ballroom 1 (2F)



Taming Bond No. 6 to Design Phase Change Materials and Thermoelectrics

Matthias Wuttig

RWTH Aachen University, Germany

MONDAY, November 12

14:00-14:40, Ballroom 1 (2F)



Carbon Nanotubes and Graphene for Flexible Devices

Hui-Ming Cheng

Chinese Academy of Sciences, China

WEDNESDAY, November 14

13:00-13:40, Ballroom 1 (2F)



Manufacturing by Self-Assembly

Nicholas A. Kotov

University of Michigan, USA

KEY SPEAKERS

KEYNOTE

MONDAY, November 12

09:00-09:30, Ballroom 1 (2F)



Graphene Fibers and Aluminum-graphene Battery

Chao Gao

Zhejiang University, China

KEYNOTE

MONDAY, November 12

09:00-09:30, Ballroom 3 (2F)



Synthetic 2D Electronics on Atomically Thin Transition-Metal Dichalcogenides

Moon-Ho Jo

Institute for Basic Science / Pohang University of Science and Technology, Korea

KEYNOTE

MONDAY, November 12

09:00-09:30, Ballroom 4 (2F)



Using Artificial Intelligence to Discover New Materials

Chris Wolverton

Northwestern University, USA

KEYNOTE

MONDAY, November 12

09:00-09:30, Tamna (8F)



***Control of Excitonic Processes in Organic Semiconductors
Aimed for High Performance Light Emitting Devices***

Chihaya Adachi

Kyushu University, Japan

KEYNOTE

MONDAY, November 12

15:00-15:30, Ballroom 2 (2F)



***Three Means to Control Interface Magnetism in Complex
Oxides Heterostructures and Synthetic Magnetoelectric
Coupling***

Michael R. Fitzsimmons

Oak Ridge National Laboratory / University of Tennessee, USA

KEYNOTE

MONDAY, November 12

15:00-15:30, Ballroom 3 (2F)



***Strain Engineered Electronic Landscape at the Graphene/
Black Phosphorous Interface***

Kian Ping Loh

National University of Singapore, Singapore

KEYNOTE

MONDAY, November 12

15:00-15:30, Ora (8F)



History, Progress and Perspective of Perovskite Solar Cell

Nam-Gyu Park

Sungkyunkwan University, Korea

KEYNOTE

MONDAY, November 12

15:00-15:30, Halla (8F)



Electrocatalysis for Energy Conversion Processes

Shizhang Qiao

The University of Adelaide, Australia

KEYNOTE

TUESDAY, November 13

09:00-09:30, Ballroom 2 (2F)



Opportunities and Challenges in Ge CMOS

Akira Toriumi

The University of Tokyo, Japan

KEYNOTE

TUESDAY, November 13
09:00-09:30, Tamna (8F)



Spot-Beam Crystallization of Si Films for Advanced Displays and Other Application

James Im

Columbia University, USA

KEYNOTE

TUESDAY, November 13
13:20-13:50, Ora (8F)



Nanoscience as a Tool for Cell Imaging and Activation

Jinwoo Cheon

Yonsei University, Korea

TUTORIAL

TUESDAY, November 13
16:40-17:40, Halla (8F)



Structural Analysis of 2D Materials with Atomic Resolution TEM

Zonghoon Lee

Ulsan National Institute of Science and Technology, Korea

TUTORIAL

TUESDAY, November 13
16:40-17:40, Tamna (8F)



Material Design by Multi-Scale Simulation

Sang Soo Han

Korea Institute of Science and Technology, Korea

SPONSOR SESSION

Topic	Ultra-High-Speed Spectroscopic Ellipsometry and its Applications on Electronic Materials and Nanotechnology
Date & Time	(TUE) November 13, 11:00-11:30
Place	Mara (2F)
Presenter	Gai Chin <i>ULVAC Inc., Japan</i>
Summary	As a comprehensive manufacturer of metrology tools and deposition tools, ULVAC developed an innovative high-speed spectroscopic ellipsometer. This novel metrology tool can measure the thickness and optical constants of thin films at a dramatically fast speed. Its data acquisition time is as short as 10ms. This key technology created some great opportunities for new applications of the spectroscopic ellipsometry in which the compactness, the simplicity and the rapid response are extremely important. It was integrated into the deposition tool and successfully measured thin films in-situ to realize the Advanced Process Control (APC). This presentation will introduce its principle and some promising applications for nano-electronic materials deposited PVD, CVD and ALD process technologies.

Topic	Virtual Reality (VR) for Nanoscience
Date & Time	(TUE) November 13, 11:30-12:00
Place	Mara (2F)
Presenter	Moon J. Kim <i>The University of Texas at Dallas, USA</i>
Summary	Living in the 21st century, we face new challenges and opportunities. In a speech to the US House of Representatives, Bill Gates stressed that innovations or innovations in technology have been the growth engine of America and stated that further economic development would depend more and more on technological innovations in the future. The possibilities in life improvement through technical innovations have not been greater at any time than now. To live in this rapidly changing age of innovations and rapidly advancing scientific technology, an education system that teaches students how to adapt and understand these innovations are necessary. One of the tools for teaching today's young, energetic minds is the virtual reality (VR) environment program. The VR program is an educational training program designed for a user to gain the knowledge necessary in a virtual environment to conduct certain tasks. We have selected the GearVR as a suitable VR platform for education and mobility, and Unity3D as the rendering engine, because of its multi-platform compiling capabilities. It has been implemented to be compatible with Oculus Go, Samsung Gear VR, or iPhone. The Xbox controller is required for the movement and interactions. In this presentation, I will demonstrate several virtual reality (VR) contents such as NanoWorld Navigator (interactive voyage into the nanoscale world), Crystal Navigator (3D visualization of crystal structures), and Virtual 3D Tomo (for scanning Transmission Electron Microscopy (STEM) and Atom Probe Tomography (APT) 3D data). The audience will be encouraged to experience the virtual reality contents.

SATELLITE SESSION

Topic	Atomic 2D Materials Science Forum
Date & Time	(WED) November 14, 09:30-18:00
Place	Ballroom 1 (2F)
Organizers	Moon-Ho Jo <i>IBS- Center for Artificial Low D Electronic Systems, Pohang University of Science and Technology</i> Feng Ding <i>IBS-Center for Multidimensional Carbon Materials, Ulsan National Institute of Science and Technology</i>

SESSION SCHEDULE

09:30-10:00	Synthesis and Applications of Novel 2D Materials Hua Zhang (Nanyang Technological University)
10:00-10:30	Synthetic Integrated-Circuitry Based on Atomically Thin Semiconductors Moon-Ho Jo (Institute for Basic Science / Pohang University of Science and Technology)
10:30-11:00	Coffee Break
11:00-11:30	Graphene Powder Manufacture by Bubbling Chemical Vapor Deposition Qingkai Yu (Shanghai Institute of Microsystem and Information Technology)
11:30-12:00	2D Materials for Wearable and Bioelectronic Applications Jong-Hyun Ahn (Yonsei University)
12:00-13:30	Lunch
13:30-14:00	Epitaxial Growth and Properties of Novel 2D Materials & Heterostructures Yeliang Wang (Institute of Physics Chinese Academy of Sciences)
14:00-14:30	Growth and Assembly of Wafer-scale 2D Semiconductors Kibum Kang (Korea Advanced Institute of Science and Technology)
14:30-15:00	Kinetics of 2D Materials Growth Feng Ding (Institute for Basic Science / Ulsan National University of Science and Technology)
15:00-15:30	New 2D Materials for Beyond Graphene : 2D Electrides and Zintl Phases Sung Wng Kim (Sungkyunkwan University)
15:30-15:45	Tea Break
15:45-16:15	Antiferromagnetic Ordering in the 2D Limit Hyeonsik Cheong (Sogang University)
16:15-16:45	Graphene Film Growth and Its Application in Photodetectors Haofei Shi (CKMMT, Chinese Academy of Sciences)
16:45-17:15	Novel 2D Interface Devices with Silicon, Graphene, Ca 2 N, and Phase-engineered TMDCs Heejun Yang (Sungkyunkwan University)
17:15-17:45	Ultrafast Optical Studies of Valley Pseudospin States in TMDCs Jonghwan Kim (Pohang University of Science and Technology)
17:45-18:00	Wrap Up
18:00-20:00	Group Dinner

PRESENTATION GUIDELINES

ORAL SESSION

1. Presentation Time

- Length of presentation material should be in accordance with your time assigned as follows;

Type	Presentation Time
Keynote / Invited Presentation	25 min presentation + 5 min Q&A
Oral Presentation	12 min presentation + 3 min Q&A

- Due time is strongly encouraged.
- Presentation material is to be concise, succinct, and clearly understood.

2. Presentation File & Speaker's Autobiography

- If you use fonts other than standard Windows Office 2016, please bring the font files along with the presentation file.
- Please bring your PowerPoint presentation file on USB memory stick and submit it to the staff of each presentation room at least 15 minutes before each session starts. The staff will load the presentation files to the laptop PC.
- Each presenter (except invited speaker) is asked to submit his/her own short autobiography to the session chair at least 10 minutes before each session starts.

3. Preview Lounge

Place	Operation Hours
Lobby (2F)	SUN November 11, 16:00-18:00
	MON-TUE November 12-13, 08:00-18:00
	WED November 14, 08:00-17:00

- Please visit the preview lounge to check your presentation file at least 3 hours before your session starts to ensure your presentation file appears properly.
- If your presentation file contains animations or movies, you are advised to check over the technical matters 6 hours prior to your session.

4. No Camera & No Record

- Please note that photo taking and video recording are strictly prohibited in the presentation room.

POSTER SESSION

Presentation Day	Set-up Time	Presentation Time	Tear-Down Time
MON November 12	30 minutes prior to the beginning of the session	18:00-19:30	~ 20:30
TUE November 13		16:40-18:10	~ 19:00
WED November 14		16:50-17:50	~ 18:00

- Poster session chairs will review all posters during presentation time.
- Each poster will be assigned a panel, which has its own paper's number at the conference.
- We do not specify the poster format, but each poster should include the paper title and author information and must fit within a 0.9m x 1.2m space.
- The poster text including the paper title should be printed and enlarged, so that it can be read from a distance of at least 2 meters.
- Poster presenters are required to prepare their own poster materials in advance.
- Some stationery such as scissors and tapes will be provided in poster session area.

REGISTRATION

REGISTRATION DESK

Conference Room Lobby (2F)

SUN November 11, 16:00-18:30

MON November 12, 08:00-18:30

TUE November 13, 08:00-18:30

WED November 14, 08:00-18:00

ON-SITE REGISTRATION FEE

Regular USD 700 | KRW 770,000

Student USD 350 | KRW 385,000

Banquet USD 50 | KRW 55,000 (for students)

* On-site banquet tickets may be purchased at the registration desk subject to availability and will be provided on a first-come, first-served basis.

FEE INCLUDES

Regular

Admission to all sessions, abstract e-Book, welcome reception, banquet, lunches (for 3 days) and coffee break

Student

Admission to all sessions, abstract e-Book, welcome reception, lunches (for 3 days) and coffee break

NAME BADGE

Wearing the badge is required for admission to all areas during the conference.

COUPONS

- Lunches (11/12-14)
- Free Drinks for Reception
- Banquet (applicants only)

PROGRAM BOOK

Useful information of ENGE 2018

RECEIPT & CERTIFICATE

A registration receipt and a certificate of attendance are provided.

USEFUL TIPS



Lunch

Bring your lunch coupon with your name badge.

MON 11/12 12:00-13:20

TUE 11/13 12:00-13:20

WED 11/14 12:00-13:00

Restaurant (1F)



Coffee

Fresh coffee and tea will be served during the break times.

MON 11/12 14:40-15:00

TUE 11/13 16:20-16:40

WED 11/14 13:40-13:50

Lobby (2F & 8F)



Doughnut Time

Doughnut & coffee will be provided every morning.

MON 11/12 08:30-08:50

TUE 11/13 08:30-08:50

WED 11/14 08:30-08:50

Lobby (2F & 8F)



Parking

Parking is available at no cost during the conference.



Beer Time

Beer & snacks will be provided during the poster session.

MON 11/12 18:00-19:30

Lobby (2F & 8F)



Preview Lounge

Internet and printing service are available.

SUN 11/11 16:00-18:00

MON 11/12 08:00-18:00

TUE 11/13 08:00-18:00

WED 11/14 08:00-17:00

Lobby (2F)



Message Board

Message board will be set up at the conference room lobby (2F & 8F) so that participants can get useful information.



Mobile Charge

Mobile device charging is available at the registration desk (2F).



Wi-Fi Access

Wireless Network
RAMADA or RAMADA_PAD



Secretariat

ENGE 2018 participants can use the secretariat office as lost & found and cloakroom during the conference.

SUN 11/11 14:00-18:00

MON 11/12 08:00-18:00

TUE 11/13 08:00-18:00

WED 11/14 08:00-18:00

Biyang (2F)



Abstract e-Book

You can download your abstract from the website.

www.enge2018.org

SOCIAL PROGRAMS

WELCOME RECEPTION

(SUN) November 11, 18:00-19:30 | Ballroom 1 (2F)

The welcome reception will be an excellent chance to make new friends and expand partnerships while enjoying some delicious foods and refreshing beverages. Come and join this entertaining icebreaker of ENGE 2018.



BANQUET

(TUE) November 13, 18:15-20:00 | Ramada Ballroom (2F)

The banquet will be a great opportunity to network with colleagues in pleasant surroundings. Enjoy the climax of ENGE 2018 with an excellent dinner.

Sponsored by



- Opening Performance
- Proposing a Toast
- O/X Quiz Event
- Congratulatory Addresses
- Dinner
- Group Photo



POSTER AWARDS

ENGE 2018 Best Poster Awards will be given to outstanding contribution to the field of electronic materials and nanotechnology for green environment among the posters presented at the conference.

Gold: KRW 300,000

Silver: KRW 100,000

- The winners will be announced after the conference via ENGE 2018 website.



PHOTO EXHIBITON & VIDEO CLIP / ACROSTIC POEM

Winner Prize KRW 200,000 / KRW 100,000

Voting Hour SUN 11/11 16:00-18:00

MON-WED 11/12-14 09:00-18:00

- Six photos, two videos and six acrostic poems have been selected! Visit the event booth and vote for the final round. Special gifts will be given for all voters.
- The winners will be announced after the conference via ENGE 2018 website.





PROGRAM

1. Materials and devices for VLSI applications	030
2. Materials, processes and devices for wearable and stretchable electronic applications	038
3. Materials for frontier displays and optoelectronics	049
4. Two-dimensional materials and their heterostructures	060
5. Materials and processes for nanofabrication	070
6. Materials for renewable solar energy	077
7. Electrochemical and photoelectrochemical energy conversion materials	086
8. Materials for sustainable energy storage	093
9. Energy harvesting materials	101
10. Biomaterials	112
11. Computational materials science	118
12. Advanced materials characterization	126
13. General program	133

1. Materials and devices for VLSI applications

1-1. Materials and devices for novel memory/logic applications

Nov. 12 (Mon)

Ballroom 2 (2F)

Chair Changhwan Choi (Hanyang University, Korea)

- 1-1-3495** New Paradigm of Resistive Memory that can Enable Large-scale Neuromorphic Computing
 09:00-09:30 [Jeehwan Kim](#)
 INVITED *Massachusetts Institute of Technology, USA*
- 1-1-0524** Spin-orbit Torque Switching Materials and Devices for Magnetic Random Access Memory Applications
 09:30-10:00 [Young Keun Kim](#)
 INVITED *Korea University, Korea*
- 1-1-0488** Cognate Stateful Memristor Gates for Complete Cascading Logic
 10:00-10:30 [Kyung Min Kim](#)
 INVITED *Korea Advanced Institute of Science and Technology, Korea*
- 1-1-0211** Field Effect Transistor with Sub-60-mV/decade Subthreshold Slope
 10:30-11:00 [Changhwan Shin](#)
 INVITED *Sungkyunkwan University, Korea*
- 1-1-2747** Defect Characterization of Floating Body MOSFET Using a Single Pulse Charge Pumping Method
 11:00-11:15 [Manh-Cuong Nguyen](#), An Hoang-Thuy Nguyen, Hyung-Min Ji, Sang-Woo Kim, Jong-Gyu Cheon, Jin-Hyun Kim, Kyoung-Moon Yu, Seong-Yong Cho, Rino Choi
Inha University, Korea
- 1-1-2421** VO₂ Nano-beam with an Abnormally High Transition Temperature Synthesized by CVD Using V₂O₅ and TiO₂ Powder
 11:15-11:30 [Minhwan Ko](#), Sang Yeon Lee, Hyungtak Seo
Ajou University, Korea
- 1-1-2163** Interface Roughness and Texture in Co/Cu Multilayers with Ti Buffer Layer
 11:30-11:45 [Xiaowen Peng](#), Leng Chen
University of Science and Technology Beijing, China
- 1-1-2160** Electrical and Mechanical Properties of Phase-change Memory Ga-Sb Thin Films
 11:45-12:00 [Qixun Yin](#), Leng Chen
University of Science and Technology Beijing, China
- 1-1-3744** The Synaptic Plasticity Characteristics of FDSOI-MOSFET with HKMG
 12:00-12:15 [Yu-Rim Jeon](#), Changhwan Choi, Donghwan Lim, Yawar Abbas, Andrey S. Sokolov, Boncheol Ku, Sohyeon Kim
Hanyang University, Korea

1-3. Materials, processes and devices for neuromorphic architecture and novel computation

Nov. 12 (Mon)

Ballroom 2 (2F)

Chairs Isao H. Inoue (National Institute of Advanced Industrial Science and Technology, Japan)
Doo Seok Jeong (Hanyang University, Korea)

1-3-5008 Three Means to Control Interface Magnetism in Complex Oxides Heterostructures and Synthetic Magnetoelectric Coupling

15:00-15:30

KEYNOTE

[Michael R. Fitzsimmons](#)^{1,2}

¹Oak Ridge National Laboratory, USA, ²University of Tennessee, USA

1-3-0443 Memristor Neural Networks: From Ideal to Reality

15:30-16:00

INVITED

[Kyeong-Sik Min](#)

Kookmin University, Korea

1-3-0401 Novel Multi-Level-Cell Resistive Random Access Memory Based Reconfigurable Physical Unclonable Functions

16:00-16:30

INVITED

Gyo Sub Lee^{1,2}, Doo Seok Jeong³, [Hyunsu Ju](#)¹

¹Korea Institute of Science and Technology, Korea, ²Korea University of Science and Technology, Korea,

³Hanyang University, Korea

1-3-0200 Artificial Synapses and Neurons Based on an Insulator-to-2D Metal Transition of a SrTiO₃ Surface

16:30-17:00

INVITED

[Isao H. Inoue](#)¹, Pablo Stoliar¹, Keisuke Shibuya¹, Doo Seok Jeong²

¹National Institute of Advanced Industrial Science and Technology, Japan, ²Hanyang University, Korea

1-3-3248 Self-rectifying Memristive Crossbar Array for Neuromorphic Application

17:00-17:15

Yong Kim, Sung Yeon Ryu, Won Hee Jeong, [Byung Joon Choi](#)

Seoul National University of Science and Technology, Korea

1-3-2945 Markov Chain Hebbian Learning Algorithm with Ternary Synaptic Units

17:15-17:30

[Vladimir Kornijcuk](#)¹, Guhyun Kim², Doo Seok Jeong³

¹Korea Institute of Science and Technology, Korea, ²Seoul National University, Korea, ³Hanyang University, Korea

1-3-2942 Pointer-based Routing Scheme for On-chip Learning in Neuromorphic System

17:30-17:45

[Vladimir Kornijcuk](#)¹, Doo Seok Jeong²

¹Korea Institute of Science and Technology, Korea, ²Hanyang University, Korea

1-3-2366 Low-power Ag/N-GO QDs/Pt Diffusive Memristor for Synaptic Applications

17:45-18:00

[Andrey Sokolov](#), Changhai Choi

Hanyang University, Korea

1-4. Ferroelectric and advanced materials and applications

Nov. 13 (Tue)

Ballroom 2 (2F)

Chair Sanghun Jeon (Korea Advanced Institute of Science and Technology, Korea)

1-4-5001 Opportunities and Challenges in Ge CMOS

09:00-09:30 Akira Toriumi

KEYNOTE *The University of Tokyo, Japan*

1-4-3382 HfO₂-Based Ferroelectric Tunnel Junction Memory with Large Tunneling Electroresistance Effect and Multi-level Cell Operation

09:30-10:00

INVITED Masaharu Kobayashi

The University of Tokyo, Japan

1-4-0527 Ferroelectric Memory Cells Based on FE-HfO₂

10:00-10:30 Stefan Mueller

INVITED *Ferroelectric Memory GmbH, Germany*

1-4-0218 Time-resolved X-ray Microdiffraction for Ferroelectric Thin Film Capacitors

10:30-11:00 Ji Young Jo

INVITED *Gwangju Institute of Science and Technology, Korea*

1-4-2400 Voltage Induced Complementary and Bipolar Switching in Low Temperature Solution Processed Rutile TiO₂ Thin Film

11:00-11:15

Yawar Abbas, Gul Hassan, Changhwan Choi

Hanyang University, Korea

1-2. Materials and processes for 3D integration, interconnects and packaging

Nov. 13 (Tue)

Ballroom 2 (2F)

Chair Bongyoung Yoo (Hanyang University, Korea)

1-2-0578 Superconformal Electrodeposition: A Molecular Perspective on Feature Filling Mechanisms

13:20-13:50 Thomas Moffat¹, Guokun Liu¹, Shouzhong Zou², Liang-Yueh OuYang¹, Trevor Braun¹, Marlon Walker¹,

INVITED Daniel Wheeler¹, Lee Richter¹, Daniel Josell¹

¹National Institute of Standards and Technology, USA, ²American University, USA

1-2-0557 Superconformal Electrodeposition for Fabrication of Void-Free, High Aspect Ratio Structures

13:50-14:20 Daniel Josell, Thomas Moffat

INVITED *National Institute of Standards and Technology, USA*

1-2-0553 Effect of Copper Microstructure on Electrochemical Behavior

14:20-14:50 Hyo-Jong Lee, Sang-Hyuck Kim, Hyun Park, Woo-Jin Lee

INVITED *Dong-A University, Korea*

- 1-2-0521** Planarization of Polymeric Inter-Layer Dielectrics for FOWLP Application
 14:50-15:20 Soojung Kang, Yejin Kim, Jungeun Pyun, Seungjoo Han, Ayoung Moon, [Sungdong Kim](#)
 INVITED *Seoul National University of Science and Technology, Korea*
- 1-2-1558** A Study of Cobalt Bottom-Up Filling of through-Silicon Vias by Electrodeposition in the Single Additive Bath
 15:20-15:35 [Youjung Kim](#), Kimoon Park, Soobin Park, Jinhyun Lee, Byungkwan Kwak, Bongyoung Yoo
Hanyang University, Korea
- 1-2-1544** Electrochemical Polishing of Cu Overburden for Redistribution Layer Process of Fan-Out Wafer Level Packaging
 15:35-15:50 [Kimoon Park](#), Jinhyun Lee, Bongyoung Yoo
Hanyang University, Korea
- 1-2-1532** Comparative Study on Atomic Layer Deposited Ru and Pt as an Interconnect Material to Replace Cu
 15:50-16:05 Soo-Hyun Kim, Yong Hwan Joo, [Seung-Min Han](#), Min-Young Lee, Shunich Nabeya
Yeungnam University, Korea
- 1-2-1390** High Entropy Single Element(HESE) Copper-to-copper Direct Bonding
 16:05-16:20 [Chaerin Lee](#), Kimoon Park, Soobin Park, Jinhyun Lee, Bongyoung Yoo
Hanyang University, Korea

1-1. Materials and devices for novel memory/logic applications

18:00-19:30, Nov. 12 (Mon)

Lobby (2F)

Chair Changhwan Choi (Hanyang University, Korea)

- 1-1-0196** The Electrical Characteristics of Super Junction MOSFET According to Trench Etch Angle and Improved Latch up Characteristics
 Ey Goo Kang, Byoung Sub Ahn, Huwa Feng Cui
Far East University, Korea
- 1-1-0595** Effect of Boron Impurities after Capacitor Formation on the Leakage Current Characteristics of DRAM Capacitors
Jong-Min Lee^{1,2}, Byoung-Deog Choi¹
¹Sungkyunkwan University, Korea, ²Samsung Electronics Co. Ltd., Korea
- 1-1-1043** Improvement in Electrical Characteristic of ZnO-graphene Barristor by Edge Contact Length Controlling
So-Young Kim, Yongsu Lee, Jae Young Jeong, Seung-Mo Kim, Byoung Hun Lee
Gwangju Institute of Science and Technology, Korea
- 1-1-1146** Nano-Electro-Mechanical(NEM) Switch and Schmitt Trigger Application Using Multi-layer Graphene
Yongsu Lee, Sunwoo Heo, Hyeon Jun Hwang, Ho-In Lee, Seung-Mo Kim, Tae Jin Yoo, Byoung Hun Lee
Gwangju Institute of Science and Technology, Korea
- 1-1-1187** Analysis of GIDL Induced Buried Bit-line Voltage Shift Variation in Vertical-cell Transistor DRAM
Young Seung Cho¹, Byoung Deog Choi²
¹Samsung Electronics, Korea, ²Sungkyunkwan University, Korea
- 1-1-1209** Schottky Barrier Height Extraction of p-type Semiconductor Barristor
Seung-Mo Kim, Sunwoo Heo, Ho-In Lee, Yongsu Lee, So-Young Kim, Tae Jin Yoo, Byoung Hun Lee
Gwangju Institute of Science and Technology, Korea
- 1-1-1264** Implementation of Pseudo-n and Pseudo-p Type Inverter Using Graphene Barristor
 Ho-In Lee, Sunwoo Heo, Kiyung Kim, Hyeji Lee, Seung-Mo Kim, Yongsu Lee, Tae Jin Yoo, Byoung Hun Lee
Gwangju Institute of Science and Technology, Korea
- 1-1-1450** Ultrathin (< 5 nm) and Uniform Ru Film Growth Using ALD with Discrete Feeding Method and Electric Field-assisted ALD
Hyun Soo Jin, Ji Won Han, Tae Joo Park
Hanyang University, Korea
- 1-1-1543** Resistive Random Access Memory Based on Homo-epitaxially Grown Si by PECVD
Sarah Chang¹, Beomsic Jung^{1, 2}, Byeong-kwon Ju², Jong-keuk Park¹, Inho Kim¹
¹Korea Institute of Science and Technology, Korea, ²Korea University, Korea
- 1-1-1820** Characteristic of Transmission Line in Millimeter-wave Band According to the Materials of Substrate
Hae Jin Kim, Jong-In Ryu
Korea Electronics Technology Institute, Korea

- 1-1-2327** A Microstrip Patch Antenna at 28GHz for 5G Smart Device Using Low Loss Material
Jong-In Ryu, Se-Hoon Park
Korea Electronics Technology Institute, Korea
- 1-1-3044** Multi-threshold Graphene Barristor for Standard Ternary Inverter
Kiyung Kim¹, Sunwoo Heo¹, Sunmean Kim², Seung Mo Kim¹, Ho-In Lee¹, Billal Allouche¹,
 Seokhyeong Kang³, Kyung Rok Kim², Byoung Hun Lee¹
¹Gwangju Institute of Science and Technology, Korea, ²Ulsan National Institute of Science and Technology, Korea, ³Pohang University of Science and Technology, Korea
- 1-1-3124** The Effect of Disilane(Si₂H₆) and Trisilane(Si₃H₈) on Growth Characteristics of Epitaxial Si_{1-x}Ge_x by Ultra High Vacuum Chemical Vapor Deposition(UHVCVD)
Dayoon Lee, Jiwoo Park, Jaeyeon Kim, Hyunchul Sohn
Yonsei University, Korea
- 1-1-3131** Threshold Switching of Off-stoichiometric ZnTe Thin Films Deposited by RF Sputtering System
Taeho Kim, Jinyeol Lee, Kyoungbin Ko, Inwoo Kim, Hyunchul Sohn
Yonsei University, Korea
- 1-1-3212** Effect of Thermal Treatment on Nickel Oxide Films during Metal Organic Solution Decomposition
Ingwan Lee, Daewoo Kim, Taeho Kim, Hyunchul Sohn
Yonsei University, Korea

1-2. Materials and processes for 3D integration, interconnects and packaging

16:40-18:10, Nov. 13 (Tue)

Lobby (2F)

Chair Bongyoung Yoo (Hanyang University, Korea)

- 1-2-0415** Electroplating of Low Residual and High Strength Ni-Co Alloy for High A/R Probe Tip
Yong-Su Lee, Jae-Ho Lee
Hongik University, Korea
- 1-2-0417** Effects of Bath Composition and P Contents on the Mechanical Properties of Ni-P Electroplating
Hong-Wook Chun, Jae-Ho Lee
Hongik University, Korea
- 1-2-0927** Thermal Shock Reliability of Si-DBC Joint Using Micro-sized Cu Particles for Power Module Packaging
Gaeon Kim, Omid Mokhtari, Myoung-Hoon Rho, Hiroshi Nishikawa
Osaka University, Japan
- 1-2-1104** Effects of Various Environmental Conditions on Interfacial Adhesion of Screen-printed Ag Film and Polyimide Substrate
Gahui Kim¹, Byung-Hyun Bae², Hyeonchul Lee³, Kirak Son¹, Young-Bae Park¹
¹Andong National University, Korea, ²Vitzrotech, Korea, ³STATS ChipPAC, Korea

- 1-2-1258** Photo Definable Low Loss Wafer Level Packaging Material Compatile with 5G Application
Se-hoon Park¹, Hong-suk Yoo²
¹Korea Electronics Technology Institute, Korea, ²Nepes Corporation, Korea
- 1-2-1295** Characterization and Process Optimization of Photosensitive Dielectric Material for FOPLPs
Hyojin Yoon, Hyuk Kan, Hyungmi Jung, Jangbae Son, Jihye Shim, Jongyoon Kim
 Samsung Electro-mechanics, Korea
- 1-2-1423** Effects of UBM Structure on the Electrical Reliability of Sn-Ag Microbumps for 3D IC Chip Package
 Kirak Son¹, Hyodong Ryu¹, Gahui Kim¹, Gyu-Tae Park², Young-Bae Park¹
¹Andong National University, Korea, ²Amkor Technology Korea, Korea
- 1-2-1610** Selective Cu Electrodeposition for Sub-Micrometer Redistribution Layers Using Microcontact Printing
Jinhyun Lee, Kimoon Park, Soobin Park, Bongyoung Yoo
 Hanyang University, Korea
- 1-2-1749** Planarization of PBO and PI Interlayer Dielectrics with Pressing Method
Yejin Kim, Soojung Kang, Ayoung Moon, Sangwon Lee, Sarah Eunkyung Kim, Sungdong Kim
 Seoul National University of Science and Technology, Korea
- 1-2-1935** Simulations of Process Induced Warpage for Fan-Out Panel Level Package Using ANSYS
Ayoung Moon, Sungdong Kim
 Seoul National University of Science and Technology, Korea
- 1-2-1990** Lifetime Comparison of Low Ag Solder Ball by Thermal Shock and Cycling Tests
Jemin Kim^{1,2}, Sangsun Lee¹
¹Hanyang University, Korea, ²Korea Electronics Technology Institute, Korea
- 1-2-1991** Reliability Estimation of Low Ag Solder Ball Used in Autonomous Environment
Jemin Kim^{1,2}, Sangsun Lee¹
¹Hanyang University, Korea, ²Korea Electronics Technology Institute, Korea
- 1-2-2226** Cu/Cu Barrier Interconnect Deposited by Electron Cyclotron Resonance (ECR) Sputtering Method for the High-Resolution Display
Wooseok Jeong¹, Jae-chul Doe², Jeong Rak Lee², Sang-Hee Ko Park¹
¹Korea Advanced Institute of Science and Technology, Korea, ²Advanced Vacuum and Clean Equipment Optimizer, Korea
- 1-2-2390** Transient Liquid Phase Sinter Bonding of Power Device Using Ni-Sn Paste for Power Applications
Byung-Suk Lee, Jeong-Won Yoon
 Korea Institute of Industrial Technology, Korea
- 1-2-2461** Bosch-last Dual-etched via for Tapered through-silicon Interconnection
Yura Choi, Hong-Min Yoon, Dong-Hwan Jun
 Korea Advanced Nano Fab Center, Korea

1-2-2720 Low Temperature Dopant Activation Using Nanosecond UV Laser Annealing for Monolithic 3D Integration

JinHyun Kim¹, [Hyungmin Ji](#)¹, Manh-Cuong Nguyen¹, An Hoang-Thuy Nguyen¹, JongGyu Cheon¹, SangWoo Kim¹, KyoungMoon Yu¹, SeongYong Cho¹, EunJoo Lim¹, DongSub Kim², Rino Choi¹
¹Inha University, Korea, ²Laser Advanced System Industrialization Center, Korea

1-2-3708 Improving Direct Growth Graphene Diffusion Barrier by Ru Stuffing

Ki-Bum Kim, [Sang Hun Lee](#)
 Seoul National University, Korea

1-4. Ferroelectric and advanced materials and applications

16:40-18:10, Nov. 13 (Tue)

Lobby (2F)

Chair Sanghun Jeon (Korea Advanced Institute of Science and Technology, Korea)

1-4-1249 Evidence for Strong Spin-orbit Coupling (SOC) from Magneto-transport Properties of Epitaxial GeTe Thin Films

[Seong Won Cho](#)^{1,2}, Milim Lee^{1,3}, Suyoun Lee^{1,2}

¹Korea Institute of Science and Technology, Korea, ²Korea University of Science and Technology, Korea, ³Yonsei University, Korea

1-4-3109 Effect of Laser Annealing on Crystallization of Ferroelectric ZrHfO₂ Films

[Yoogeun Han](#), Ju-Young Jung, Yujin Chang, Hyunchul Sohn
 Yonsei University, Korea

1-4-3280 Dielectric and Ferroelectric of Niobium and Lithium Co-Doped Bismuth Sodium Potassium Titanate Ceramics

Chatchai Kruea-In¹, [Wilaiwan Leenakul](#)²

¹Chiang Mai Rajabhat University, Thailand, ²Rajamangala University of Technology Phra Nakhon, Thailand

1-4-3782 Deposition Pressure Dependent Electric Properties of (Hf, Zr)O₂ Thin Films Made by rf Sputtering Deposition Method

[Seung Eon Moon](#), Jeong Hun Kim, Jong Pil Im, Jaewoo Lee, Sol Yee Im
 Electronics and Telecommunications Research Institute, Korea

1-4-3866 Comparative Studies of Soft and Hard-type Piezoelectric Energy Harvesters Based on Low-temperature Sintered PZT-PZNN Ceramics

[Sora Jo](#)¹, Dae Su Kim¹, Yu Ri Cho¹, Hyung-Won Kang¹, Sahn Nahm², Seung Ho Han¹
¹Korea Electronics Technology Institute, Korea, ²Korea University, Korea

2. Materials, processes and devices for wearable and stretchable electronic applications

2-1. Nanomaterials for wearable and stretchable electronics

Nov. 12 (Mon)

Ballroom 1 (2F)

Chair Jong-Hyun Ahn (Yonsei University, Korea)

2-1-5002 Graphene Fibers and Aluminum-graphene Battery

09:00-09:30 [Chao Gao](#)

KEYNOTE *Zhejiang University, China*

2-1-3809 Ultraflexible, Stretchable Electronics for Imperceptible Brain Monitoring

09:30-10:00 [Tsuyoshi Sekitani](#)

INVITED *Osaka University, Japan*

2-1-2322 Deformable Energy Storage and Energy Harvesting Devices Using Nanomaterials for Wearable

10:00-10:30 [Pooi See Lee](#)

INVITED *Nanyang Technological University, Singapore*

2-1-0641 Triboelectric Nanogenerators for Powering Portable, Wearable and Body-Implantable Devices

10:30-11:00 [Sang-Woo Kim](#)

INVITED *Sungkyunkwan University, Korea*

2-1-0187 Ultrathin Gold Nanowires for Soft Electronics

11:00-11:30 [Wenlong Cheng](#)

INVITED *Monash University, Australia*

2-1-0284 Organic Functional Nanomaterials for Flexible and Stretchable Sensors

11:30-12:00 [Joon Hak Oh](#)

INVITED *Pohang University of Science and Technology, Korea*

2-1-2021 Highly Sensitive Mechanically Decoupled Pressure and Strain Sensor with Low Hysteresis for Wearable and Robotic Skin Applications

12:00-12:15 [Steve Park](#)

Korea Advanced Institute of Science and Technology, Korea

2-2. Nanomaterials for flexible optoelectronics

Nov. 12 (Mon)

Ballroom 1 (2F)

Chair Coskun Kocabas (The University of Manchester, UK)

2-2-3835 Probing the Upper Bandgap of ReS₂ Nanosheets Using Transient SHG Microscopy

15:00-15:30 [Hyunmin Kim](#)

INVITED *Daegu Gyeongbuk Institute of Science and Technology, Korea*

2-2-0491 Multi-view Terahertz Inspection with Carbon Nanotube Flexible Cameras15:30-16:00 [Yukio Kawano](#)INVITED *Tokyo Institute of Technology, Japan***2-2-2134 Broadband Graphene Based Photodetectors for Monitoring Personal Wellbeing**16:00-16:30 [Emre Ozan Polat](#)¹, Stijn Goossens¹, Ivan Nikitskiy¹, Gabriel Mercier¹, Eric Puma¹, Shuchi Gupta¹,INVITED [Carles Monastreo](#)¹, [Gabriele Navickaite](#)¹, [Teresa Galán](#)¹, [Alba Centeno](#)², [Amaia Pesquera](#)², [Amaia Zurutuza](#)², [Turgut Durduran](#)¹, [Gerasimos Konstantatos](#)¹, [Frank Koppens](#)¹¹*The Barcelona Institute of Science and Technology, Spain*, ²*Graphenea SA, Spain***2-2-3826 Linear Frequency Conversion in Time-variant Metasurfaces**16:30-17:00 [Bumki Min](#)INVITED *Korea Advanced Institute of Science and Technology, Korea***2-2-2410 Ultrathin Films-based Colorimetric Detector with Highly Absorbent Porous Media**17:00-17:15 [Young Jin Yoo](#), Young Min Song*Gwangju Institute of Science and Technology, Korea***2-2-2328 Highly Efficient Three-Dimensional Nanoparticle Array for Flexible Optoelectronics**17:15-17:30 [Eunwook Jeong](#)^{1,2}, Myungkwan Song¹, Jongjoo Rha¹, Jongmoon Shin¹, Young-Rae Cho², Jungheum Yun¹¹*Korea Institute of Materials Science, Korea*, ²*Pusan National University, Korea***2-2-3461 Multicolor Electrochromic Device Based on Hierarchical Three-dimensional Nanostructures**17:30-17:45 [Jinwon Song](#), Jae Yong Park, Chul Jong Yoo, Jin Wook Lim, Sangwon Baek, Jong-Lam Lee*Pohang University of Science and Technology, Korea***2-2-3450 Air Bubbles Embedded Haze Film for Flexible Electronic Devices**17:45-18:00 [Won Seok Cho](#), Jae Yong Park, Sangwon Baek, Jong-Lam Lee*Pohang University of Science and Technology, Korea***2-3. Materials and process for wearable sensor and electronic skin***Nov. 13 (Tue)**Ballroom 1 (2F)*

Chair Do Hwan Kim (Hanyang University, Korea)

2-3-3504 Micro/nano-structured Soft Composite for Physical Sensing09:00-09:30 [Inkyu Park](#)INVITED *Korea Advanced Institute of Science and Technology, Korea***2-3-3060 Skin-like Optoelectronics for Continuous and Simultaneous Monitoring of Blood Pressure and Oxygen Saturation in Motion**09:30-10:00 [Xue Feng](#)*Tsinghua University, China***2-3-0482 Mimicking Fingertip Skin for Wearable Sensors**10:00-10:30 [Hyunhyub Ko](#)INVITED *Ulsan National Institute of Science and Technology, Korea*

2-3-0182 NIR Photosensitizers for Targeted Cancer Phototherapy10:30-11:00 [Xiaochen Dong](#)INVITED *Nanjing Tech University, China***2-3-0163 Thermosensation-based Wearable Sensors and Systems**11:00-11:30 [Rong Zhu](#)INVITED *Tsinghua University, China***2-3-0156 Stretchable Ionics – A Promising Candidate for Oncoming Wearable Devices**11:30-12:00 [Jeong-Yun Sun](#)INVITED *Seoul National University, Korea***2-3-3297 Highly Flexible Capacitive Pressure Sensor Responsive in Wide Pressure Range with High Sensitivity**12:00-12:15 [Haechang Lee](#), Hyukyun Kwon, Hanul Moon, Seunghyup Yoo*Korea Advanced Institute of Science and Technology, Korea***2-4. Flexible materials and devices for bio-integrated electronics***Nov. 13 (Tue)**Ballroom 1 (2F)*Chair [Ki Jun Yu](#) (Yonsei University, Korea)**2-4-3498 Designing of Lithographic Fabrication Process and Materials for Bio-interface**13:20-13:50 [Suck Won Hong](#)INVITED *Pusan National University, Korea***2-4-3433 Soft Wireless Optofluidic Systems for in Vivo Neuropharmacology with Optogenetic Control**13:50-14:20 [Jaewoong Jeong](#)INVITED *Korea Advanced Institute of Science and Technology, Korea***2-4-3292 Transfer Printing Based Heterogeneous Integration Approach for Bio-Integrated Devices**14:20-14:50 [Hohyun Keum](#)¹, Kyung In Jang²INVITED ¹LG Display, Korea, ²Daegu Gyeongbuk Institute of Science and Technology, Korea**2-4-2996 Soft Electronic Skin for Connected Health**14:50-15:20 [Kyung-In Jang](#)INVITED *Daegu Gyeongbuk Institute of Science and Technology, Korea***2-4-0287 Transforming Microelectronics with Nanomeshed Material Components**15:20-15:50 [Hui Fang](#)INVITED *Northeastern University, USA***2-4-0264 Battery-free, Wireless Sensors for Hospital Care**15:50-16:20 [Jeonghyun Kim](#)INVITED *Kwangju University, Korea*

2. Materials, processes and devices for wearable and stretchable electronic applications

Nov. 14 (Wed)

Ballroom 2 (2F)

Chairs Emre Ozan Polat (The Barcelona Institute of Science and Technology, Spain)
Kyung-In Jang (Daegu Gyeongbuk Institute of Science and Technology, Korea)

2-2556 Fabrication of a Flexible Device with Graphene and Silver Metallization Interconnects Using Electroless Plating

09:00-09:15

Yuan Gao¹, Yinhua Cui¹, Eunmi Choi², Sung Gyu Pyo¹

¹Chung-Ang University, Korea, ²Korea Research Institute of Standards and Science, Korea

2-2061 Knittable and Wearable Gas Sensors Using Reduced Graphene Oxide, Molybdenum Disulfide Covered Carbon Fabrics Decorated with Metal Catalysts for Enhanced Selectivity

09:15-09:30

Chungwon Lee, Jun Min Suh, Ho Won Jang

Seoul National University, Korea

2-1739 Effects of Heat Treatment and Defect Control on Performance of Graphene Oxide Encapsulation Layer for Flexible OLEDs

09:30-09:45

Chan-Soo Kim, Seung-Yeol Yang, Yong-Seog Kim

Hongik University, Korea

2-1114 Strain Induced Enhancement in the Photo Sensing Capability of Si Nanomembranes

09:45-10:00

Ajit Kumar Katiyar, Jong-Hyun Ahn

Yonsei University, Korea

2-2615 High Performance Flexible Transparent Electrodes and Thin Film Heaters via Simple Solvent Treatment of Ag Nanowire Networks

10:00-10:15

Insu Jin, Jaewoong Jung

Kyung Hee University, Korea

2-2428 Ultrathin Metal Films with a Wetting Layer for Highly Transparent Electrodes in Flexible Photovoltaic Devices

10:15-10:30

Guoqing Zhao, Eunwook Jeong, Gun-Hwan Lee, Eun-Ae Choi, Jungheum Yun

Korea Institute of Materials Science, Korea

2-2347 Strain Induced Band Gap Modulation and Photoluminescence Enhancement and Exciton Polarization in the Transition Metal Dichalcogenides

10:30-10:45

Krishna Prasad Dhakal, Jeongyong Kim

Sungkyunkwan University, Korea

2-1337 High-Performance Textile-Embedded Fibriform Organic Field-Effect Transistors with Low-Power Consumption in E-Textile Application

10:45-11:00

Soo Jin Kim^{1,2}, Ho Won Jang², Se Hyun Kim³, Jung Ah Lim¹

¹Korea Institute of Science and Technology, Korea, ²Seoul National University, Korea, ³Yeungnam University, Korea

2-1242 Flexible and Transparent Electrode for Wearable Force Touch Sensor Array

11:00-11:15

Jun-Kyul Song^{1,2}, Changsoo Choi^{1,2}, Woongchan Lee^{1,2}, Dae-Hyeong Kim^{1,2}

¹Seoul National University, Korea, ²Institute of Basic Science, Korea

- 2-0786** Effect of Thermal Aging on the Interfacial Reaction and Mechanical Properties of the ENIG/
Sn58Bi0.5Zn/ENIG Joint
11:15-11:30 Shiqi Zhou, Hiroshi Nishikawa
Osaka University, Japan
- 2-0599** Scheme for Fabricating Stretchable Electronics Arrays
11:30-11:45 Seung-Youl Kang, Bock Soon Na, Jong-Heon Yang, Jae-Eun Pi, Hee-Ok Kim, Jaehyun Moon,
Chi-Sun Hwang, Seong-Deok Ahn
Electronics and Telecommunications Research Institute, Korea
- 2-2923** Epidural Electrotherapy for Brain Diseases Enabled with Graphene Electrode Array
11:45-12:00 Sung-Won Park^{1,2}, Jejung Kim¹, Sungchil Yang³, Sunggu Yang², Jong-Hyun Ahn¹
¹Yonsei University, Korea, ²Incheon National University, Korea, ³City University of Hong Kong, Hong Kong

2-1. Nanomaterials for wearable and stretchable electronics

18:00-19:30, Nov. 12 (Mon)

Lobby (2F)

Chair Emre Ozan Polat (The Barcelona Institute of Science and Technology, Spain)

- 2-1-0892** Graphene-based Stretchable Self-powered Touch Sensor
Yongjun Lee, Jejung Kim, Jong-Hyun Ahn
Yonsei University, Korea
- 2-1-0896** Large-area, Active Matrix MoS₂ Based Tactile Sensor for Electronic Skin Application
Yong Ju Park, Jong-Hyun Ahn
Yonsei University, Korea
- 2-1-0930** The Effect of Thermal Sintering and IPL on Stretchability of Silver-based Electrode Materials
Suk Hun Hyun^{1,2}, Se-hoon Park¹, Sung-hoon Choa³, Hee Joon Ahn²
¹Korea Electronics Technology Institute, Korea, ²Hanyang University, Korea, ³Seoul National University of Science and Technology, Korea
- 2-1-0935** Optical and Electrical Properties of ITO Thin Films Deposited on a PI Substrate Surface Treated by O₂ Inductively Coupled Plasma Etching
Hae Chan Kim¹, Byoung Su Choi¹, Hyun Cho¹, Jeong Seog Kim², Jin Kon Kim¹
¹Pusan National University, Korea, ²NEXTOPKOREA Co. Ltd., Korea
- 2-1-0977** Wearable Active-Matrix Organic-Light Emitting Diode Display Enabled by High Performance MoS₂ Transistors
Minwoo Choi, Jong-Hyun Ahn
Yonsei University, Korea
- 2-1-1005** Visualization of Grain Boundaries in 2D Transition Metal Telluride
Anh Tuan Hoang, Jong-Hyun Ahn
Yonsei University, Korea
- 2-1-1011** Fabrication of Perovskite Solar Cell on Textile Substrates
Rahim Abdur, Son Singh, Md Abdul Kuddus Sheikh, Jaegab Lee
Kookmin University, Korea
- 2-1-1075** Locally Fabricated Nanomesh Electrodes of Single-walled Carbon Nanotubes Using Biological Material and Its Application
Dongwon Choi, Hyunjung Yi
Korea Institute of Science and Technology, Korea
- 2-1-1156** Bending Test Methodologies and the Electrical Reliability of the Metal Films for Flexible Electronics
Byoung-Joon Kim¹, Young-Bae Park¹, Young-Chang Joo²
¹Andong National University, Korea, ²Seoul National University, Korea
- 2-1-1225** Graphene-based Capacitive Temperature Sensor for Monitoring and Therapeutic Applications
Minpyo Kang, Jong-Hyun Ahn
Yonsei University, Korea

2-1-1259 Flexible Supercapacitors Assembled with Nanoperforated Graphene-CNT Buckypaper and Ionic Liquid-based Polymer Electrolyte

Yeon Jun Choi¹, Geon-Woo Lee¹, Tae-Ho Kim², Dae Soo Jung³, Kwang-Bum Kim¹

¹Yonsei University, Korea, ²Korea Research Institute of Chemical Technology, Korea, ³Korea Institute of Ceramic Engineering & Technology, Korea

2-1-1405 Highly Stretchable ZnS Electroluminescent Device Enabled by Insertion of AgNW Percolated with PEDOT:PSS in between Graphene Multilayers

Heechang Shin, JongHyun Ahn

Yonsei University, Korea

2-1-1412 Highly Foldable Construction of Graphene-based 3D Microstructures with Controlled Buckling

Seungyun Lim, Jong-Hyun Ahn

Yonsei University, Korea

2-1-1531 Stretchable Transparent Networked Nanofibers of PU/rGO/AgNPs for Sensing Applications

Young-in Choi, Byeong-ung Hwang, Nae-eung Lee

Sungkyunkwan University, Korea

2-1-2152 The Behavior of High Area-mismatching between Graphene and Substrate during Transfer and Its Influence on Free-standing Graphene

Maddumage Don Sandeepa Lakshad Wimalananda, Jae-Kwan Kim, Ji-Myon Lee

Sunchon National University, Korea

2-1-2509 Biocompatible High-quality Boron Nitride Nanotubes as an Insole-shaped Flexible Piezoelectric Generator from Human Running

Kyung Bum Kim, Tae Hyun Sung

Hanyang University, Korea

2-1-3816 Highly Conductive and Biocompatible Soft Nanocomposite Using Ultralong Ag-Au Core-sheath Nanowires

Sang Ihn Han^{1,2}, Taeghwan Hyeon^{1,2}

¹Seoul National University, Korea, ²Institute of Basic Science, Korea

2-1-3822 Effect of Arrangement of Silver Nanowire on the Electrical and Mechanical Reliability of Flexible Transparent Conductive Electrode

Yong-Wook Kwon¹, Haekyoung Kim², Byoung-Joon Kim¹

¹Andong National University, Korea, ²Yeungnam University, Korea

2-2. Nanomaterials for flexible optoelectronics

18:00-19:30, Nov. 12 (Mon)

Lobby (2F)

Chair Coskun Kocabas (The University of Manchester, UK)

2-2-0463 Characterization of the Properties of Tin Oxide Thin Films Doped with Bismuth

Hyo In Bang, Han Byeol Seo, Byung Seong Bae, Eui-Jung Yun

Hoseo University, Korea

- 2-2-0839** **The Ligand Mediated Growth of CsPbBr₃ Nanorods**
Young-Taek Yoo, Soo Young Kim
Chung-Ang University, Korea
- 2-2-0898** **Direct Synthesis of Self-assembled MoS₂/WSe₂ Heterostructures via Solution Process and Their Opto-electrical Properties**
Jae-Bok Lee, Jonh-Hyun Ahn
Yonsei University, Korea
- 2-2-1105** **Spray-Coated Hybrid Silver Nanowire Networks for Large-Area Transparent Conductive Electrodes**
Yumi Choi, Jiyeon Nam, Junyeong Lee, Yeji Kim, Changgyun Kim, Sungjin Jo
Kyungpook National University, Korea
- 2-2-1231** **ZnO/Aluminum/ZnO Flexible Transparent Electrodes**
Dooho Choi
Dong-Eui University, Korea
- 2-2-2265** **Heat Reduction in Wearable Devices by Integrating Radiative Photonic Structure and Thin Metal Film**
Gil Ju Lee, Seyeon Heo, Young Min Song
Gwangju Institute of Science and Technology, Korea
- 2-2-2470** **Fine Tuning Color Coordinate with Stacking Polymer Embedded Vertical Sparse Nanowire Arrays for Reflective Color Filter Applications**
Yeong Jae Kim, Han Sung Song, Gil Ju Lee, Young Jin Yoo, Vantari Siva, Young Min Song
Gwangju Institute of Science and Technology, Korea
- 2-2-2894** **Effect of Gas Mixing Ratio on Optical and Electrical Properties of Mn Doped SnO₂/Ag/ Mn Doped SnO₂ Multi Layer Electrodes Deposited on Flexible Substrate**
Youngsoo Cho, Taekeun Kim, Guneik Jang
Chungbuk National University, Korea
- 2-2-2900** **Organic-Inorganic Hybrid Type Transparent Conductive Electrode of MTO/Ag/MTO/ Polydimethylsiloxane (PDMS)/MTO Multi-layer Structure**
Youngsoo Cho, Guneik Jang
Chungbuk National University, Korea
- 2-2-2903** **Transparent and Conductive MTO/Ag/MTO Multi-layer Using Polymethylphenylsiloxane(PMPS)/ MTO as Index-matching Layer**
Youngsoo Cho, Guneik Jang
Chungbuk National University, Korea
- 2-2-3476** **Transparent Stretchable Electrodes for Flexible Electronic Devices**
Eunjong Kim¹, Dong Kyu Lee², Wan Jae Dong¹, Sungjoo Kim¹, Dae Myung Hong¹, Jae Yong Park¹, Dongheon Choo¹, Hak Ki Yu², Jong-Lam Lee¹
¹Pohang University of Science and Technology, Korea, ²Ajou University, Korea

- 2-2-3517** ALD/Sputter Hybrid Processes for Encapsulation & Transparent Conducting Film(TCF) of OPV Device
 Seung-lal Park¹, Boram Kim², Jae Hack Jung³, Chul Kyu Song⁴, [Hyeongkeun Kim](#)²
¹SUKWON Co., Ltd., Korea, ²Korea Electronics Technology Institute, Korea, ³CN1. Co., Ltd., Korea,
⁴LEED, Co., Ltd., Korea

2-3. Materials and process for wearable sensor and electronic skin

16:40-18:10, Nov. 13 (Tue)

Lobby (2F)

Chair Do Hwan Kim (Hanyang University, Korea)

- 2-3-0967** Electroluminescent Pressure Sensing Displays with Micro Patterned Ionic Gel
[Seung Won Lee](#), Han Sol Kang, Beomjin Jeong, Soyeon Baek, Seokyeong Lee, Cheolmin Park
 Yonsei University, Korea
- 2-3-1406** Block Copolymer Structural Color Strain Sensor
[Taehyun Park](#), Hongkyu Eoh, Hansol Kang, Kyuho Lee, Cheolmin Park
 Yonsei University, Korea
- 2-3-1484** Stretchable Solution-gated Field-effect Transistors Using Multilayered Network of Elastomeric Nanocomposite Nanofibers for Proton Sensing
[Hyosoo Kim](#), Nae-Eung Lee
 Sungkyunkwan University, Korea
- 2-3-2031** Interactive Displays for Pressure Visualization with Sensitivity Amplification Using Photoconductivity of Air Dielectric Transistors
[Subin Jo](#), Jang-Ung Park
 Ulsan National Institute of Science and Technology, Korea
- 2-3-2203** Fabrication of Flexible Passive Elements on Papers Using Liquid Eutectic Gain Patterns
[Sungbok Kang](#)¹, Jongseok Kim¹, Hyeunseok Choi¹, Yeonsik Kang²
¹Korea Institute of Industrial Technology, Korea, ²Kookmin University, Korea
- 2-3-2475** Metal Deposition on a Self-Generated Microfibril Network to Fabricate Stretchable Tactile Sensors Providing Analog Position Information
[Sungmin Moon](#), Gilwoon Lee, Taeyeong Kim, Unyong Jeong
 Pohang University of Science and Technology, Korea
- 2-3-2494** Fabrication of Stretchable Electrode and Strain Sensor by SBS Assisted Silver Nanowire Patterning
[Hyun Woo Kim](#), Wonjeong Suh, Minsik Kong, Unyong Jeong
 Pohang University of Science and Technology, Korea
- 2-3-2530** High-Performance Orthogonal Semiconducting Polymers for Wearable Tandem Optoelectronics
[Han Wool Park](#)¹, Keun-Yeong Choi², Yun-Hi Kim³, BongSoo Kim⁴, Moon Sung Kang², Hojin Lee²,
 Do Hwan Kim¹
¹Hanyang University, Korea, ²Soongsil University, Korea, ³Gyeongsang National University, Korea,
⁴Ewha Womans University, Korea

- 2-3-2558** **An Ultrasensitive, Iontronic Sensor Skin Based on Cellular Structured Ionic Polymer Composites**
Yoon Sun Chung, Vipin Amoli, Eun Song Jee, Joo Sung Kim, Do Hwan Kim
Hanyang University, Korea
- 2-3-2561** **Highly Mechanosensitive, Wearable Triboelectric Nanogenerators Based on Visco-Poroelastic Ion Pump**
Joo Sung Kim¹, Heejae Hwang², Yoon Sun Chung¹, Dukhyun Choi², Do Hwan Kim¹
¹*Hanyang University, Korea*, ²*Kyung Hee University, Korea*
- 2-3-2813** **Bismuth Ferrite Based Self-powered Biosensor for Direct Detection of Toxic Organic Compound in Water**
Abisegapriyan K.S., Nirmal Prashanth Maria Joseph Raj, Alluri Nagamalleswara Rao, Arunkumar Chandrasekhar, Sang Jae Kim
Jeju National University, Korea
- 2-3-3154** **Flexible Ferroelectric Electronic Skins with Multilayer Geometry for Highly Sensitive, Linear and Broad Range Pressure Sensing**
Youngoh Lee, Jonghwa Park, Soowon Cho, Young-Eun Shin, Chunggi Baig, Hyunhyub Ko
Ulsan National Institute of Science and Technology, Korea
- 2-3-3245** **Tailoring Force Sensitivity and Selectivity of Microstructured Electronic Skins**
Jonghwa Park, Jinyoung Kim, Jaehyung Hong, Hochan Lee, Youngoh Lee, Seungse Cho, Sung-Woo Kim, Jae Joon Kim, Sung Youb Kim, Hyunhyub Ko
Ulsan National Institute of Science and Technology, Korea
- 2-3-3353** **Nano-diamond Grinding Process for Wearable Electronics Devices and Flexible Electronics**
Cai Shisheng, Xue Feng
Tsinghua University, China
- 2-3-3372** **Textile Stretch Sensor Knitted with Conductive Aluminum Coated Yarn, for Wearable Electronics**
Junhyeok Jang, Mijung Lee, Yeoryang Lee, Kangmin Lee
Kookmin University, Korea
- 2-3-3414** **A Pressure Sensor Prepared by Versatile Carbon Nanofiber Aerogels with High Pressure Sensitivity Based on Electrospinning for Human Physiological Signals Monitoring**
Zhiyuan Han, Xue Feng
Tsinghua University, China
- 2-3-3514** **Highly Sensitive MoS₂ Humidity Sensors Array for Non-contact Sensation**
Jing Zhao¹, Qijun Sun¹, Guangyu Zhang²
¹*Beijing Institute of Nanoenergy and Nanosystems, Chinese Academy of Sciences, China*,
²*Institute of Physics, China Academy of Sciences, China*

2-4. Flexible materials and devices for bio-integrated electronics

16:40-18:10, Nov. 13 (Tue)

Lobby (2F)

Chair Ki Jun Yu (Yonsei University, Korea)

- 2-4-0908** Electrotherapy for Epilepsy with Graphene-based Conformal Electronics
Jejung Kim¹, Sung-Won Park², Sungchil Yang³, Sunggu Yang², Jong-Hyun Ahn¹
¹Yonsei University, Korea, ²Incheon National University, Korea, ³City University of Hong Kong, Hong Kong
- 2-4-3180** Skin-Mountable Optoelectronic Device with Heatsink for Thermal Management
Han Hee Jung, Kyung-In Jang
Daegu Gyeongbuk Institute of Science and Technology, Korea
- 2-4-3205** Reusable Epidermal Strain Sensor with Adhesive Layer Mimicking Octopus Sucker
Myeongki Cho, Kyowon Kang, Ki Jun Yu
Yonsei University, Korea
- 2-4-3206** Transparent, Flexible Deep-Well Micro-Structured PEDOT:PSS/Au Nanorods Based Electrode Array for Neural Recording
Younguk Cho, Kijun Yu
Yonsei University, Korea
- 2-4-3224** Ultrahigh Efficiency Flexible Solar Cell as a Permanent Power Supply for Wearable Devices
Tae Soo Kim¹, Dae-Myeong Geum^{2,3}, Seung Yeop An³, Ki Jun Yu¹, Won Jun Choi³
¹Yonsei University, Korea, ²Seoul National University, Korea, ³Korea Institute of Science and Technology, Korea
- 2-4-3362** High Performance Wearable Silicon-based Strain Gauge for Silent Speech Recognition
Taemin Kim, Ki Jun Yu
Yonsei University, Korea
- 2-4-3403** Ultra Thin Layer of Carbon Nanotube (CNT) in Double Stretchable Layer
Eunji Lee¹, SeungJun Lee¹, Anhong Jung¹, Hyejin Kim², Jinsik Kim¹
¹Dongguk University, Korea, ²Kyung Hee University, Korea
- 2-4-3412** Flexible and Wearable Device for Long-term Monitoring and Diagnostics of Bowel Sounds by Back Propagation Neural Networks
Fengle Wang, Xue Feng
Tsinghua University, China
- 2-4-3473** Bio-inspired Stretchable, Flexible Helical Electrode for Peripheral Nervous Stimulation and Recording via Shape Memory Polymer
Yingchao Zhang, Xue Feng
Tsinghua University, China
- 2-4-3733** Compound Semiconductor Photodetector Arrays on Flexible Substrate for Wearable Electronics
Namgi Hong^{1,2}, Sang Hyeon Kim², Dae Myeong Geum², Seung Yeop Ahn², Tae Soo Kim¹, Ki Jun Yu¹, Won Jun Choi²
¹Yonsei University, Korea, ²Korea Institute of Science and Technology Information, Korea

3. Materials for frontier displays and optoelectronics

3-1. Organic LEDs and TFTs

Nov. 12 (Mon)

Tamna (8F)

Chairs Max Shtein (University of Michigan, USA)
Changsoon Kim (Seoul National University, Korea)

3-1-5003 Control of Excitonic Processes in Organic Semiconductors Aimed for High Performance Light Emitting Devices

09:00-09:30

KEYNOTE

Chihaya Adachi
Kyushu University, Japan

3-1-0457 High Efficiency and High Stability Exciplex-Based OLEDs

09:30-10:00

INVITED

Ken-Tsung Wong^{1,2}
¹National Taiwan University, Taiwan, ²Academia Sinica, Taiwan

3-1-0603 OLEDs and Organic Photodiodes for Wearable Health-monitoring Sensors

10:00-10:30

INVITED

Seunghyup Yoo, Hyeonwoo Lee, Eunghye Kim, Jinouk Song
Korea Advanced Institute of Science and Technology, Korea

3-1-0306 High Performance Organic Field Effect Transistors: From Fabrication Parameters to Novel Applications

10:30-11:00

INVITED

Paddy Kwok Leung Chan
The University of Hong Kong, Hong Kong

3-1-3759 Conformal Multi-electrode Arrays Using Organic Electro-Chemical Transistors

11:00-11:30

INVITED

Wonryung Lee¹, Byeong-Soo Bae¹, Takao Someya²
¹Korea Advanced Institute of Science and Technology, Korea, ²The University of Tokyo, Japan

3-1-3792 Organic Vapor Jet Printing of OLEDs and Other Applications

11:30-11:45

Max Shtein
University of Michigan, USA

3-2. Organic/inorganic hybrid LEDs and optoelectronics

Nov. 12 (Mon)

Tamna (8F)

Chair Tae-Woo Lee (Seoul National University, Korea)

3-2-0335 Ultra-saturated and Highly-efficient Green Emission in Spray-synthesized Perovskite Nanocrystals

15:00-15:30

INVITED

Shu-Wen Dai, Bo-Wei Hsu, Hao-Wu Lin
National Tsing Hua University, Taiwan

3-2-3802 Advanced Perovskite Optoelectronic Devices via Compositional and Dimensional Control

15:30-16:00

INVITED

Dong Ha Kim¹, Ilgeum Lee¹, Ju Won Lim^{1,2}, Li Na Quan^{3,4}, Hannah Kwon¹, Edward Sargent³
¹Ewha Womans University, Korea, ²University of Michigan, USA, ³University of Toronto, Canada, ⁴University of California, Berkeley, USA

3-2-3799 Perovskite LEDs Based on Solution-processed Multiple Quantum Wells16:00-16:30 [Jianpu Wang](#)INVITED *Nanjing Tech University, China***3-2-3891 In-situ Fabricated Perovskite Quantum Dots for Photonic and Optoelectronic Applications**16:30-17:00 [Haizheng Zhong](#)INVITED *Beijing Institute of Technology, China***3-2-3765 All-Solution Process Perovskite Periodic Structure for Optoelectronic Devices**17:00-17:30 [Wallace C.H. Choy](#)INVITED *University of Hong Kong, Hong Kong***3-2-3762 Interfacial Engineering for Organic-Inorganic Hybrid Perovskite Light-Emitting Diodes**17:30-18:00 Seungjin Lee, Jong Hyun Park, Da Bin Kim, Chung Hyeon Jang, Eui Dae Jung, [Myoung Hoon Song](#)INVITED *Ulsan National Institute of Science and Technology, Korea***3-2. Organic/inorganic hybrid LEDs and optoelectronics***Nov. 13 (Tue)**Tamna (8F)*

Chair Tae-Woo Lee (Seoul National University, Korea)

3-2-5005 Spot-Beam Crystallization of Si Films for Advanced Displays and Other Application09:00-09:30 [James Im](#)KEYNOTE *Columbia University, USA***3-2-0867 Efficient Perovskite Light-Emitting Diodes**09:30-10:00 [Jingbi You](#)INVITED *Chinese Academy of Sciences, China***3-2-0552 Important Interfaces of CH₃NH₃PbBr₃ Polycrystalline Film in Efficient Perovskite-based Hybrid Light-Emitting Diodes**10:00-10:30 [Tzung-Fang Guo](#), Jeng-Jun Chen, Teng-Lam Shen, Nan-Jay Chiou, Chun-Hua Shih, Ying-Zhi Chen, Loganathan Aswaghosh*National Cheng Kung University, Taiwan***3-2-0541 Adding to the Perovskite Universe: Inverse-Hybrid Perovskites**10:30-11:00 Julian Gebhardt¹, [Andrew Marshall Rappe](#)²INVITED ¹Max Planck Institute for the Structure and Dynamics of Matter, Germany, ²University of Pennsylvania, USA**3-2-0180 Flexible MicroLED for Displays and Biomedical Applications**11:00-11:30 [Keon Jae Lee](#)INVITED *Korea Advanced Institute of Science and Technology, Korea***3-2-0387 Anion Exchange Perovskite Quantum-Dots for Highly Efficient Light-Emitting Devices**11:30-12:00 [Takayuki Chiba](#), Yukihiko Hayashi, Hinako Ebe, Junji KidoINVITED *Yamagata University, Japan*

3-3. Low dimensional emitters and quantum dots for displays

Nov. 13 (Tue)

Tamna (8F)

Chairs Ru-Shi Liu (National Taiwan University, Taiwan)
Heesun Yang (Hongik University, Korea)

3-3-3505 Unraveling Origins of Operational Instability in Quantum Dot Based Light-emitting Diodes

13:20-13:50 Wan Ki Bae
INVITED Sungkyunkwan University, Korea

3-3-0354 Efficient Quantum Dot Light-Emitting Diodes with Tandem Structure

13:50-14:20 Shuming Chen
INVITED Southern University of Science and Technology, China

3-3-2017 Failure Mechanism Study of Quantum Dot Light Emitting Diode

14:20-14:35 Seongyong Cho
Myongji University, Korea

3-3-1814 Modeling and Fine Control of Charge Carrier Injection of QLEDs

14:35-14:50 Sun-Kyo Kim, Yong-Seog Kim
Hongik University, Korea

3-3-0536 Highly Efficient Quantum-Dot Light Emitting Diodes Fabricated by Solution Processes

14:50-15:20 Heeyeop Chae
INVITED Sungkyunkwan University, Korea

3-3-2968 All-Inorganic Perovskite Quantum Dots Nanocomposites Synthesis and Large Amount Production by Multifluid System for the Application in Q-LCD and QLED

15:20-15:50 Ru-Shi Liu
INVITED National Taiwan University, Taiwan

3-3-2908 Synthetic Strategies for Incorporating Multiple Heterojunctions in Anisotropic Semiconductor Nanocrystals

15:50-16:05 Nuri Oh
Hanyang University, Korea

3-3-1791 All-solution-processed Inverted Structure CsPbBr₃ Perovskite QD LEDs with Improved Luminous Efficiency

16:05-16:20 Ho-Yong Kim, Yong-Seog Kim
Hong-ik University, Korea

3-4. Inorganic and hybrid TFTs

Nov. 14 (Wed)

Tamna (8F)

Chair Jae Kyeong Jeong (Hanyang University, Korea)

3-4-0265 Development of High-Performance Oxide Thin-film Transistors for Large Flexible Displays

09:00-09:30 Mitsuru Nakata, Hiroshi Tsuji, Masashi Miyakawa, Tatsuya Takei, Yoshihide Fujisaki

INVITED *NHK, Japan*

3-4-3344 High Performanced ZnON Thin Film Transistor via Various Post-treatment Processes

09:30-10:00 Hyun-Jun Jeong, Hyun-Mo Lee, Jin-Seong Park

INVITED *Hanyang University, Korea*

3-4-0540 Low-temperature Processed InGaZnO_x Thin-film Transistor with an Organic Gate Insulator

10:00-10:30 Mamoru Furuta

INVITED *Kochi University of Technology, Japan*

3-4-0532 Organic-inorganic Hybrid Heterojunction Phototransistors

10:30-11:00 You Seung Rim

INVITED *Sejong University, Korea*

3-4-3271 Recent Developments in Tin Monoxide (SnO)-based P-Channel Oxide Thin-Film Transistors

11:00-11:30 Hyuck-In Kwon

INVITED *Chung-Ang University, Korea*

3-4-0285 Device Physics of High Performance Hybrid Thin-film Transistors

11:30-12:00 Tae-Jun Ha

INVITED *Kwangwoon University, Korea*

3. Materials for frontier displays and optoelectronics

Nov. 14 (Wed)

Tamna (8F)

Chair Tae-Woo Lee (Seoul National University, Korea)

3-3807 Synthesis of Quantum Dots and High Performance Quantum Dot Light Emitting Devices via Surface Engineering

13:50-14:20 Jongnam Park

INVITED *Ulsan National Institute of Science and Technology, Korea*

3-0391 Efficient Light-emitting Diodes Based on Metal Halide Perovskite Nanoparticles beyond Quantum Size

14:20-14:50 Tae-Woo Lee, Young-Hoon Kim

INVITED *Seoul National University, Korea*

3-3772 Cesium Lead Halide Perovskites Materials for Light-emitting Diodes and Light Conversion

14:50-15:20 Soo Young Kim

INVITED *Chung-Ang University, Korea*

- 3-0826** **Flexible Transparent Monolithic Vertical GaN-based MicroLEDs for Biomedical Application**
15:20-15:35 Han Eol Lee, [Sang Hyun Park](#), Jung Ho Shin, Jung Hwan Park, Jae Hee Lee, Keon Jae Lee
Korea Advanced Institute of Science and Technology, Korea
- 3-3207** **Oxygen Pressure Effect of Electrical Instabilities in Self-aligned a-IGZO TFTs**
15:35-15:50 [Nuri On](#), Jae Kyeong Jeong
Hanyang University, Korea
- 3-3041** **Low-temperature Processed IGTO Thin-film Transistors with High Mobility by Reducing Deposition Pressure**
15:50-16:05 [HyeonA Kim](#), JeongOh Kim, Jae Seok Hur, Jae Kyeong Jeong
Hanyang University, Korea
- 3-2606** **Wide Thermal Anneal System for Uniform Improvement of IGZO Thin Films**
16:05-16:20 [Taehoon Lee](#), Yong Chan Jung, Sejong Seong, Seon Yong Kim, In-Sung Park, Jinho Ahn
Hanyang University, Korea

3-1. Organic LEDs and TFTs

18:00-19:30, Nov. 12 (Mon)

Lobby (8F)

Chairs Max Shtein (University of Michigan, USA)
Changsoon Kim (Seoul National University, Korea)

- 3-1-1163** **Studies on Organic Light Emitting Diodes Using Phenanthroline Derivatives as Emitters**
Soyoung Pak¹, Jinho Park¹, Song Eun Lee², Young Kwan Kim², Seung Soo Yoon¹
¹Sungkyunkwan University, Korea, ²Hongik University, Korea
- 3-1-1167** **Efficient Organic Light-Emitting Diodes Based on Indeno-type Polyaromatic Hydrocarbons**
Namhee Hwang¹, Jeongkyu Woo¹, Song Eun Lee², Young Kwan Kim², Seung Soo Yoon¹
¹Sungkyunkwan University, Korea, ²Hongik University, Korea
- 3-1-1377** **Real-time Raman Analysis of Cleaning Solution: Determination of Al/Alq3 Residue in Cleaning Mixture**
Sung Gyu Pyo, Yinhua Cui
 Chung-Ang University, Korea
- 3-1-1419** **Solubility-Driven Polythiophene-Based Nanowires for Organic Electrolyte-Gated Transistors**
Yaena Na, Felix Sunjoo Kim
 Chung-Ang University, Korea
- 3-1-1602** **Platinum(II) Complexes Based on Phenylbenzazole-derived Ligands for Phosphorescent Organic Light-emitting Diodes**
Soo Kyung Kang¹, Namhee Hwang¹, Soyoung Pak¹, Song Eun Lee², Young Kwan Kim², Seung Soo Yoon¹
¹Sungkyunkwan University, Korea, ²Hongik University, Korea
- 3-1-2383** **Selective Absorption-assisted Patterning of Tris(8-hydroxyquinoline) Aluminium Molecules for High-resolution Organic Light-emitting Diode**
Hea-Lim Park¹, Min-Hoi Kim²
¹Seoul National University, Korea, ²Hanbat National University, Korea
- 3-1-2674** **Synthesis and Light-Emitting Properties of Hyperbranched Conjugated Poly(para-phenylene vinylene) Derivatives**
Gyeongmin Ki, Taek Ahn
 Kyungsung University, Korea
- 3-1-2685** **Photo-Crosslinkable and Low-Temperature Processable Polyimide Gate Insulators for Thin-Film Transistors**
Gyeongmin Ki, Taek Ahn
 Kyungsung University, Korea
- 3-1-2826** **Growth of MgZnO / ZnO Dual Structure Thin Films Using InZnO Buffer Layer**
Ahram Yeom, Hongseung Kim, Nakwon Jang, Hyung Soo Ahn
 Korea Maritime and Ocean University, Korea

- 3-1-3176** **Solution Processed Multilayer OLEDs Using Low Temperature Cross-linkable Hole-Transport Materials**
Minhye Seo, Sungkoo Lee
Korea Institute of Industrial Technology, Korea
- 3-1-3321** **Organic Vertical Phototransistors for Highly Responsive and Power-efficient Flexible Photosensors**
Hyukyun Kwon, Mincheol Kim, Seunghyup Yoo
Korea Advanced Institute of Science and Technology, Korea
- 3-1-3395** **Aligned Organic Semiconductors in Organic Thin Film Transistors Blended with Insulating Polymers Containing: p-dopants**
Youngju Jo, Mijung Lee
Kookmin University, Korea
- 3-1-3820** **Flexible and Fully Biocompatible Microneedle Array Dry Electrodes for Bio Potentials Measurement in Organic-Electronic Wearable Healthcare Applications**
 Marco Vinicio Alban, Haechang Lee, Hanul Moon, Seunghyup Yoo
Korea Advanced Institute of Science and Technology, Korea

3-2. Organic/inorganic hybrid LEDs and optoelectronics

16:40-18:10, Nov. 13 (Tue)

Lobby (8F)

Chair Tae-Woo Lee (Seoul National University, Korea)

- 3-2-0785** **Manufactured Light Grid System with High Power LED Source**
Jae-Hoon Ji¹, GaeHun Jo¹, JunHee Hong², Jung-Hyuk Koh¹
¹Chung-Ang University, Korea, ²Gachon University, Korea
- 3-2-1000** **Luminous Characteristics and Fabrication of Stable Red Emitting Film with Cesium Lead Halide Perovskite for Warm White Light**
Seong Guk Jeong¹, Seung Hee Choi¹, Seok Bin Kwon¹, Jung Hyeon Yoo¹, Hyun Bin Kim¹, Young Hyun Song², Dae Ho Yoon¹
¹Sungkyunkwan University, Korea, ²Korea Photonics Technology Institute, Korea
- 3-2-1098** **Fabrication of Inorganic Perovskite Films with Enhanced Stability for Lighting and Display Application**
Jung Hyeon Yoo¹, Seong Guk Jeong¹, Seung Hee Choi¹, Seok Bin Kwon¹, Hyun Bin Kim¹, Young Hyun Song², Dae Ho Yoon¹
¹Sungkyunkwan University, Korea, ²Korea Photonics Technology Institute, Korea
- 3-2-1120** **Application of Green-emitting CsPbBr₃ Halide Perovskite Films with Improved Stability for High-efficient White LEDs**
Hyun Bin Kim¹, Seung Hee Choi¹, Jung Hyeon Yoo¹, Seok Bin Kwon¹, Seong Guk Jeong¹, Young Hyun Song², Dae Ho Yoon¹
¹Sungkyunkwan University, Korea, ²Korea Photonics Technology Institute, Korea

3-2-1318 Design of Long-term Stable Green-emitting Halide Perovskite for Application in Highly Efficient White LEDs

Seok Bin Kwon¹, Seung Hee Choi¹, Jung Hyeon Yoo¹, Hyun Bin Kim¹, Seong Guk Jeong¹, Young Hyun Song², Dae Ho Yoon¹

¹Sungkyunkwan University, Korea, ²Korea Photonics Technology Institute, Korea

3-2-1413 Characteristics Analysis and Synthesis of Consolidated p(polymer)-i(quantum dots)-n(small molecules) Nano Cells for White Electroluminescence

Kyu Seung Lee^{1,2}, Jaeho Shim¹, Chil-hyoung Lee¹, Byungkwon Lim², Dong Ick Son¹

¹Korea Institute of Science and Technology, Korea, ²Sungkyunkwan University, Korea

3-2-1461 Spin-on-patterning of Perovskite Thin Films for High-performance, Ultrathin, Light Weight, and Deformable Perovskite-on-silicon Image Sensor Array

Woongchan Lee^{1,2}, Jun-Kyul Song^{1,2}, Changsoon Choi^{1,2}, Dae-Hyeong Kim^{1,2}

¹Seoul National University, Korea, ²Institute for Basic Science, Korea

3-2-2727 Highly Efficient Perovskite Light-emitting Diodes Using Hole Injection Layer with Simultaneously Controlled Work Function and Acidity

Soyeong Ahn¹, Young-Hoon Kim², Su-Hun Jeong², Sungjin Kim², Seung Hyun Jo², Tae-Woo Lee²

¹Pohang University of Science and Technology, Korea, ²Seoul National University, Korea

3-3. Low dimensional emitters and quantum dots for displays

16:40-18:10, Nov. 13 (Tue)

Lobby (8F)

Chairs Jiwan Kim (Kyonggi University, Korea)
 Nuri Oh (Hanyang University, Korea)

3-3-0646 Metal Propoxide-derived Surface Passivation of InP Quantum Dots towards Colloidal and Photo-stability

Han-Byul Lim, Jung-Ho Jo, Eun-Pyo Jang, Heesun Yang

Hongik University, Korea

3-3-0648 Highly Color-reproducible, Full-colored Electroluminescent Devices Fabricated with Solution-processed Quantum Dot Stacking Layers

Chang-Yeol Han, Ki-Heon Lee, Hwi-Jae Kim, Kyung-Hye Kim, Heesun Yang

Hongik University, Korea

3-3-0704 Transition Metal Dichalcogenide and Graphene Oxide Composites for Hole Injection Layer in Organic Perovskites Quantum-dot Light Emitting Diode

Sa Rang Bae, Young Taek Yoo, Soo Young Kim

Chung-Ang University, Korea

3-3-0766 Large-scale Synthesis of Highly Luminescent InP Based Multi-shell Quantum Dots

Nayeon Kim, Parthiban Ramasamy, Jong-Soo Lee

Daegu Gyeongbuk Institute of Science and Technology, Korea

- 3-3-1247** **Influence of Synthesis Route on the Performance of SWIR QCD Photodetectors**
Junyoung Jin^{1,2}, Tae-Yeon Seong², Do Kyung Hwang¹, Gyu Weon Hwang¹
¹Korea Institute of Science and Technology, Korea, ²Korea University, Korea
- 3-3-2038** **Photoluminescent Properties and Stability of Quantum Dot and Silica Composite Films**
Jae Hyun Han^{1,2}, Byeong-Kwon Ju², Joon Soo Han¹, So-Hye Cho¹
¹Korea Institute of Science and Technology, Korea, ²Korea University, Korea
- 3-3-2198** **A New Hybrid EI Device Based on Quantum Dots-organic Materials Multi-stacked Structure**
Seongkeun Oh¹, Soeun Ju¹, Min Suk Oh², Jiwan Kim¹
¹Kyonggi University, Korea, ²Korea Electronics Technology Institute, Korea
- 3-3-3012** **Emission-tunable Ag-Ga-S and Its Quaternary Derivative Quantum Dots for White Lighting Devices**
Kyung-Hye Kim, Jong-Hoon Kim, Sun-Hyoung Lee, Yuri Kim, Heesun Yang
 Hongik University, Korea
- 3-3-3136** **Mitigating Efficiency-roll-off of All Solution Processed Quantum Dot Light Emitting Diode by Organic and Inorganic Hybrid Electron Transport Layer**
Hyungsuk Moon, Heeyeop Chae
 Sungkyunkwan University, Korea
- 3-3-3202** **Unravelling the Origin of Operational Instability of Quantum Dot Based Light-emitting Diodes**
Jun Hyuk Chang^{1,2}, Byeong Guk Jeong³, Donghyo Hahm^{1,2}, Hark Jun Lee^{1,2}, Doh C. Lee³, Kookheon Char¹, Wan Ki Bae²
¹Seoul National University, Korea, ²Sungkyunkwan University, Korea, ³Korea Advanced Institute of Science and Technology, Korea
- 3-3-3239** **Thick Shell Quantum Dot Heterostructure with Near-Unity Quantum Yield and Suppressed Blinking**
Byeong Guk Jeong¹, Jun Hyuk Chang², Wan Ki Bae³, Doh C. Lee¹
¹Korea Advanced Institute of Science and Technology, Korea, ²Seoul National University, Korea, ³Sungkyunkwan University, Korea
- 3-3-3295** **Enhanced Efficiency of Quantum Dot Light Emitting Diodes by Direct Energy Transfer from Adjacent Organic Donors**
Soeun Ju, Seongkeun Oh, Jiwan Kim
 Kyonggi University, Korea
- 3-3-3364** **Electron Wavefunction Confined InP@ZnSe_xS_{1-x} QDs via Engineering Shell Composition and Their Application in Light-Emitting Diodes**
Donghyo Hahm^{1,2}, Jun Hyuk Chang^{1,2}, Byeong Guk Jeong³, Hark June Lee¹, Doh C. Lee³, Kookheon Char¹, Wan Ki Bae²
¹Seoul National University, Korea, ²Sungkyunkwan University, Korea, ³Korea Advanced Institute of Science and Technology, Korea

3-3-3484 Effect of Purified Inorganic Nanoparticles as Electron Transport Layer on Quantum Dot Light Emitting Diode

Hyun-Jae Kim¹, Minkook Kim¹, Jiwan Kim², Chul Jong Han¹, Heesun Yang³, [Min Suk Oh](#)¹

¹Korea Electronics Technology Institute, Korea, ²Kyonggi University, Korea, ³Hongik University, Korea

3-3-3604 Aging of ZnO Electron Transport Layer in Quantum Dot Light Emitting Diode Structure

Seong-Yong Cho, [Sang-Hyun Lee](#)

Myongji University, Korea

3-3-3838 Fabrication of High PLQY Organometallic Halide Perovskite Quantum Dots by Crystallinity and Surface Ligand Control for Light Emitting Diodes

[Jin Woo Choi](#)¹, Hee Chul Woo¹, Sang-Hyun Chin^{1,2}, Chang-Lyool Lee¹

¹Gwangju Institute of Science and Technology, Korea, ²Jeonbuk National University, Korea

3-3-3839 Comparative Study on the Photoluminescence of CH₃NH₃PbBr₃ Perovskite Quantum Dots and Bulk Counterparts

Hee Chul Woo¹, Jin Woo Choi¹, Jisoo Shin¹, Sang-Hyun Chin², Chang-Lyool Lee¹

¹Gwangju Institute of Science and Technology, Korea, ²Chonbuk National University, Korea

3-4. Inorganic and hybrid TFTs

16:50-17:50, Nov. 14 (Wed)

Lobby (8F)

Chair Jae Kyeong Jeong (Hanyang University, Korea)

3-4-0466 A Study on Effects of Plasma Treatment on the Properties of SnO₂ Thin Films

Han Byeol Seo, [Hyo In Bang](#), Byung Seong Bae, Eui-Jung Yun

Hoseo University, Korea

3-4-0775 Influence of Oxygen Partial Pressure to RF Magnetron Sputtered Amorphous InZnSnO Thin Film Transistors

Annisa Dwi Lestari¹, [Maryane Anugerah Putri](#)¹, Young-Woo Heo², Hee Young Lee¹

¹Yeungnam University, Korea, ²Kyungpook National University, Korea

3-4-1034 Fabrication of IGZO-based TFT on Flexible Polyimide Substrate by Using RF Sputtering and Electron Beam Irradiation

[Bong Ho Kim](#)¹, Jin Hee Han¹, Soon Hyeong Kwon¹, Jiyoung Kang¹, Joon Seop Kwak², Yong Hwan Kim³, Young Joon Yoon¹

¹Korea Institute of Ceramic Engineering & Technology, Korea, ²Sunchon National University, Korea,

³Infovion Inc., Korea

3-4-1649 Effect of Composition Ratio of In:Ga:Zn on the Moisture Sensor Characteristics of Oxide Thin-film Transistors

Sung-Hun Kim¹, Ji-Won Park¹, Amos Boampong¹, [Min-Hoi Kim](#)^{1,2}

¹Hanbat National University, Korea, ²Printed Electronics & 3D Printing Research Lab., Korea

- 3-4-1754** **Effect of Ge Doping on the Electrical and Optical Properties of Amorphous Zn-Sn-O Thin Film Transistor**
Dami Kim, Abhishek Sharma, Sang-Im Yoo
Seoul National University, Korea
- 3-4-2554** **Improved Performance of Monolayer Molybdenum Disulfide Based Field-effect Transistors for Nanoelectronics**
Jun-Young Jeon, Byeong-Cheol Kang, Tae-Jun Ha
Kwangwoon University, Korea
- 3-4-2939** **Carrier Generation Lifetime of Amorphous Oxide Semiconductors**
Pyungho Choi, Byoungdeog Choi
Sungkyunkwan University, Korea
- 3-4-3167** **Improvement of Electrode and Oxide Semiconductor Contact Property in Low Temperature Process**
Sung Hyeon Jung, Hyung Koun Cho
Sungkyunkwan University, Korea
- 3-4-3234** **Development of Organic/Inorganic Hybrid Dielectric Layer Based on Low Temperature Process**
JeongOh Kim, JaeSeok Hur, HyeonA Kim, JaeKyeong Jeong
Hanyang University, Korea
- 3-4-3368** **Solution Processed Organic-Inorganic Hybrid Gate Dielectrics for Flexible Electronics**
JaeSeok Hur, JeongOh Kim, HyeonA Kim, JaeKyeong Jeong
Hanyang University, Korea
- 3-4-3640** **Linearly Polarized Emission of c-plane InGaN/GaN Multiple Quantum Wells Grown on Stripe-Shaped Cavity-Engineered Sapphire Substrate**
 Jongmyeong Kim¹, Seungmin Lee¹, Jehong Oh¹, Jungel Ryu¹, Yongjo Park², Seoung-Hwan Park³, Euijoon Yoon^{1,2}
¹Seoul National University, Korea, ²Advanced Institute of Convergence Technology, Korea, ³Catholic University of Daegu, Korea
- 3-4-3844** **The Improved Reliability of a-IGZO TFT with Ca-doped Cu Alloy for Source Drain Electrodes**
Do-hyun Kim, Hang Kang, Da Young In, Jin Lee Kim, Ki Yeon Ryu, Dong Ju Oh, Byeong Hwa Jeong, Sang Ho Lee
ULVAC Korea Ltd., Korea

4. Two-dimensional materials and their heterostructures

4-1. Fundamental properties of 2D materials

Nov. 12 (Mon)

Ballroom 3 (2F)

Chairs Seokhoon Ahn (Korea Institute of Science and Technology, Korea)
Myung Jong Kim (Korea Institute of Science and Technology, Korea)

4-1-5009 Synthetic 2D Electronics on Atomically Thin Transition-Metal Dichalcogenides

09:00-09:30 Moon-Ho Jo^{1,2}

KEYNOTE ¹Institute for Basic Science, Korea, ²Pohang University of Science and Technology, Korea

4-1-0763 A Guided Safari through the Properties of over 1000 2D Materials Revealed by Data Mining Techniques

09:30-10:00 **INVITED** Gowoon Cheon, Daniel Rehn, Evan Reed
Stanford University, USA

4-1-0449 Optical Imaging of the Valley Dependent Electron Transport in MoS₂

10:00-10:30 Jieun Lee

INVITED Ajou University, Korea

4-1-0251 Light Emitting Two-dimensional Materials Made of Boron, Carbon, and Nitrogen Atoms

10:30-11:00 Myung Jong Kim, Tae Hoon Seo, Seokhoon Ahn, Dong Ick Son

INVITED Korea Institute of Science and Technology, Korea

4-1-0248 Interlayer Couplings in 2D Materials

11:00-11:30 Kaihui Liu

INVITED Peking University, China

4-1-0228 Periodic Potentials and Conductance Switching in Hybrid van der Waals Heterostructures

11:30-12:00 Marco Gobbi¹, Emanuele Orgiu², Paolo Samori³

INVITED ¹Materials Physics Center, Spain, ²Institut National de la Recherche Scientifique, Canada,

³University of Strasbourg, CNRS, ISIS, France

4-1-0857 Graphene Quantum Dots Embedded in Hexagonal Boron Nitride

12:00-12:15 Gwangwoo Kim¹, Kostya S. Novoselov², Byeong-Hyeok Sohn³, Hyeon Suk Shin¹

¹Ulsan National Institute of Science and Technology, Korea, ²University of Manchester, UK,

³Seoul National University, Korea

4-2. Synthesis, large-area growth, and integration of 2D materials

Nov. 12 (Mon)

Ballroom 3 (2F)

Chair Chul-Ho Lee (Korea University, Korea)

4-2-5007 Strain Engineered Electronic Landscape at the Graphene/Black Phosphorous Interface

15:00-15:30 Kian Ping Loh

KEYNOTE National University of Singapore, Singapore

- 4-2-0316** **Synthesis of Wafer-scale 2-dimensional Metal Chalcogenide Films**
 15:30-16:00 Changgu Lee
 INVITED *Sungkyunkwan University, Korea*
- 4-2-0176** **Solution-processable Ultrathin Black Phosphorus and Its Applications**
 16:00-16:30 Daniel S.P. Lau
 INVITED *The Hong Kong Polytechnic University, Hong Kong*
- 4-2-1359** **Low Dimensional Material Hybrid Structure for Optoelectronics Application**
 16:30-16:45 Jong-Soo Lee, Hyun-Soo Ra
 Daegu Gyeongbuk Institute of Science and Technology, Korea
- 4-2-1664** **Green Phosphorus Predicted by Ab Initio Materials Design**
 16:45-17:00 Woohyun Han¹, Sunghyun Kim², In-Ho Lee³, Kee Joo Chang¹
 ¹Korea Advanced Institute of Science and Technology, Korea, ²Imperial College London, UK,
 ³Korea Research Institute of Standards and Science, Korea
- 4-2-1342** **Engineering of Graphene by van der Waals Epitaxial Growth of MoO₃**
 17:00-17:15 Hangyel Kim¹, Gwan-Hyoung Lee¹, Jong Hun Kim¹, Jatis(Kumar) Dash²
 ¹Yonsei University, Korea, ²SRM Institute of Science and Technology, India
- 4-2-2707** **Synthesis and Characterization of Two-dimensional Hexagonal ABC Compounds with Honeycomb Lattice**
 17:15-17:30 Junseong Song, Sungwng Kim
 Sungkyunkwan University, Korea
- 4-2-1629** **Controlled Wafer-scale MoS₂ Monolayer Growth on SiO₂ Substrate by Modified Atomic Layer Deposition Technique**
 17:30-17:45 Dae Hyun Kim, Dae Woong Kim, Tae Jun Seok, Hyun Soo Jin, Jae Chan Park, Tae Joo Park
 Hanyang University, Korea
- 4-2-1504** **Promoted Growth of High-quality, Layer-controlled Transition Metal Dichalcogenides(TMDs) Using Chemical Vapor Deposition**
 17:45-18:00 Yeonjoon Jung, Gwan-Hyoung Lee
 Yonsei University, Korea
- 4-2-1731** **Structural Investigation of 2D Nanosheets and Their Assembly to 3D Porous Morphologies**
 18:00-18:15 Joohyun Lim, Katharina Hengge, Raquel Aymerich Armengol, Thomas G  nsler, Christina Scheu
 Max-Planck-Institut f  r Eisenforschung GmbH, Germany

4. Two-dimensional materials and their heterostructures

Nov. 13 (Tue)

Ballroom 3 (2F)

Chairs Kibum Kang (Korea Advanced Institute of Science and Technology, Korea)
Hyeon Suk Shin (Ulsan National Institute of Science and Technology, Korea)

4-0321 Synthesis of Two-Dimensional (2D) Metal Chalcogenide Thin Films through the Process Including Solution-Phase Deposition

09:00-09:30

INVITED

Unyong Jeong

Pohang University of Science and Technology, Korea

4-0270 Growth and Assembly of 2D Semiconducting Films with Atomic Precision

09:30-10:00

INVITED

Kibum Kang

Korea Advanced Institute of Science and Technology, Korea

4-0791 Correlation of Structure and Surface Properties at MoS₂ Grain Boundaries Measured by Atomic Force Microscopy

10:00-10:15

Jae Hwan Jeong, Yeonjoon Jung, Jong Hun Kim, Gwan-Hyoung Lee

Yonsei University, Korea

4-2013 Synaptic Barristor Based on Phase-engineered Two-dimensional Heterostructures

10:15-10:30

Woong Huh¹, Seonghun Jang¹, Jae Yoon Lee¹, Donghun Lee¹, Jung Min Lee², Hong-Gyu Park²,

Jong Chan Kim³, Hu Young Jeong³, Gunuk Wang¹, Chul-Ho Lee¹

¹KU-KIST Graduate School of Converging Science and Technology, Korea University, Korea,

²Korea University, Korea, ³Ulsan National Institute of Science and Technology, Korea

4-1111 Fabrication of MoS₂/WO₃ Nanocomposite Films for Enhanced Electro-chromic Performance

10:30-10:45

Md Rakibuddin, Haekyoung Kim

Yeungnam University, Korea

4-0790 Surface Modification of Two-dimensional Material by Indirect Plasma

10:45-11:00

Jong-Young Lee¹, Jangyup Son², Gwan-Hyoung Lee¹

¹Yonsei University, Korea, ²University of Illinois at Urbana-Champaign, USA

4-1998 Atomically Thin Heterojunction Catalysts for Efficient Photoelectrochemical Hydrogen Production

11:00-11:15

Jae Yoon Lee¹, Sungwoo Kang², Donghun Lee¹, Seokhoon Choi², Sooho Choi³, Soo Min Kim⁴,

Seung Hoon Yang¹, Yoon Seok Kim¹, Ki Chang Kwon², Haeli Park¹, Woong Huh¹, Hee Seong Kang¹,

Seongwu Han², Ho Won Jang², Chul-Ho Lee¹

¹KU-KIST Graduate School of Converging Science and Technology, Korea University, Korea, ²Seoul National

University, Korea, ³Dongguk University, Korea, ⁴Korea Institute of Science and Technology, Korea

4-0649 Layer-by-Layer Oxidation of MoS₂ Using Oxygen Plasma Treatment

11:15-11:30

Sojung Kang¹, Junyoung Kwon¹, Jaehwan Jeong¹, Jianwu Shi², Gwan-Hyoung Lee¹

¹Yonsei University, Korea, ²Henan University, China

4-2346 Solution-processed, Highly Adhesive Graphene Coatings for Preventing Corrosion of Metals

11:30-11:45

Gi-Cheol Son, Jaewon Jang, Sang-Soo Chee, Moon-Ho Ham

Gwangju Institute of Science and Technology, Korea

- 4-0635** **Palladium Doped-WS₂ Nanoflower for Enhancing Hydrogen Evolution Reaction**
 11:45-12:00 [Amirhossein Hasani](#)¹, Thang Phan Nguyen¹, Mahider Tekalgne¹, Kyoung Soon Choi², Tae Hyung Lee³,
 Tae Jung Park¹, Ho Won Jang³, Soo Young Kim¹
¹Chung-Ang University, Korea, ²Advanced Nano-Surface Research Group, Korea, ³Seoul National University, Korea
- 4-1220** **Residue-free Transfer of Graphene Produced by Chemical Vapor Deposition**
 12:00-12:15 [Min Jung Kim](#)¹, Andrea Capasso^{1,2}, Gwan-Hyoung Lee¹
¹Yonsei University, Korea, ²ENEA, Italy

4-3. 2D materials for optoelectronic & energy applications

Nov. 13 (Tue)

Ballroom 3 (2F)

- | | |
|-------|--|
| Chair | Gwan-Hyoung Lee (Yonsei University, Korea) |
|-------|--|
- 4-3-3794** **Graphene Enabled Smart Infrared Surfaces**
 13:20-13:50 [Coskun Kocabas](#)
 INVITED *The University of Manchester, UK*
- 4-3-3408** **Graphene with Controlled Crystallinity and Morphology: Synthesis and Electronic Applications**
 13:50-14:20 [Dongmok Whang](#)
 INVITED *Sungkyunkwan University, Korea*
- 4-3-0548** **Anisotropic Black Phosphorus Nanoribbons Field-Effect Transistor for High Performance Nanoelectronics**
 14:20-14:50 [Kah-Wee Ang](#), Xuwei Feng
 INVITED *National University of Singapore, Singapore*
- 4-3-1326** **Effect of Environment on Doping and Strain of Graphene**
 14:50-15:05 [Eunji Ji](#)¹, Dongchul Sung², Suklyun Hong², Gwan-Hyoung Lee¹
¹Yonsei University, Korea, ²Sejong University, Korea
- 4-3-2465** **Two-dimensional Ferroelasticity and Flexoelectricity in Domain Boundaries of α -SnO Monolayer**
 15:05-15:20 [Gaoyang Gou](#)¹, Yinglu Jia¹, Ju Li²
¹Xi'an Jiaotong University, China, ²Massachusetts Institute of Technology, USA
- 4-3-1083** **Atomically Thin Field-effect Light Emitting Transistors Based on Monolayer WSe₂**
 15:20-15:35 [Junyoung Kwon](#)¹, Huije Ryu¹, Jae Yoon Lee², Chul-Ho Lee², Gwan-Hyoung Lee¹
¹Yonsei University, Korea, ²KU-KIST Graduate School of Converging Science and Technology, Korea University, Korea
- 4-3-0585** **Interfacial Modification for Efficient Graphene Cathode Inverted Organic Light Emitting Diodes**
 15:35-15:50 [Jaehyun Moon](#)¹, Hyunsu Cho¹, Min-Jae Maeng², Kwangmin Choi², Dang Thành Nguyen³,
 Jin-Wook Shin¹, Byoung-Hwa Kwon¹, Jeong Ik Lee¹, Seong-Deok Ahn¹, Seung-Youl Kang¹, Yongsup Park²,
 Jong-Sook Lee³, Nam Sung Cho¹
¹Electronics and Telecommunications Research Institute, Korea, ²Kyung Hee University, Korea,
³Chonnam National University, Korea

4-3-2025 **SnS₂/SnO₂ Heterostructures for Enhanced Gas Sensing via Direct Sulfurization of SnO₂ Nanorods**

15:50-16:05 Jun Min Suh, Ki Chang Kwon, Ho Won Jang
Seoul National University, Korea

4-3-0821 **Charged Exciton Modulation in Light-emitting Tunneling Devices of Monolayer WSe₂**

16:05-16:20 Huije Ryu¹, Kwon Junyoung¹, Chulho Lee², Gwan-Hyoung Lee¹
¹*Yonsei University, Korea*, ²*KU-KIST Graduate School of Converging Science and Technology, Korea University, Korea*

4-1. Fundamental properties of 2D materials

18:00-19:30, Nov. 12 (Mon)

Lobby (2F)

Chair Seokhoon Ahn (Korea Institute of Science and Technology, Korea)

- 4-1-0933** **Enhanced Gas Barrier Effect by Covering Graphene Defects Using Self-assembled Alkane Monolayer**
Yoon-jeong Kim^{1,2}, Tae Hoon Seo¹, Yang Hui Kim¹, Youngjong Kang², Myung Jong Kim¹, Seokhoon Ahn¹
¹Korea Institute of Science and Technology, Korea, ²Hanyang University, Korea
- 4-1-1677** **Optimization of Hf_{0.5}Zr_{0.5}O₂ for Graphene/ferroelectric Memory FET**
Hyeon Jun Hwang, Billar Allouche, Sang Kyung Lee, Byoung Hun Lee
Gwangju Institute of Science and Technology, Korea
- 4-1-2098** **Programmable Writing of Integrated Circuits on a Two-Dimensional van der Waals Semiconductor with a Scanning Light Probe**
Seung-Young Seo^{1,2}, Jaehyun Park^{1,2}, Jewook Park², Song Kyung³, Si-Young Choi¹, Moon-Ho Jo^{1,2}
¹Pohang University of Science and Technology, Korea, ²Institute for Basic Science, Korea, ³Korea Institute of Materials Science, Korea
- 4-1-2114** **Electrical Properties of van der Waals WTe₂ Nanobelts Synthesized from Cu_xTe Eutectic Alloy**
Seungkuk Song¹, Jinsung Kwak¹, Jong Hwa Lee¹, Jae-Ung Lee², Se-Yang Kim¹, Jung Hwa Kim¹, Yeoseon Sim¹, Yongsu Jo¹, Hyeonsik Cheong², Zonghoon Lee¹, Soon-Yong Kwon¹
¹Ulsan National Institute of Science and Technology, Korea, ²Sogang University, Korea
- 4-1-2147** **Fabrication and Application of Graphene Field Effect Transistor Using Plasma-organic Polymer Dielectric Layer**
Hyeon Jin Seo, Jung-Hoon Yu, Dong In Kim, Ji Won Lee, Rak Hyun Jeong, Sang-Hun Nam, Jin-Hyo Boo
Sungkyunkwan University, Korea
- 4-1-2206** **Engineering Deposition of Silver Particles on Graphene on Copper Substrates and Its Potential Applications in Surface Enhanced Raman Scattering**
Kondasinghe Gayantha Nishan Thilawala, Jae-Kwan Kim, Ji-Myon Lee
Suncheon National University, Korea
- 4-1-2248** **Electronic Structure of the Au-intercalated Graphene/Ni(111) Surface**
Daesung Jung¹, Youngsin Park², Han-Na Hwang¹, Chan-Cuk Hwang¹
¹Pohang Accelerator Laboratory, Korea, ²Ulsan National Institute of Science and Technology, Korea
- 4-1-2710** **Study on Fabrication of Graphene Oxide(GO)-based Composite Fiber with High Mechanical Property by Using EDA Post-treatment**
Hayoung Yu, Hyeon Su Jeong
Korea Institute of Science and Technology, Korea
- 4-1-3516** **Nonvolatile Memory Devices of ReS₂ Nanosheets-Polyvinylalcohol Composites**
Junjae Yang^{1,2}, Changbong Yeon², Hang Kang^{1,2}, Hyun-Jun Chai^{1,2}, Sunjin Yun^{1,2}
¹Electronics and Telecommunications Research Institute, Korea, ²University of Science and Technology, Korea

4-1-3590 Optical Studies of Interlayer Exciton in Atomically Thin Semiconductor HeterostructureSubeom Song, Jonghwan Kim*Pohang University of Science and Technology, Korea***4-1-3615 Optical Studies of Excitons in Phosphorene**Sangho Yoon, Jonghwan Kim*Pohang University of Science and Technology, Korea***4-1-3664 Optoelectronics of van der Waals 2d Nanomaterials with Fiber Optics**Taeho Kim, Jonghwan Kim*Pohang University of Science and Technology, Korea***4-1-3699 Synthesis of MoS₂ Wire Using Solution Process and Fabrication of Gas Sensor**Kangmin Kim^{1,2}, Dong Heon Shin¹, Nam Hoon Kim², Sukang Bae¹, Seoung-Ki Lee¹¹Korea Institute of Science and Technology, Korea, ²Chonbuk National University, Korea**4-2. Synthesis, large-area growth, and integration of 2D materials**

18:00-19:30, Nov. 12 (Mon)

Lobby (2F)

Chair

Chul-Ho Lee (Korea University, Korea)

4-2-0848 Investigation of MoS₂ Nanosheets and Nanodots as Drilling Mud Additives in High Temperature ConditionSungHyun Hong¹, SangMok Han², NamSub Woo², YoungJu Kim², SooYoung Kim¹¹Chung-Ang University, Korea, ²Korea Institute of Geoscience and Mineral Resources, Korea**4-2-1035 Comparison of Electron Beam Irradiation and Rapid Thermal Annealing Process for the Crystallization of Amorphous Transition Metal Dichalcogenide Thin Films**Bong Ho Kim, Soon Hyeong Kwon, Young Joon Yoon*Korea Institute of Ceramic Engineering & Technology, Korea***4-2-1039 Effects of Electron Beam Irradiation on SnS₂ Thin Films Sputtered at Room Temperature**Soon Hyeong Kwon, Bong Ho Kim, Young Joon Yoon*Korea Institute of Ceramic Engineering & Technology, Korea***4-2-1362 Study on Growth Mechanism of Multilayer Hexagonal Boron Nitride on Ni(111)**Kyung Yeol Ma^{1,2}, Seong In Yoon^{1,2}, Sunghwan Jin², Hyeon Suk Shin^{1,2}¹Ulsan National Institute of Science and Technology, Korea, ²Institute for Basic Science, Korea**4-2-1478 NOx Removal Characteristic of Graphene Oxide Support by Reduction Process**Bora Ye^{1,2}, Jeong-Min Baik², Hong-Dae Kim¹¹Korea Institute of Industrial Technology, Korea, ²Ulsan National Institute of Science and Technology, Korea**4-2-1594 Insight for Optimization of Graphene Barristor Devices and Circuits**Sunwoo Heo, Kiyung Kim, Ho-In Lee, Seung-Mo Kim, Yongsu Lee, Tae Jin Yoo, Byoung Hun Lee*Gwangju Institute of Science and Technology, Korea*

- 4-2-1597** **Wafer-scale Homogeneous Growth of Monolayer Tungsten Dichalcogenides and Their Heterostructures**
Hee Seong Kang, Do Hyeong Koo, Chul-Ho Lee
KU-KIST Graduate School of Converging Science and Technology, Korea University, Korea
- 4-2-2077** **Selective Deposition of van der Waals Semiconductor Monolayers in Wafer-scales**
Gangtae Jin^{1,2}, Chang-Soo Lee^{1,2}, Juho Kim^{1,2}, Moon-Ho Jo^{1,2}
¹Pohang University of Science and Technology, Korea, ²Institute for Basic Science, Korea
- 4-2-2079** **Epitaxial van der Waals Contacts between Transition-metal Dichalcogenide Monolayer Polymorphs**
Chang-Soo Lee^{1,2}, Seungjae Oh¹, Gangtae Jin^{1,2}, Seung-Young Seo^{1,2}, Jaehyun Park^{1,2}, Moon-Ho Jo^{1,2}
¹Pohang University of Science and Technology, Korea, ²Institute for Basic Science, Korea
- 4-2-2085** **Interlayer Properties of van der Waals Heterostructures with Substrate Surface Defects**
Se-Yang Kim¹, Jung Hwa Kim¹, Sungwoo Lee², Jinsung Kwak¹, Yongsu Jo¹, Euijoon Yoon², Gun-Do Lee², Zonghoon Lee¹, Soon-Yong Kwon¹
¹Ulsan National Institute of Science and Technology, Korea, ²Seoul National University, Korea
- 4-2-2137** **Growth of NbS₂/NbSe₂ Monolayer Superconductor Heterostructures and Alloys**
Kwang Hyun Park¹, Hyoung Kug Kim², Sun-Gyu Park¹, Gangtae Jin², Jun Sung Kim^{1,2}, Tae-Hwan Kim², Moon-Ho Jo^{1,2}
¹Institute for Basic Science, Korea, ²Pohang University of Science and Technology, Korea
- 4-2-2892** **Synthesis of Grain Size-controllable MoS₂ Monolayer by Facile Sulfurization Method**
Woochul Yang, You Joong Kim, Soo Ho Choi
Dongguk University, Korea
- 4-2-3082** **WSe₂-Ga₂O₃ Heterojunctions for Junction Field Effect Transistor**
Janghyuk Kim, Jihyun Kim
Korea University, Korea
- 4-2-3519** **Synthesis Mechanism of MoS₂ Layered Crystals by Conventional Thermal CVD Using MoO₃ and Sulfur Powders**
Cheol Min Hyun¹, Chang-Min Kim², Se-Hun Kwon², Ji-Hoon Ahn¹
¹Korea Maritime and Ocean University, Korea, ²Pusan National University, Korea
- 4-2-3564** **Flexible and Transparent Electrode Properties of Graphene/Indium-Oxide Bilayer Structure**
Sangbong Lee, Hyun-Mi Kim, Ki-Bum Kim
Seoul National University, Korea
- 4-2-3727** **Top Gate MoSe₂ FET with Low Damage Deposition of Al₂O₃ Gate Dielectric**
Hyun-Jun Chai^{1,2}, Sun Jin Yun^{1,2}, Kwang Hoon Jung^{1,2}, Hang Kang^{1,2}, So Hyun Kim^{1,2}
¹Korea University of Science and Technology, Korea, ²Electronics and Telecommunications Research Institute, Korea

4-2-3731 Liquid Cu Phase Effect on Graphene Growth

Min-Sik Kim¹, Seong-Yong Cho², Minsu Kim¹, Ki-Ju Kim¹, Sang-Hoon Lee¹, Hyun-Mi Kim¹, Ki-Bum Kim¹
¹Seoul National University, Korea, ²Myongji University, Korea

4-2-3749 MoSe₂/WSe₂ Heterostructure Fabricated Using One-Step Selenization

Hang Kang^{1,2}, Sun Jin Yun^{1,2}, Kwang Hoon Jung^{1,2}, Hyun-Jun Chai^{1,2}, So Hyun Kim^{1,2}
¹University of Science and Technology, Korea, ²Electronics and Telecommunications Research Institute, Korea

4-3. 2D materials for optoelectronic & energy applications

16:40-18:10, Nov. 13 (Tue)

Lobby (2F)

Chair Gwan-Hyoung Lee (Yonsei University, Korea)

4-3-0841 WS₂ Quantum Dot with MoSe₂ Core/shell Composites for Hydrogen Evolution Reaction

Wenwu Guo, SooYoung Kim
 Chung-Ang University, Korea

4-3-0872 SnO₂/WS₂ Nanoflower Heterostructure for Enhanced Solar Hydrogen Production

Mahider Tekalgne, Amirhossein Hasani, Soo Young Kim
 Chung-Ang University, Korea

4-3-1378 Broadband Graphene-Bi₂Te₃ Nanowire Hybrid Photodetector with Improved Photoresponsivity

Tae Jin Yoo, Wan Sik Kim, Sang Kyung Lee, Kyoung Eun Chang, Yongsu Lee, Sunwoo Heo, Ho-In Lee, Seung Mo Kim, Cihyun Kim, Min Gyu Kwon, Hyeon Jun Hwang, Ji Young Jo, Byoung Hun Lee
 Gwangju Institute of Science and Technology, Korea

4-3-1479 Human-eye-inspired Soft Optoelectronic Device Using MoS₂-Graphene Curved Image Sensor Array

Changsoon Choi^{1,2}, Min Sung Kim^{1,2}, Jun-Kyul Song^{1,2}, Woongchan Lee^{1,2}, Dae-Hyeong Kim^{1,2}
¹Seoul National University, Korea, ²Institute for Basic Science, Korea

4-3-1491 AA'-stacked Trilayer Hexagonal Boron Nitride Membrane for Proton Exchange Membrane Fuel Cells

Seong In Yoon¹, Dong-Jun Seo², Gwangwoo Kim¹, Tae-Young Kim², Hyeon Suk Shin¹
¹Ulsan National Institute of Science and Technology, Korea, ²Korea Institute of Energy Research, Korea

4-3-1529 Zero-electrical-power Chemical Sensors Enabled by Atomically Thin Photovoltaic Heterojunctions

Yoonseok Kim¹, Haeli Park¹, Donghun Lee¹, SooDeok Han^{1,2}, Suhan Kim³, Jaeyoon Lee¹, Woong Huh¹, Myungjin Park¹, Wonil Park³, Chong-Yun Kang^{1,2}, Chul-Ho Lee¹
¹KU-KIST Graduate School of Converging Science and Technology, Korea University, Korea, ²Korea Institute of Science and Technology, Korea, ³Hanyang University, Korea

4-3-1573 Mixed-Dimensional 1D ZnO-2D WSe₂ van der Waals Heterojunction Device for Optoelectronic Application

Jongtae Ahn^{1,2}, Hyun Tae Choi^{1,2}, Do Kyung Hwang¹
¹Korea Institute of Science and Technology, Korea, ²Yonsei University, Korea

- 4-3-1903** Understanding Photoinduced Ultrafast Charge Transfer in 2D Covalent Organic Frameworks by Using Non-adiabatic ab Initio Molecular Dynamics Simulation
Yoonhoo Ha¹, Hyung-Kyu Lim², Hyungjun Kim¹
¹Korea Advanced Institute of Science and Technology, Korea, ²Kangwon National University, Korea
- 4-3-2060** Enhanced Photoconversion in Band-Structure Engineered 2D Monolithic Heterojunctions
Seunghoon Yang¹, Gwan-Hyoung Lee², Chul-Ho Lee¹
¹KU-KIST Graduate School of Converging Science and Technology, Korea University, Korea, ²Yonsei University, Korea
- 4-3-2072** Plasmon-induced Hot Electron Reponse by Au Nanostructures on Monolayer TMDCs
Juho Kim^{1,2}, Soonyoung Cha³, Gangtae Jin^{1,2}, Moon-Ho Jo^{1,2}, Hyunyong Choi³
¹Pohang University of Science and Technology, Korea, ²Institute for Basic Science, Korea, ³Yonsei University, Korea
- 4-3-2087** Metal–semiconductor–metal Ultraviolet Photodetectors with a Reduced Graphene Oxide Electrode
Bhishma Pandit, Jaehee Cho
 Chonbuk National University, Korea
- 4-3-2112** 3D Graphene-Ni Foam Heterostructures with Improved Performance and Durability for Bipolar Plates in a Polymer Electrolyte Membrane Fuel Cell
Yeoseon Sim, Jinsung Kwak, Se-Yang Kim, Yongsu Jo, Seunghyun Kim, Sung Youb Kim, Ji Hyun Kim, Chi-Seung Lee, Jang Ho Jo, Soon-Yong Kwon
 Ulsan National Institute of Science and Technology, Korea
- 4-3-2126** CdTe QDs Anchored MoS₂ Nanosheets Heterostructure for Photocatalytic Water Splitting under Simulated Solar Light
S.V.Prabhakar Vattikuti, Jaesool Shim
 Yeungnam University, Korea
- 4-3-2139** Two-dimensional Molybdenum Diselenide Nanosheets as High Performance Symmetric Supercapacitor in Organic Electrolyte
Parthiban Pazhamalai, Karthikeyan Krishnamoorthy, Surjit Sahoo, Sang-Jae Kim
 Jeju National University, Korea
- 4-3-3352** Ultra-High Color Contrast and Fast Switching Electrochromic Device Fabricated from Two-Dimensional Tungsten Oxide Nanosheets
Ashrafal Azam, Jungmo Kim, Travis Novak, Hyewon Yoon, Minsu Park, Jin Kim, Seokwoo Jeon
 Korea Advanced Institute of Science and Technology, Korea
- 4-3-3472** Deposition of Ni/Cu/Ag Layers Using Field Induced Plating for Graphene/Silicon Solar Cell Applications
Muhammad Fahad Bhopal, Doo Won Lee, Sang Hee Lee, Soo Hong Lee
 Sejong University, Korea

5. Materials and processes for nanofabrication

5-1. Next-generation EUV lithography and nanoimprint lithography

Nov. 12 (Mon)

Ara (8F)

Chairs Hong Yee Low (Singapore University of Technology and Design, Singapore)
Yeon Sik Jung (Korea Advanced Institute of Science and Technology, Korea)

5-1-0503 Residual-layer Free UV Roll to Roll Nanopatterning

09:00-09:30 [Hong Yee Low](#)^{1,2}

INVITED ¹Singapore University of Technology and Design, Singapore, ²Digital Manufacturing and Design Center, Singapore

5-1-0236 Fabrication of Nanodot Array for Bit Patterned Media and Its Characterization by Scanning Near Field Circular Polarization Optical Microscope

09:30-10:00 [You Yin](#)¹, [Tao Jin](#)², [Takuya Komori](#)¹, [Sumio Hosaka](#)¹

¹Gunma University, Japan, ²University of Shanghai for Science and Technology, China

5-1-0370 Mask Materials and Designs for Extreme Ultra Violet Lithography

10:00-10:30 [Jinho Ahn](#)

INVITED [Hanyang University](#), Korea

5-1-0320 Large-scale and Three-dimensional Fabrication of Optical Metamaterials

10:30-11:00 [Junsuk Rho](#)

INVITED [Pohang University of Science and Technology](#), Korea

5-1-3902 Innovative UV-Nanoimprint Fabrication of Large Scale Light Emitting Metasurfaces

11:00-11:30 [Gauthier Briere](#)¹, [Stephane Vezian](#)¹, [Benjamin Damilano](#)¹, [Masanobu Iwanaga](#)², [Patrice Genevet](#)³

INVITED ¹CRHEA, France, ²National Institute for Materials Science, Japan, ³University Côte d'Azur, CRHEA, France

5-1-0759 Self-confined Interdigitated Electrode Arrays on Pre-patterned Flexible Substrates for UV Sensors

11:30-11:45 [Barbara Horvath](#), [Helmut Schiff](#)

[Paul Scherrer Institut](#), Switzerland

5-1-3384 Multiscale Platinum Nanoarchitecture Catalyst for Polymer Electrolyte Membrane Fuel Cells

11:45-12:00 Using Solvent-assisted Nanotransfer Printing

[Jong Min Kim](#)^{1,2}, [Kyung Ah Lee](#)¹, [Yeon Sik Jung](#)², [Jin Young Kim](#)¹

¹Korea Institute of Science and Technology, Korea, ²Korea Advanced Institute of Science and Technology, Korea

5-2. Alternative top-down nanofabrication for scalable manufacturing

Nov. 14 (Wed)

Udo (2F)

Chairs Zheyu Fang (Peking University, China)
Seungwoo Lee (Korea University, Korea)

5-2-2972 Reveal and Control of Plasmonic Chiral Cathodoluminescence at Subnanoscale

09:00-09:30 [Zheyu Fang](#)

INVITED [Peking University](#), China

- 5-2-0419** Realizing a Point-like Plasmonic Cavity through Three-dimensional Nanofabrication
09:30-10:00 Myung-Ki Kim¹, Yong-Hee Lee²
INVITED ¹Korea University, Korea, ²Korea Advanced Institute of Science and Technology, Korea
- 5-2-0223** Artificial Pigment Pixel Design by Thermally Shrinking the Photonic Crystal Structures for Three-dimensional (3D) Color Print
10:00-10:30 Yeijing Liu¹, Ryan Ng², Zhaogang Dong³, Valerian Chen⁴, Hailong Liu¹, Julia R. Greer², Joel Yang^{1,3}
INVITED ¹Singapore University of Technology and Design, Singapore, ²California Institute of Technology, USA, ³Institute of Materials Research and Engineering, Singapore, ⁴University of Oxford, UK
- 5-2-0179** Super-Patterning: Ultra-rapid and Etching-free Multiscale Patterning at Room Temperature via Plastic Deformation
10:30-11:00 Woon Ik Park
INVITED Korea Institute of Ceramic Engineering & Technology, Korea
- 5-2-0567** Skin-like Plasmonic Full-Color Reflective Displays
11:00-11:30 Debashis Chanda
INVITED University of Central Florida, USA
- 5-2-0322** Silk Protein as a New E-beam and Photo-Resist
11:30-12:00 Muhammad Umar, Biswajit Roy, Sunghwan Kim
INVITED Ajou University, Korea

5-3. Bottom-up nanofabrication based on small molecules, polymers, and nanoparticles

Nov. 14 (Wed)

Udo (2F)

Chairs Yeon Sik Jung (Korea Advanced Institute of Science and Technology, Korea)
Wooyoung Shim (Yonsei University, Korea)

- 5-3-3499** Wave-tunable Lattice Equivalents towards Micro-and Nanomanipulation
13:50-14:20 Wooyoung Shim
INVITED Yonsei University, Korea
- 5-3-2830** Electrochemical Characterization of Ni Nanoparticle Embedded Porous Carbon Nanofiber
14:20-14:35 Gi Baek Lee, Hyoung Gyun Kim, Wonhyo Joo, Ho-Young Kang, In-Kyoung Ahn, Ji-Yong Kim, Young-Chang Joo
Seoul National University, Korea
- 5-3-0422** Nanoscale Self-Arrangement Approach for Fabricating Organic Solar Cells
14:35-15:05 Chi-An Dai
INVITED National Taiwan University, Taiwan
- 5-3-1975** Importance on Architecture Control of Multilayered Electrocatalysts
15:05-15:20 Minsu Gu, Byeong-Su Kim
Yonsei University, Korea

- 5-3-0238** Designing New Functional Materials by Colloidal Nanocrystal Assembly
15:20-15:50 [Angang Dong](#)
INVITED *Fudan University, China*
- 5-3-1957** Insights into the Hydrothermally Grown Copper Doped ZnO Nanorods on Flexible Substrate
15:50-16:05 [Hafiz Muhammad Salman Ajmal Ajmal](#), Waqar Khan, Fasihullah Khan, Noor-ul Huda, Ji Hyun Kim, Sam-Dong Kim
Dongguk University, Korea
- 5-3-0193** The Effect of Architecture on Block Copolymer Ordering
16:05-16:35 [Joona Bang](#)
INVITED *Korea University, Korea*
- 5-3-0838** A Novel Approach for Facile Fabrication of Poly(3-alkylthiophene)/Inorganic Semiconductor Hybrid Materials
16:35-16:50 [Yi-Huan Lee](#), Ying-Tien Hsu, Wei-Yen Sun
National Taipei University of Technology, Taiwan
- 5-3-0808** Ultrafast-Multilayer Graphene Synthesis via Xenon-Flash Lamp Annealing
16:50-17:05 [Tae Hong Im](#), Keon Jae Lee
Korea Advanced Institute of Science and Technology, Korea

5-1. Next-generation EUV lithography and nanoimprint lithography

18:00-19:30, Nov. 12 (Mon)

Lobby (2F)

Chair Jong Min Kim (Korea Institute of Science and Technology, Korea)

- 5-1-1269** Jungle-gym Structured Ir OERcatalyst Fabricated through Solvent-assisted Nanotransfer Printing
Yeji Kim, Yunsik Jung
Korea Advanced Institute of Science and Technology, Korea
- 5-1-1312** Full-color Quantum Dot Light-emitting Diode Array Fabricated by Omni-resolution Immersion Transfer Printing
Tae Won Nam, Yeon Sik Jung
Korea Advanced Institute of Science and Technology, Korea
- 5-1-1467** Fabrication of Vertically Aligned Poly(3,4-ethylenedioxythiophene)-poly(styrene sulfonate) (PEDOT:PSS) Mesh Structure for Fuel Cell Support
Yeon Sik Jung¹, Kiung Jeon¹, Jae Beom Jeon¹, Jung-Keon Yoo²
¹Korea Advanced Institute of Science and Technology, Korea, ²Korea Institute of Materials Science, Korea
- 5-1-2792** Line-Edge Roughness on Polymer Chain in Extreme Ultra Violet Lithography
Sowan Yun, Sang-Kon Kim
Hongik University, Korea
- 5-1-2932** Self-registration of Sub-10 nm Features Based on Cold Spin-casting of Self-assembling Building Blocks Directed by Chemically-encoded Surfaces
Jung Hye Lee¹, Hak-Jong Choi², Heon Lee², Yeon Sik Jung¹
¹Korea Advanced Institute of Science and Technology, Korea, ²Korea University, Korea
- 5-1-2936** Selective Multiplexing of Trace-amount Molecules via SERS Using Aptamer-functionalized Plasmonic Au Nanostructures
Seunghye Cho, Kwang Min Baek, Yeon Sik Jung
Korea Advanced Institute of Science and Technology, Korea
- 5-1-2959** Fabrication of Crystallographic-Orientation-Controlled Single-Crystal Si Nanowires and Nano Transfer Printing on Diverse Surfaces
Hyeuk Jin Han, Gyu Rac Lee, Yeon Sik Jung
Korea Advanced Institute of Science and Technology, Korea
- 5-1-2981** Enhanced Coloration Efficiency of Metal Oxide Electrochromic Devices by Nanoimprint Fabrication
Moohyun Kim, Yeon Sik Jung
Korea Advanced Institute of Science and Technology, Korea
- 5-1-3253** Tremendous Photo-Luminescence Enhancement of Quantum Dot and Polymer Composite via Hollow Silica
Kyeongmin Song, Yeon Sik Jung
Korea Advanced Institute of Science and Technology, Korea

- 5-1-3551** Thermally Robust 3D Metal Oxide Nano-architecture Containing Various Catalyst Components for Ultra-selective Gas Sensor
Gyu Rac Lee, Hyeuk Jin Han, Yeon Sik Jung
Korea Advanced Institute of Science and Technology, Korea
- 5-1-3552** Printing of Semi-Permanent Antibacterial Silver Nanowires
Minjoon Kim, Liu Yang, Yeon Sik Jung
Korea Advanced Institute of Science and Technology, Korea
- 5-1-3691** Plasmonic-Tuned Flash Cu Nanowelding with Ultrafast Photochemical-Reducing and Interlocking on Flexible Plastics
 Jung Hwan Park, Tae Hong Im, Abani, Keon Jae Lee
Korea Advanced Institute of Science and Technology, Korea
- 5-1-3716** Improving Processibility and Thermal Stability of InP/ZnS Quantum Using Block Copolymer Micelle
Nammyoung Cho, Yeon Sik Jung
Korea Advanced Institute of Science and Technology, Korea

5-2. Alternative top-down nanofabrication for scalable manufacturing

16:50-17:50, Nov. 14 (Wed)

Lobby (2F)

Chair Seungwoo Lee (Korea University, Korea)

- 5-2-0828** 360 Nm CW Laser-based Contact or Non-contact Laser Interference Nano Lithography
 Dan Hee Yun, Bo Sung Shin, Jun Han Park, Yong-Won Ma, Cheong Yeol Gwak, Jun Uk Lee
Pusan National University, Korea
- 5-2-1776** Large-area $^{10}\text{Boron}$ Nanoparticle Film Deposition and Evaluation of Neutron Shielding Efficiency
Hien Thi Thu Doan, Donghwan Ahn
Kookmin University, Korea
- 5-2-2255** Single-layer Properties of 2-dimensional Dielectric $\text{Sr}_2\text{Nb}_3\text{O}_{10}$ Nanosheet
Haena Yim, Ji-Won Choi
Korea Institute of Science and Technology, Korea
- 5-2-3620** Silicon Nanostructures for Highly Focused Optical Vortices
 Nasir Mahood¹, Muhammad Qasim Mehmood², Inki Kim³, Heonyeong Jeong³, Junsuk Rho³
¹National University of Sciences and Technology, Pakistan, ²Information Technology University of the Punjab, Pakistan, ³Pohang University of Science and Technology, Korea
- 5-2-3638** Scalable and High Throughput Fabrication of High-resolution Diffraction Grating by Single Beam Laser Interference Lithography
Taejun Lee, Junsuk Rho
Pohang University of Science and Technology, Korea

5-3. Bottom-up nanofabrication based on small molecules, polymers, and nanoparticles

16:50-17:50, Nov. 14 (Wed)

Lobby (2F)

Chair Woon Ik Park (Korea Institute of Ceramic Engineering & Technology, Korea)

- 5-3-0331** Investigation into Short-pulse Laser Microscale Ablation for PMMA and ABS/PVC
Y. J. Chiou¹, C. Y. Ho¹, B. C. Chen²
¹Hwa Hsia University of Technology, Taiwan, ²Buddhist Dalin Tzu Chi General Hospital, Taiwan
- 5-3-0922** Liquid Phase Fabrication of Multiferroic Nanocomposite Using Anodic Alumina Template
Go Kawamura¹, Kazuhiro Ohara¹, Wai Kian Tan¹, Taichi Goto¹, Yuichi Nakamura¹, Mitsuteru Inoue¹, Hiroyuki Muto¹, Kazuhiro Yamaguchi², Aldo Boccaccini³, Atsunori Matsuda¹
¹Toyohashi University of Technology, Japan, ²National Institute of Technology, Ibaraki College, Japan, ³University of Erlangen-Nuremberg, Germany
- 5-3-1015** Directed Self-assembly of Sub-10 nm Perpendicular Lamellar Pattern by Fluorine Copolymerized Block Copolymer
Seung Won Song, Yoon Hyung Hur, Yeon Sik Jung
Korea Institute of Science and Technology, Korea
- 5-3-1061** Enhanced Photo-luminescence from Highly Interconnected Porous QD/BCP Nanocomposites Formed via Controlled Spinodal Decomposition of Block Copolymer
Geon Yeong Kim, Jinyoung Choi, Yeon Sik Jung, Duk Young Jeon
Korea Advanced Institute of Science and Technology, Korea
- 5-3-1646** Multifunctional Ultrathin Coating Layers on Micro/nanoparticles via Atomic Layer Deposition
Eunyoung Jang, Seong Hwan Hong, Tae Joo Park
Hanyang University, Korea
- 5-3-2536** Effect of Solid Content in Dispersion Solution on the Morphology of BN Nanofibers Fabricated by Electrospinning Method
JongHyeok Lee^{1,2}, JungHyun Baek¹, YoungKeun Jeong², MyeongPyo Jeon¹
¹Korea Institute of Ceramic Engineering & Technology, Korea, ²Busan National University of Education, Korea
- 5-3-2646** Fabrication and Characterization of Heater-embedded and Nanostructured SnO₂ Gas Sensor by Using Low Temperature Co-fired Ceramic (LTCC) Technology
Choon Woo Ji, Soon Ho Rho, Je Do Mun, Hee Chul Lee
Korea Polytechnic University, Korea
- 5-3-2928** Amplifying SERS Signal via In-situ Photo-carrier Injection to Plasmonic Structure
Hunhee Lim, Yeon Sik Jung
Korea Advanced Institute of Science and Technology, Korea
- 5-3-3077** Fabrication of Block Filter for Removal of Cesium
Changhyun Roh
Korea Atomic Energy Research Institute, Korea

- 5-3-3149** Morphology Orientation Control of Block Copolymer Nanostructure by Surface Modification Using Irreversibly Adsorbed Self-assembled Wetting Layer
Dong Hyup Kim, So Youn Kim
Ulsan National Institute of Science and Technology, Korea
- 5-3-3409** Solution Fabrication Based Reduced Graphene Oxide Biosensor for Diagnosis of Myocardial Infarction
SeungJun Lee, Eunji Lee, Hyejin Kim, Anhong Jung, Jinsik Kim
Dongguk University, Korea
- 5-3-3533** A Three-dimensional Carbon Nanostructure Fabrication Process Based on Block Copolymer Self-assembly for Energy Applications
Gun Ho Lee¹, Byung Jun Park^{1,2}, Yeon Sik Jung¹
¹Korea Advanced Institute of Science and Technology, Korea, ²KEPCO Research Institute, Korea
- 5-3-3585** Convolutional and Neural Networks Combined Image Process Method to Find the Optical Properties of Plasmonic Structures and Their Fabrication
 Iman Sajedian, Jeonghyun Kim, Junsuk Rho
Pohang University of Science and Technology, Korea
- 5-3-3609** Low Temperature SiO₂ Films Deposited by Plasma Enhanced Atomic Layer Deposition with DIPAS and BDIPADS Precursors
Hyunho Lee, Taewook Nam, Hyungjun Kim
Yonsei University, Korea
- 5-3-3656** Liquid Phase Synthesis and Fine Structure Observation of BaTiO₃-CoFe₂O₄ Nanocomposites
Kentaro Oura¹, Go Kawamura¹, Wai Kian Tan¹, Kazuhiro Yamaguchi², Hiroyuki Muto¹, Atsunori Matsuda¹
¹Toyohashi University of Technology, Japan, ²Ibaraki College, Japan
- 5-3-3855** Formation of Nanoporous Structure of Black Metals and Non-metallic Compounds via Vacuum Thermal Evaporation for Electrochemical Applications
Jungi Min¹, Kwang Min Baek², Eunji Lee¹, Dongwook Jung¹, Jung Kyu Kwon¹, Hyung Cheoul Shim³, Sangwoo Ryu¹
¹Kyonggi University, Korea, ²Korea Advanced Institute of Science and Technology, Korea, ³Korea Institute of Machinery & Materials, Korea

6. Materials for renewable solar energy

6-2. Materials for inorganic photovoltaics

Nov. 12 (Mon)

Ora (8F)

Chair Yun Seog Lee (Seoul National University, Korea)

6-2-0831 Thin Single Crystal Semiconductor Wafers for Next Generation Photovoltaics

09:00-09:30 Jihun Oh

INVITED *Korea Advanced Institute of Science and Technology, Korea*

6-2-0509 Defect Engineering of Evaporated Thin-film Kesterite Solar Cells

09:30-10:00 Taehoon Kim, Ki Tae Park, Mingi Moon, Seong Ho Cho, Young Ho Chu, Yun Seog Lee

INVITED *Seoul National University, Korea*

6-2-0289 Alkali Doping for High-efficiency Thin Film Solar Cells Based on Chalcogenide Cu(In,Ga)Se₂ and Cu₂ZnSn(S,Se)₄ Absorbers

10:00-10:30

INVITED Yaroslav Romanyuk, Stefan Haass, Antonio Cabas-Vidani, Christian Andres, Enrico Avancini, Shiro Nishiwaki, Stephan Buecheler, Ayodhya Tiwari

Empa - Swiss Federal Laboratories for Materials Science and Technology, Switzerland

6-2-0234 Review on the Doping and Alloying Strategies for Cu₂ZnSn(S,Se)₄

10:30-11:00 Sergio Giraldo¹, Markus Neuschitzer¹, Jacob Andrade-Arvizu¹, Marcel Placidi¹, Victor Izquierdo-Roca¹, Alejandro Pérez-Rodríguez^{1,2}, Edgardo Saucedo¹

INVITED

¹Catalonia Institute for Energy Research, Spain, ²Universitat de Barcelona, Spain

6-2-3597 Transfer of Ultrathin Molybdenum Disulfide and Transparent Nanomesh Electrode onto Silicon for Efficient Heterojunction Solar Cells

11:00-11:15

Sung Bum Kang¹, Ki Chang Kwon², Ho Won Jang³, Kyoung Jin Choi¹

¹Ulsan National Institute of Science and Technology, Korea, ²National University of Singapore, Singapore,

³Seoul National University, Korea

6-2-3172 Investigation of Heavy-Akali Posy-Deposition Treatment onto Cu(In,Ga)Se₂ Solar Cells

11:15-11:30 Hojin Lee¹, Kihwan Kim², Byungha Shin¹

¹Korea Advanced Institute of Science and Technology, Korea, ²Korea Institute of Energy Research, Korea

6-2-2516 High-Resolution Mapping of the Surface Electronic Landscape of Kesterite Thin-Films

11:30-11:45

Devendra Tiwari, David J. Fermin

University of Bristol, UK

6-2-1836 Optimization of c-Si Homojunction Sub Cells for High Efficiency Si/Thin Film Monolithic Tandem Solar Cells

11:45-12:00

Hyeon-Sik Seo, Yoon Hee Jang, Won Mok Kim, Jong Keuk Park, Taek Sung Lee, Doh-Kwon Lee, Inho Kim

Korea Institute of Science and Technology, Korea

6-1. Materials for perovskite photovoltaics

Nov. 12 (Mon)

Ora (8F)

Chairs Jangwon Seo (Korea Research Institute of Chemical Technology, Korea)
Tae-Youl Yang (Korea Research Institute of Chemical Technology, Korea)

6-1-5010 History, Progress and Perspective of Perovskite Solar Cell

15:00-15:30 Nam-Gyu Park

KEYNOTE *Sungkyunkwan University, Korea*

6-1-3492 The Versatility of Mesoscopic Solar Cells

15:30-16:00 Anders Hagfeldt

INVITED *École Polytechnique Fédérale de Lausanne, Switzerland*

6-1-0562 Thermal Degradation Analysis of Sealed Perovskite Solar Cell with Porous Carbon Electrode at 100 °C for 7000 h

16:00-16:30 Seigo Ito

University of Hyogo, Japan

6-1-0326 Highly Efficient and Stable Tandem Solar Cells Based on Halide Perovskites

16:30-17:00 Jin Young Kim

INVITED *Seoul National University, Korea*

6-1-0313 Toward the Commercialization of Printable Perovskite Solar Cells: Opportunities and Challenges

17:00-17:30 Hongwei Han

INVITED *Huazhong University of Science and Technology, China*

6-1-1445 All-printed Flexible Perovskite Solar Cells for Roll-to-roll Fabrication

17:30-17:45 Tae-Youl Yang, Young Yun Kim, Nam Joong Jeon, Eun Young Park, Jangwon Seo

Korea Research Institute of Chemical Technology, Korea

6-1-2909 Origins of Efficient Perovskite Solar Cell with Low-Temperature Processed Tin Oxide Electron Transport Layer

17:45-18:00 Alan Jiwan Yun, Jinhyun Kim, Taehyun Hwang, Byungwoo Park

Seoul National University, Korea

6-1-1201 Manipulation of Metal Oxide-Based Transparent Electrodes for Tandem Perovskite Solar Cells

18:00-18:15 Helen Hejin Park¹, Geun Jin Kim¹, Chan Su Moon^{1,2}, Seong Sik Shin¹, Nam Joong Jeon¹, Jun Hong Noh^{1,2},
Tae-Youl Yang¹, Jangwon Seo¹

¹Korea Research Institute of Chemical Technology, Korea, ²Korea University, Korea

6-3. Organic and hybrid materials for photovoltaics

Nov. 13 (Tue)

Ora (8F)

Chairs Taeshik Earmme (Hongik University, Korea)
Bumjoon Kim (Korea Advanced Institute of Science and Technology, Korea)

6-3-3325 Alkali Metal Doped ZnO Electron Transport Layers for High-efficiency Low-temperature Processed MAPbI₃ Solar Cells

09:00-09:15

Randi Azmi, Sung-Yeon Jang
Kookmin University, Korea

6-3-2681 Inverse Temperature Crystallization Growth of Perovskite Single Crystals for Efficient and Stable Perovskite Solar Cells

09:15-09:30

Rajendra Kumar Gunasekaran, Prabakar Kandasamy
Pusan National University, Korea

6-3-0203 Impact of Side Chain Engineering and Molecular Weight Control of Polymer Acceptors in Morphology and Performance of All-Polymer Solar Cells

09:30-10:00

INVITED

Bumjoon Kim
Korea Advanced Institute of Science and Technology, Korea

6-3-2953 New Post-Device Treatment to Heal Defects of Perovskite for Improving Solar Cell Efficiency by Almost an Order of Magnitude

10:00-10:30

INVITED

Wallace C.H. Choy
University of Hong Kong, Hong Kong

6-3-0411 Solution Synthesized p-type Delafossite Nanoparticles for Hole Transport Layers in Organic and Perovskite Solar Cells

10:30-11:00

INVITED

Julia Hsu
University of Texas at Dallas, USA

6-3-2956 High-Performance Organic Solar Cells Enabled by Fluorinated Donor Polymer and Mixed Metal Oxide Electron-Transport Layer

11:00-11:30

INVITED

Taeshik Earmme
Hongik University, Korea

6-3-3140 High Processability and Performance of Colloidal Quantum Dot Ink Photovoltaic Devices

11:30-11:45

Havird Agoma, Muhibullah Al Mubarak, Wisnu Tanyo Hadmojo, Sung-Yeon Jang
Kookmin University, Korea

6-3-2508 Ag-PPY: PSS Nanocomposites: A Good Substitute of PEDOT:PSS as Hole Transport Material

11:45-12:00

Swarup Biswas, Hyeok Kim
Gyeongsang National University, Korea

6-3-0881 Three-Dimensional Textile Platform for Electrochemical Devices and Its Application to Dye-Sensitized Solar Cells

12:00-12:15

Min Ju Yun, Yeon Hyang Sim, Seung I. Cha, Dong Y. Lee
Korea Electrotechnology Research Institute, Korea

6-1. Materials for perovskite photovoltaics

18:00-19:30, Nov. 12 (Mon)

Lobby (8F)

Chair Helen Hejin Park (Korea Research Institute of Chemical Technology, Korea)

6-1-0711 The Effect of Two Pseudohalide Thiocyanate Ions on the Performance of Sn-based Perovskite Solar Cells

Do Yeon Heo, Soo Young Kim

Chung-Ang University, Korea

6-1-1092 Simple Surface Treatment on Mesoporous TiO₂ Layer for Low-Temperature Perovskite Solar Cells

Jiyeon Nam, Junyeong Lee, Yumi Choi, Yeji Kim, Changgyun Kim, Sungjin Jo

Kyungpook National University, Korea

6-1-1606 BaSnO₃ as ETL for Highly Efficient and Stable Perovskite Solar Cells

Jaehoon Chung, Seong Sik Shin, Geunjin Kim, Jangwon Seo

Korea Research Institute of Chemical Technology, Korea

6-1-1861 Comparison of Perovskite Solar Cells (PSCs) Prepared with Various Metal Electrode

Sangmo Kim, He Rui, Ma Ro Kim, Jeongseo Kim, Hoang Van Quy, Dang Hai Truyen, Haram Lee,

Seong Gwan Shin, Hyung Wook Choi, Chung Wung Bark

Gachon University, Korea

6-1-2535 Organic-Inorganic Double Layer of Electron Transport Materials for Improvement of Efficiency and Ambient Stability of Perovskite Solar Cells

Young Wook Noh, Jae Woong Jung

Kyung Hee University, Korea

6-1-2695 Co-doped NiO_x Hole Transport Layers for a High Performance Planar Heterojunction Perovskite Solar Cells via Solution Process

Juho Lee, Jaewoong Jung

Kyung Hee University, Korea

6-1-2751 Fabrication of Metal Doped TiO₂ Layer for High Efficiency Perovskite Solar Cell

Seong Gwan Shin, Sang Mo Kim, Chung Wung Bark, Hyung Wook Choi

Gachon University, Korea

6-1-2771 Simultaneous Formation of TiO₂ Compact Layer with Mesoporous TiO₂ for the High Performance Perovskite Solar Cells

Taehee Jeong^{1,2}, Jigeon Kim¹, Donghwan Kim¹, JeeHoon Kim¹, SeongYeon Hwang¹, Kiwon Choi¹,

Min Jae Ko¹

¹Hanyang University, Korea, ²Korea Institute of Science and Technology, Korea

6-1-2782 Improved Long-Term Stability of Perovskite Solar Cells via Solution-Processed Pyrite Hole Transport Layers

Young Kim¹, Bonkee Koo¹, Yongseok Yoo^{1,2}, Taehee Jeong^{1,2}, Seoyun Lee¹, Taifeng Ju¹, Phillip Lee², Min Jae Ko¹

¹Hanyang University, Korea, ²Korea Institute of Science and Technology, Korea

- 6-1-2794** Ta Doped TiO₂ Nanorods Electron Transport Layers for High-efficiency Perovskite Solar Cells
Yongseok Yoo^{1,2}, Bonkee Koo¹, Taifeng Ju¹, Sanghyeon Jeong¹, Young Kim¹, Phillip Lee², Min Jae Ko¹
¹Hanyang University, Korea, ²Korea Institute of Science and Technology, Korea
- 6-1-2802** A Nanorod-based TiO₂ Electron Selective Layer for High-performance Flexible Perovskite Solar Cells via Low Temperature UV Process
Sanghyeon Jeong¹, Yongseok Yoo^{1,2}, Bonkee Koo¹, Hui Li¹, Geon Kim¹, Seoyun Lee¹, Jungsoon Kang¹, Donghwan Kim¹, WooYeon Kim¹, Phillip Lee², Min Jae Ko¹
¹Hanyang University, Korea, ²Korea Institute of Science and Technology, Korea
- 6-1-3134** Formation of Highly Luminescent Formamidinium Lead Bromide Perovskite Thin Films Enabled by Two-dimensional and Three-dimensional Mixed Phases
Joonyun Kim¹, Mingue Shin¹, Young-kwang Jung², Tero-Petri Ruoko³, Arri Priimagi³, Aron Walsh^{2,4}, Byungha Shin¹
¹Korea Advanced Institute of Science and Technology, Korea, ²Yonsei University, Korea, ³Tampere University of Technology, Finland, ⁴Imperial College London, UK
- 6-1-3272** Enhanced Perovskite Crystallization by Suppressing Moisture in Solution State for Efficient Solar Cells
Woongsik Jang, Min Ji Yi, Byung Gi Kim, Dong Hwan Wang
 Chung-Ang University, Korea
- 6-1-3275** Ligand-Free and Facile NiO_x Sol-Gel Via Organic Solvent Method for Efficient Charge Transfer in Perovskite Solar Cells
Byung Gi Kim, Jae Sang Cho, Dong Hwan Wang
 Chung-Ang University, Korea
- 6-1-3437** pH Controlled Hole Transport Layer via Acid and Neutral PEDOT:PSS Ratio for Efficient Inverted Perovskite Photovoltaics
Min Ji Yi, Woongsik Jang, Dong Hwan Wang
 Chung-Ang University, Korea
- 6-1-3629** Strain Induced Stabilization of α -phase CsPbI₃ Perovskite by Using AAO Template
Sunihl Ma¹, Hyeok-Chan Kwon¹, Gyumin Jang¹, Hyunha Yang¹, Joosun Kim², Jooho Moon¹
¹Yonsei University, Korea, ²Korea Institute of Science and Technology, Korea
- 6-1-3642** Vertically Aligned 1-D Perovskite Based Semitransparent Solar Module
Hyeok-Chan Kwon, Sunihl Ma, Gyumin Jang, Hyunha Yang, Jooho Moon
 Yonsei University, Korea
- 6-1-3689** Highly Transparent and Ultra-stable CuNW Based Transparent Electrode Protected by Conformal Protective Layer by Atomic Layer Deposition
Hyunha Yang, Kyungmi Kim, Sunihl Ma, Hyeok-Chan Kwon, Seong-Cheol Yun, Gyumin Jang, Jooho Moon
 Yonsei University, Korea
- 6-1-3697** Enhanced Morphology and Crystallinity of Perovskite for Highly Efficient Large Area Solar Cells by Manipulating Nucleation and Growth Kinetics via Antisolvent Temperature Control
Gyumin Jang, Hyeok-Chan Kwon, Sunihl Ma, Kyungmi Kim, Seongcheol Yoon, Hyunha Yang, Jooho Moon
 Yonsei University, Korea

6-2. Materials for inorganic photovoltaics

18:00-19:30, Nov. 12 (Mon)

Lobby (8F)

Chairs Yaroslav Romanyuk (Swiss Federal Laboratories for Materials Science and Technology, Switzerland)
Edgardo Saucedo (Catalonian Institute for Energy Research, Spain)

6-2-0135 High Performance PbS-Colloidal Quantum Dot Solar Cells Using Additional Spontaneous Passivation

Changjo Kim, Se-Woong Baek, Jung-Yong Lee
Korea Advanced Institute of Science and Technology, Korea

6-2-0444 Study on the Stability and Device Performance of Semitransparent Lead Halide Solar Cells

Md. Abdul Kuddus Sheikh, Son Singh, Rahim Abdur, Jaegab Lee
Kookmin University, Korea

6-2-0961 Study of the Back Metallization to Improve Solar Cell Characteristics

Wonje Oh, Jisu Park, InJu Baek, VuMinhHan Cao, Jian Lin, Yi Zhang, Ziqi Ding, Jaehyeong Lee
Sungkyunkwan University, Korea

6-2-1103 Study of Dual Function n Type nc SiO Front Surface Field Layer for High Efficiency Silicon Heterojunction Rear Emitter Cell

Sangho Kim, Jinjoo Park, Duy Phong Phạm, Sunhwa Lee, Junsin Yi
Sungkyunkwan University, Korea

6-2-1205 Effect of Calcination Temperature on Photocatalytic Activities of Er-TiO₂ Nanotubes

Deuk Yong Lee¹, Hyeran Lee¹, Bae-Yeon Kim²
¹*Daelim University, Korea*, ²*Incheon National University, Korea*

6-2-1801 Development of Cell Processing Technologies for High Efficiency Crystalline Thin Foil Si Solar Cells

Beomsic Jung^{1,2}, Jae Myeong Choi^{1,2}, Won Mok Kim¹, Byeong-kwon Ju², Jong Keuk Park¹,
Taek Sung Lee³, Doh-Kwon Lee¹, Jeung-hyun Jeong¹, Inho Kim¹
¹*Korea Institute of Science and Technology, Korea*, ²*Korea University, Korea*, ³*KIST Gangneung Institute of Natural Products, Korea*

6-2-1809 Carrier Selective Contact Improvements for Silicon Solar Cells

Vladyslav Matkivskyi, Won Mok Kim, Jong Keuk Park, Doh-Kwon Lee, Inho Kim
Korea Institute of Science and Technology, Korea

6-2-1837 Improving the Performance of Laser Fired Contact with a Novel Two-step Approach

Jaemyeong Choi^{1,2}, BeomSic Jung¹, Jong Keuk Park¹, Won Mok Kim¹, Taek Sung Lee¹, Jeung-hyun Jeong¹,
Byeong-kwon Ju², Inho Kim¹
¹*Korea Institute of Science and Technology, Korea*, ²*Korea University, Korea*

6-2-2257 Effect of Silver Doping on the Structural, Optical, and Electrical Properties of the RF-Sputtered SnS Thin Films

Vinaya Kumar Arepalli, Yeonbae Shin, Sungjun Kim, Jeha Kim
Cheongju University, Korea

- 6-2-2271 Environmentally-friendly and Cost-effective Recovery of Valuable Metal from End-of-life Modules**
Min Ho Noh¹, Jun Kyu Lee¹, Jin Seok Lee¹, Young Soo Ahn¹, Gi Hwan Kang¹, Churl Hee Cho²
¹Korea Institute of Energy Research, Korea, ²Chungnam National University, Korea
- 6-2-2275 Efficient Recovery of Valuable Metal from End-of-life PV Module by Controlling Viscosity of Organic Solvent in Electrowinning Process**
Jeong Hun Kim¹, Jun Kyu Lee¹, Jin Seok Lee¹, Young Soo Ahn¹, Gi Hwan Kang¹, Churl Hee Cho²
¹Korea Institute of Energy Research, Korea, ²Chungnam National University, Korea
- 6-2-2307 A Study on the Characteristics of CIGS Solar Cells by 2-step Process from Precursor Structures**
Dong-Hwan Jeon, Young-Il Kim, Dae-Kue Hwang, Kee-Jeong Yang, Dae-Hwan Kim
 Daegu Gyeongbuk Institute of Science and Technology, Korea
- 6-2-3142 Understanding of Junction Characteristics between Sb₂Se₃ and CdS, TiO₂, SnO₂**
Youngjin Kim, Passarut Boonmongkolras, Gihun Jung
 Korea Advanced Institute of Science and Technology, Korea
- 6-2-3162 Copper-nickel Alloy Plating on ITO for a Seed Layer of Plated-copper Contact on Silicon Heterojunction Solar Cells**
Sang Hee Lee¹, Doo Won Lee¹, Soo Hong Lee¹, Kyoung-Jin Lim², Won-Suk Shin²
¹Sejong University, Korea, ²Jusung Engineering, Korea
- 6-2-3175 Copper-plated Silicon Heterojunction Solar Cell Using Copper-tin Alloy Seed Layer on ITO**
Han Jun Kim¹, Sang Hee Lee¹, Doo Won Lee¹, Ah Reum Lee¹, Soo Hong Lee¹, Kyoung Jin Lim², Won Suk Shin²
¹Sejong University, Korea, ²Jusung Engineering, Korea
- 6-2-3192 Study of Deposition Temperature Effect on Additional ITO Layer for Silicon Hetero-Junction Solar Cell**
Ah Reum Lee¹, Doo Won Lee¹, Sang Hee Lee¹, Muhammad Fahad Bhopal¹, Han Jun Kim¹, Soo Hong Lee¹, Kyoung Jin Lim², Won Suk Shin²
¹Sejong University, Korea, ²Jusung Engineering, Korea
- 6-2-3302 Influences of Aluminum Characteristics on Crystallized Silicon in Aluminum-induced Crystallization for Polycrystalline Silicon Solar Cells on a Foreign Substrate**
Doo Won Lee, Muhammad Fahad Bhopal, Sang Hee Lee, Ah Reum Lee, Han Jun Kim, Soo Hong Lee
 Sejong University, Korea

6-3. Organic and hybrid materials for photovoltaics

16:40-18:10, Nov. 13 (Tue)

Lobby (8F)

Chair Taeshik Earmme (Hongik University, Korea)

- 6-3-0133 Fabrication of Transparent Zero-contact Resistance Silver Nanonetwork Electrode via Replicable Stamp Transfer Method for Flexible OPV Devices**
Ki-Won Seo, Jung-Yong Lee
 Korea Advanced Institute of Science and Technology, Korea

- 6-3-0140** Improving Stretching Performance of Hybrid Electrode SWCNT/Ag Stacking Structure via Grain Size Control
SeungSeok Han, Jung-Yong Lee
Korea Advanced Institute of Science and Technology, Korea
- 6-3-0863** High-performance Polymer-based Encapsulating Film for Organic Electronics
 Haekyoung Kim, Gazi A K M Rafiqul Bari
Yeungnam University, Korea
- 6-3-1152** High Efficiency Colloidal Quantum-Dot Solar Cells via Solution-Phase Ligand Exchange
Junho Kim, Jung-Yong Lee
Korea Advanced Institute of Science and Technology, Korea
- 6-3-1422** Photovoltaic Performances of Inverted Polymer Solar Cells with Core and Core-Shell Type Quantum-Dot Monolayers
Guh-Hwan Lim, Sung Min Ji, Minkyung Baek, Dong Ick Son
Korea Institute of Science and Technology, Korea
- 6-3-1590** Optimization of Bi-acceptor-bi-donor Quaternary Solar Cell Structure for Indoor Light Harvesting Application through Optical Simulation
Premkumar Vincent¹, Jae Won Shim², Hyeok Kim³, Jin-Hyuk Bae¹
¹Kyungpook National University, Korea, ²Dongguk University, Korea, ³Gyeongsang National University, Korea
- 6-3-1690** Effect of Electrical Enhanced Metal Doped ZnO Interfacial Layer on the Photovoltaic Performance Based on Polymer Solar Cell
Dajeong Jeong¹, Jun Young Kim²
¹Korea Institute of Industrial Technology, Korea, ²Gyeongsang National University, Korea
- 6-3-1745** Characterization & Optimization for Tandem DSSC: By Enhancing Electron Mobility with NiO-based Blocking Layer
Yu Jeong Jang¹, Dong Woo Kim¹, Suresh Thogiti¹, Do Kyung Lee², Jae Hong Kim¹
¹Yeungnam University, Korea, ²Catholic University of Daegu, Korea
- 6-3-1765** Enhanced Photovoltaic Properties of DSSC by the Electrodeposited PEDOT as Counter Electrode
Ji-Hyun Lee¹, Rajesh Cheruku¹, Ju Eun Jeong¹, Phuong Ho¹, Yoon Soo Han², Jae Hong Kim¹
¹Yeungnam University, Korea, ²Catholic University of Daegu, Korea
- 6-3-1970** Stability Properties of an Inverted Organic Solar Cells Fabricated with ZnO Buffer Layer
Yong Seob Park¹, Jaehyeong Lee²
¹Chosun College of Science and Technology, Korea, ²Sungkyunkwan University, Korea
- 6-3-2317** Thermal Degradation for Hole Transport Layer and Back Electrode of Flexible Organic Solar Cell Modules
Sung Hyun Kim, Hyung Jin Son
Korea Electronics Technology Institute, Korea

- 6-3-2622** Additive-free Green Solvent-processed Morphology Optimization of Non-fullerene Organic Solar Cells
Sanghyun Park, Jaewoong Jung
Kyung Hee University, Korea
- 6-3-2775** Influence of Gold-silver Rough Surface Nanoparticles on Plasmonic Light Scattering in Organic Solar Cells
 Quang Nhat Tran, Ho Kyung Lee, Ji Hyeon Kim, Sang Joon Park
Gachon University, Korea
- 6-3-3300** High Efficiency and Low Bandgap Porphyrin-based Small Molecule Electron Acceptor for Organic Solar Cells
Wisnu Tantyo Hadmojo, Septy Sinaga, In Hwan Jung, Sung-Yeon Jang
Kookmin University, Korea
- 6-3-3309** High Efficiency Ternary Organic Solar Cells Based on the Synergetic Effects among a Wide Bandgap Polymer Donor, Non-Fullerene, and Fullerene Acceptor
Febrian Tri Adhi Wibowo, Wisnu Tantyo Hadmojo, Septy Sinaga, In Hwan Jung, Sung Yeon Jang
Kookmin University, Korea
- 6-3-3613** Efficient Control of Charge Recombination at the Porous Electrode-dye Interface in Dye-Sensitized Solar Cell Using ALD Deposited Al₂O₃ Thin Film
Goru Kang¹, Eunmi Choi¹, Jong-Ki An^{1,2}, Nak-Kwan Chung¹, Jae-Soo Shin², Jin-Tae Kim¹, Ju-Young Yun^{1,3}
¹Korea Research Institute of Standards and Science, Korea, ²Kyungpook National University, Korea,
³University of Science & Technology, Korea

7. Electrochemical and photoelectrochemical energy conversion materials

7-1. Materials and devices for photoelectrochemical energy conversion

Nov. 12 (Mon)

Halla (8F)

Chair Jihun Oh (Korea Advanced Institute of Science and Technology, Korea)

7-1-0385 Interfacing Catalysts with Photoelectrodes for Solar Fuel Production

09:00-09:30 [Dunwei Wang](#)

INVITED *Boston College, USA*

7-1-0343 Selective Chemical Epitaxial Growth of TiO₂ Islands on Ferroelectric PbTiO₃ Crystals to Boost Photocatalytic Activity

09:30-10:00

INVITED [Gang Liu](#)

Institute of Metal Research, Chinese Academy of Sciences, China

7-1-0247 Designing Graphene-based Materials as Catalysts for Hydrogen Evolution Reaction

10:00-10:30 [Joonhee Moon](#)

INVITED *Korea Basic Science Institute, Korea*

7-1-0434 Development of Active BiVO₄ and Ta₃N₅ Photoanodes for Stable Solar Water Oxidation

10:30-11:00 [Miao Zhong](#)

INVITED *Nanjing University, China*

7-1-0459 Boosting Solar Water Oxidation Performance of BiVO₄ Photoanode by Crystallographic Orientation Control

11:00-11:30

INVITED [In Sun Cho](#)

Ajou University, Korea

7-2. Electrochemical catalysts

Nov. 12 (Mon)

Halla (8F)

Chair Uk Sim (Chonnam National University, Korea)

7-2-5011 Electrocatalysis for Energy Conversion Processes

15:00-15:30 [Shizhang Qiao](#)

KEYNOTE *University of Adelaide, Australia*

7-2-0844 Mn Based Water Oxidation Electrocatalyst

15:30-16:00 [Ki Tae Nam](#)

INVITED *Seoul National University, Korea*

7-2-0375 Rational Nanopositioning of Heterojunction Metal Oxides for Efficient Photoelectrochemical Water Splitting

16:00-16:30

INVITED [Jung Kyu Kim](#)

Sungkyunkwan University, Korea

- 7-2-0130** Bismuth-Based Nanostructures for Electrocatalytic and Solar Conversion of CO₂ to Formate
16:30-17:00 [Yanguang Li](#)
INVITED *Soochow University, China*
- 7-2-3328** Hierarchically Assembled Cobalt Nitrides and N-doped Carbon Nanofibers as Versatile Bifunctional Oxygen Electrocatalysts: From Aqueous to Nonaqueous Electrolytes
17:00-17:15 [Ki Ro Yoon](#)¹, [Chang Kyu Hwang](#)¹, [Il-Doo Kim](#)², [Jin Young Kim](#)¹
¹*Korea Institute of Science and Technology, Korea*, ²*Korea Advanced Institute of Science and Technology, Korea*
- 7-2-2723** Hydrothermally Grown Manganese Cobalt Phosphate on Electrodeposited Polyaniline for Electrocatalytic Total Water Splitting
17:15-17:30 [Chinnadurai Deviprasath](#), [Kandasamy Prabakar](#)
Pusan National University, Korea
- 7-2-2391** Hydrogen Bubble-assisted Synthesis of Reduced Graphene Oxide-WTe₂ Hybrid Catalyst for Hydrogen Evolution
17:30-17:45 [Ning Ling](#), [HeeJun Yang](#)
Sungkyunkwan University, Korea
- 7-2-2604** Gaseous Activity Regulation for Stoichiometric Modification of Ni Phosphide/Carbon Nanofibers as Electrocatalyst
17:45-18:00 [Ji-Yong Kim](#), [Hwanyeol Park](#), [Dae-Hyun Nam](#), [Wonhyo Joo](#), [Hyoung Gyun Kim](#), [In-Kyoung Ahn](#), [Ho-Young Kang](#), [Gi-Baek Lee](#), [In-ho Jung](#), [Mi-Young Kim](#), [Gun-Do Lee](#), [Young-Chang Joo](#)
Seoul National University, Korea

7-3. In-situ and operando characterization

Nov. 13 (Tue)

Halla (8F)

Chair Chang Hyuck Choi (Gwangju Institute of Science and Technology, Korea)

- 7-3-0518** Functional Oxides for Energy Storage Systems
09:00-09:30 [Seo Hyoung Chang](#)
INVITED *Chung-Ang University, Korea*
- 7-3-0382** Directional Assembly of Inorganic Light Absorber-catalyst for Artificial Photosynthesis
09:30-10:00 [Wooyul Kim](#)
INVITED *Sookmyung Women's University, Korea*
- 7-3-0159** Combining Voltammetry with Analytical Techniques toward Electrochemical Conversion of Organic Compounds
10:00-10:30 [Youngkook Kwon](#)
INVITED *Korea Research Institute of Chemical Technology, Korea*
- 7-3-0216** In-situ Mass-Spectrometry Techniques in Fuel Cell and Water Splitting Electrocatalysts Stability Research
10:30-11:00 [Serhiy Cherevko](#)^{1,2}, [Olga Kasian](#)², [Simon Geiger](#)², [Karl J.J. Mayrhofer](#)^{1,2}
INVITED ¹*Forschungszentrum Jülich GmbH Helmholtz-Institute Erlangen-Nürnberg for Renewable Energy, Germany*, ²*Max-Planck-Institut für Eisenforschung GmbH, Germany*

7-3-0308 Atomically-dispersed Metal-ions in Nitrogen-doped Carbon: Synthesis, Characterisation and Electrocatalytic Applications

11:00-11:30

INVITED

Frédéric Jaouen

Centre National de la Recherche Scientifique, France

7-3-2731 Defect Chemically Designed Hematite Nanorods for Iridium Single Atom Decorated Water Oxidation Photocatalyst

11:30-11:45

Wonhyo Joo, Ho-Young Kang, Young-Chang Joo

Seoul National University, Korea

7-3-2843 Fabrication of Eco-friendly Graphitic Carbon Nitride Hetero-junction Using Transition Metal Dichalcogenides Materials for Photo Electrochemical Performance

11:45-12:00

Joonyoung Jang¹, Suhee Kang¹, Fernando Jiménez Hinarejos², Caroline Lee¹

¹Hanyang University, Korea, ²Catholic University of Valencia, Spain

7. Electrochemical and photoelectrochemical energy conversion materials

Nov. 13 (Tue)

Mara (2F)

Chair

Ho Won Jang (Seoul National University, Korea)

7-2219 Heterophasic Cu-In-Se Compounds for Photoelectrochemical Water Splitting System

13:20-13:35

Joo Sung Kim, Young Been Kim, Young Dae Kim, Dong Su Kim, Hyung Koun Cho

Sungkyunkwan University, Korea

7-3184 Solution Aging of Vanadyl Acetylacetonate in Methanol as a Vandium Precursor of for BiVO₄ Photoanodes: And Its Effects on Materials Properties and Photoelectrochemical Performanceproperties

13:35-13:50

Gihun Jung¹, Byungha Shin¹, Segi Byun²

¹Korea Advanced Institute of Science and Technology, Korea, ²Korea Research Institute of Standards and Science, Korea

7-2208 Binary Chalcogenide Photoanode with Large Energy Band Bending for High Performance in Water Splitting

13:50-14:05

Young Been Kim, Joo Sung Kim, Hyung Koun Cho

Sungkyunkwan University, Korea

7-2047 High Performance Si-based Photoanodes via Electrodeposition of Conformal Co-based Catalysts

14:05-14:20

Sol A Lee, Ho Won Jang

Seoul National University, Korea

7-1415 Photoelectrochemical Hydrogen Production Using Atomic-layer-deposited MoS_x/black Si Photocathode

14:20-14:35

DaeWoong Kim, Jin Young Jeong, Dae Hyun Kim, Jung-Ho Lee, Tae Joo Park

Hanyang University, Korea

- 7-0883** Improvement of Energy Conversion Efficiency by Modification of Photon Distribution within Photoanode of Dye-Sensitized Solar Cells
 14:35-14:50 Yeon Hyang Sim^{1,2}, Min Ju Yun², Seung I. Cha^{1,2}, Dong Y. Lee²
¹University of Science and Technology, Korea, ²Korea Electrotechnology Research Institute, Korea
- 7-0715** Enhanced Catalytic Activity of 2D-3D Hybrid WS₂/WO₃ Nanohelices for Efficient Water Splitting
 14:50-15:05 Noho Lee, Il Yong Choi, Kyung-Yeon Doh, Donghwa Lee, Jong Kyu Kim
 Pohang University of Science and Technology, Korea
- 7-2582** Oxygen Electrocatalysis of A-site Cation Deficient LaNiO₃ Transition Metal Perovskite
 15:05-15:20 Min-Ju Choi, Ho Won Jang
 Seoul National University, Korea
- 7-2417** Facile Microwave Irradiation Synthesis of Iridium Nanoparticles Supported on Sb-doped SnO₂ in Ionic Liquids for Water Electrolysis
 15:20-15:35 Hyeon-Yong Song^{1,2}, Jeon Ryang Lee¹, Jae-Cheol Park¹, In-Hwan Lee², Tae-Won Kim¹
¹Korea Institute of Industrial Technology, Korea, ²Korea University, Korea
- 7-2638** Potassium Intercalated Activated Carbon by Solvent Assisted Mechanochemical Process for Electrochemical Applications
 15:35-15:50 Rajmohan Rajendiran, Prabakar Kandasamy
 Pusan National University, Korea
- 7-2304** Theoretical Investigation of the Catalytic Activity of Goethite (α -FeOOH) for the Electrochemical Water Oxidation
 15:50-16:05 Tae Hyung Lee¹, Donghwa Lee², Ho Won Jang¹
¹Seoul National University, Korea, ²Pohang University of Science and Technology, Korea
- 7-2399** Microwave-assisted Fabrication of Ag Nanoparticle Catalysts with a Mean Size of ~20nm in Ionic Liquids for the Application of CO₂ Reduction Process
 16:05-16:20 Jeon Ryang Lee^{1,2}, Hyeon-Yong Song^{1,3}, Jae Cheol Park¹, Tae-Won Kim¹, Eun Mi Han²
¹Korea Institute of Industrial Technology, Korea, ²Chonnam National University, Korea, ³Korea University, Korea

7-1. Materials and devices for photoelectrochemical energy conversion

18:00-19:30, Nov. 12 (Mon)

Lobby (8F)

Chair Jihun Oh (Korea Advanced Institute of Science and Technology, Korea)

- 7-1-0703** Immobilization of Polyoxometalates on Au-TiO₂ Photoanode by Atomic Layer Deposition for Sustainable Plasmonic Water Oxidation
Shinyoung Choi, Insu Kim, Yoon Sung Nam
Korea Advanced Institute of Science and Technology, Korea
- 7-1-1116** Plasmonic Enhanced Co-exist Ag & Au Nanoparticles Decorated ZnO Nanowire Arrays for Dye-Sensitized Solar Cells
Wai Kian Tan¹, Takuya Ito¹, Go Kawamura¹, Zainovia Lockman², Hiroyuki Muto¹, Atsunori Matsuda¹
¹*Toyohashi University of Technology, Japan*, ²*Universiti Sains Malaysia, Malaysia*
- 7-1-1159** Plasmonic Array-embedded TiO₂ Photocathode for Surface Plasmon Polariton-driven Water Splitting
Joong Bum Lee, Yeon Sik Jung, Yoon Sung Nam
Korea Advanced Institute of Science and Technology, Korea
- 7-1-1961** Characteristics of Carbon Nanotubes Fabricated by Ink-jet Printing Method for the Application in Dye-sensitized Solar Cell
Yong Seob Park¹, Jaehyeong Lee², Soohyun Hwang²
¹*Chosun College of Science and Technology, Korea*, ²*Sungkyunkwan University, Korea*
- 7-1-2142** Photocatalytic Multilayers Anode of Graphene Oxide and Terpyridine Ruthenium Complex for Efficient Water Splitting
Dongseok Kim, Minsu Gu, Byeong-Su Kim
Yonsei University, Korea
- 7-1-3181** Fine Composition Control of Solution Processed BiVO₄ Photoanodes and Its Effects on Materials Properties and Photoelectrochemical Propertiesperformance
Gihun Jung, Segi Byun, Byungha Shin, Songyi Moon, Bumsoo Kim, Jeongyoung Park, Seokwoo Jeon
Korea Advanced Institute of Science and Technology, Korea
- 7-1-3587** BiFeO₃-Based Heterogeneous Anodes for Efficient Photoelectrochemical Water Oxidation via Electrochemical Synthesis
Jin Wook Yang, Mi Gyoung Lee, Ho Won Jang
Seoul National University, Korea
- 7-1-3681** Cu-doped NiO as an Efficient Hole Selective Layer for High Performance Sb₂Se₃ Photocathode
Hyungsoo Lee, Wooseok Yang, Jeiwan Tan, Yunjung Oh, Jaemin Park, Jooho Moon
Yonsei University, Korea
- 7-1-3686** Fabrication of Morphology-controlled Sb₂Se₃ Light Absorbers by Modulating the Ratio between Sb and Se in Precursor Solution for Efficient Photoelectrochemical Water Splitting
Jaemin Park, Wooseok Yang, Yunjung Oh, Jeiwan Tan, Hyungsoo Lee, Jooho Moon
Yonsei University, Korea

7-2. Electrochemical catalysts

18:00-19:30, Nov. 12 (Mon)

Lobby (8F)

Chair Uk Sim (Chonnam National University, Korea)

- 7-2-0624** Edge-extended Metal Sulfide Nanosheets for Water Splitting
Van Quyet Le, Phan Thang Nguyen, Tae Jung Park, Soo Young Kim
Chung-Ang University, Korea
- 7-2-0833** N-doped Graphene Quantum Dots as a High Performance Catalyst for Hydrogen Evolution Reaction
Yelyn Sim¹, Uk Sim¹, Joonhee Moon², Jude John¹
¹Chonnam National University, Korea, ²Korea Basic Science Institute, Korea
- 7-2-1029** Iron Nickel Nitride@Reduced Graphene Oxide Hybrid Composite for High-performance Electrocatalysts of Oxygen Evolution Reaction
Dong In Jeong¹, Hyung Wook Choi², Min Seob Kim¹, Young Hun Lee¹, Mohit Kumar¹, Bong Kyun Kang³, Dae Ho Yoon¹
¹Sungkyunkwan University, Korea, ²SKKU Advanced Institute of Nanotechnology, Korea, ³Electronic Materials and Device Research Center, Korea
- 7-2-1151** Improved Catalytic Surface Activation Employing Black Tungsten Oxide Nanofiber for Electrochemical Conversion Reactions
Ga-Yoon Kim, Won-Hee Ryu
Sookmyung Women's University, Korea
- 7-2-1293** Effects of Surface Pretreatments on the Electrodeposition of Ag Electro-Catalysts for CO₂ Reduction
SeonHwa Oh, Hoyoung Kim, Hyanjoo Park, Dong-Kwon Kim, Soo-Kil Kim
Chung-Ang University, Korea
- 7-2-1327** Modification of Commercial Electrodes for HT-PEMFCs by Pt Pulse Electrodeposition
Dong-Kwon Kim, Hoyoung Kim, Hyanjoo Park, SeonHwa Oh, Soo-Kil Kim
Chung-Ang University, Korea
- 7-2-1536** Ruthenium Thin Film by Atomic Layer Deposition for Hydrogen Evolution Reaction
Rahul Ramesh, Soo-Hyun Kim
Yeungnam University, Korea
- 7-2-1872** Transition Metal-based Carbide as Promising Candidate Catalysts for Electrochemical Water Splitting
MinHyuk Lee, DongKyu Lee, Jude John, Sim Uk
Chonnam National University, Korea
- 7-2-1873** Ammonia Production through Electrochemical Nitrogen Reduction Reaction under Ambient Conditions Using Transition Metal Nitrides Catalysts
DongKyu Lee, Yelyn Sim, MinHyuk Lee, Uk Sim
Chonnam National University, Korea

- 7-2-2665** Integrating Biomass Upgrading and H₂ Production with Bimetallic Multilayer Electrode
Minju Park¹, Minsu Gu², Byeong-Su Kim²
¹Ulsan National Institute of Science and Technology, Korea, ²Yonsei University, Korea
- 7-2-2718** High Performance Asymmetric Supercapacitor from Biomass Derived Carbon
Aravindh Raja Selvaraj, Kandasamy Prabakar
 Pusan National University, Korea
- 7-2-2790** Enhanced Electrocatalytic Activity and Stability of Transition Metal-doped TiO₂ Supported Pt Nanocatalyst
Kyung-Jong Noh, Jeong Woo Han
 Pohang University of Science and Technology, Korea
- 7-2-2961** TiO₂ Nanotube Arrays Supported RuO_{2-x} as Efficient Gas Evolving Catalysts
Deok Ki Cho, Jae Hyun Park, Su Geun Ji, Sun Kyung Hwang, Jin-Young Kim
 Seoul National University, Korea
- 7-2-3103** Effect of MnO₂ Addition on the Structure and Electrical Properties of Ba_{0.85}Ca_{0.15}Ti_{0.9}Zr_{0.1}O₃-CuO(BCTZ-CuO) Ceramics
Quan Wang, Sang Bum Woo, Chul Hee Ryu, Sung Min Ko, Kyung Bum Kim, Tae Hyun Sung
 Hanyang University, Korea
- 7-2-3216** Hydrophobic Polydimethylsiloxane (PDMS) Coated Carbon Support as a Promising Electro-catalyst Support for Polymer Electrolyte Membrane Fuel Cells via Polymer Brush Method
Yeo Jin Lee^{1,2}, Jong Min Kim¹, Ki Ro Yoon¹, Jin Young Kim¹
¹Korea Institute of Science and Technology, Korea, ²Sungkyunkwan University, Korea
- 7-2-3294** Nanoporous Platinum Thin Films by Oxygen Plasma Dealloying: Highly Active and Stable Electrocatalyst for Oxygen Reduction Reaction
Chang Kyu Hwang^{1,2}, Jong Min Kim², Byung Moo Moon¹, Jin Young Kim²
¹Korea University, Korea, ²Korea Institute of Science and Technology, Korea
- 7-2-3388** Electrospun F-doped SnO₂ Nanotube Support for Pt Nanoparticles with High Activity and Durability
Jong Min Kim, Ki Ro Yoon, Yeo Jin Lee, Jin Young Kim
 Korea Institute of Science and Technology, Korea

7-3. In-situ and operando characterization

16:40-18:10, Nov. 13 (Tue)

Lobby (8F)

Chair Chang Hyuck Choi (Gwangju Institute of Science and Technology, Korea)

- 7-3-1804** E-TEM Analysis of CdS/Bi₂S₃ QDs/TiO₂ Nanorods for CO₂ Photocatalytic Conversion to Fuels
 Hyun Kim, Dongyun Kim, Beelyong Yang
 Kumoh National Institute of Technology, Korea

8. Materials for sustainable energy storage

8-3. Next-generation of batteries

Nov. 13 (Tue)

Halla (8F)

Chair Hye Ryung Byon (Korea Advanced Institute of Science and Technology, Korea)

8-3-2051 Towards Controlling of Li_2O_2 Structures for Improvement of Charging Overpotential in Lithium-oxygen Batteries

13:20-13:35

Hye Ryung Byon

Korea Advanced Institute of Science and Technology, Korea

8-3-3907 Functional Naphthalene Diimide: A New Class of Two-Electron Storage Anolyte for Neutral Aqueous Organic Redox Flow Batteries

13:35-13:50

Veerababu Medabalmi^{1,2}, Mahesh Sundararajan^{1,2}, Mu-Hyun Baik^{1,2}, Hye Ryung Byon¹

¹Korea Advanced Institute of Science and Technology, Korea, ²Institute for Basic Science, Korea

8-3-2107 Polyoxometalate as a Nature-Inspired Bifunctional Catalyst for Lithium-Oxygen Batteries

13:50-14:20

Jun-Seo Lee¹, Cheolmin Lee², Jae-Yun Lee¹, Jungki Ryu², Won-Hee Ryu¹

INVITED

¹Sookmyung Women's University, Korea, ²Ulsan National Institute of Science and Technology, Korea

8-3-0374 Multifunctional Separators for Lithium Sulfur Batteries

14:20-14:50

Jia-Qi Huang

INVITED

Beijing Institute of Technology, China

8-3-0368 Dendrite-Free Lithium Metal Anode for Safe High-Energy-Density Rechargeable Batteries

14:50-15:20

Xin-Bing Cheng, Xue-Qiang Zhang, Xiang Chen, Rui Zhang, Chen-Zi Zhao, Qiang Zhang

INVITED

Tsinghua University, China

8-3-1542 Unique Porous Carbon Structure as Effective Cathode for Li-O_2 Batteries

15:20-15:50

Hun-Gi Jung, Min-Gi Jeong

INVITED

Korea Institute of Science and Technology, Korea

8-3-1823 Ru Quantum Dot/N-Doped Holey Graphene as a Capable Cathode Electrode Material for Li-Oxygen Batteries

15:50-16:05

Masoud Nazarian-Samani^{1,2}, Safa Haghighat-Shishavan¹, Mahboobeh Nazarian-Samani¹,

Ha-Kyung Roh¹, Song-Gue Choi¹, Seyed Farshid Kashani-Bozorg², Kwang-Bum Kim¹

¹Yonsei University, Korea, ²University of Tehran, Iran

8-3-1526 Phase-dependent Study on Atomic Layer Deposited Tin Sulfide (SnSx)@3D Ni-foam as a Supercapacitor Electrode

16:05-16:20

Zahid Ansari¹, Nazish Islam², Dip Nandi Kumar¹, Sajid Ansari², Soo-Hyun Kim¹

¹Yeungnam University, Korea, ²Dongguk University, Korea

8-1. Materials for Li-ion and Na-ion batteries

Nov. 14 (Wed)

Halla (8F)

Chair Won-Hee Ryu (Sookmyung Women's University, Korea)

8-1-0332 Two-dimensional Metal Oxide Nanomaterials for Energy Applications

09:00-09:30 [Ziqi Sun](#)

INVITED *Queensland University of Technology, Australia*

8-1-3390 Na Transition Metal Oxides as a Sacrificial Additives for Na-ion Batteries

09:30-10:00 A-Ram Park¹, Sang-Min Lee², [Jeom-Soo Kim](#)¹

INVITED ¹*Dong-A University, Korea*, ²*Korea Electrotechnology Research Institute, Korea*

8-1-3529 The Bond Evolution Mechanism of Covalent Sulfurized Carbon during Electrochemical Sodium Storage Process

10:00-10:30 Tianjing Wu, Hongshuai Hou, [Xiaobo Ji](#)

INVITED *Central South University, China*

8-1-0454 Metal Sulfide and Oxide Nanofiber Anode Materials for High Capacity Na-ion Batteries

10:30-11:00 [Won-Hee Ryu](#)

INVITED *Sookmyung Women's University, Korea*

8-1-3306 Asymmetric Dynamics of Ion Insertion vs Extraction of Lithium Battery Electrodes by Electro-Autocatalysis and Electro-Autoinhibition

11:00-11:15 [Jihyun Hong](#)¹, Hongbo Zhao², Jungjin Park^{3,4}, Kipil Lim^{3,5}, William E. Gent^{3,4}, Samanbir Kalirai^{3,4}, Michael F. Toney⁵, William C. Chueh³, Martin Z. Bazant²

¹*Korea Institute of Science and Technology, Korea*, ²*Massachusetts Institute of Technology, USA*, ³*Stanford University, USA*, ⁴*Lawrence Berkeley National Laboratory, USA*, ⁵*SLAC National Accelerator Laboratory, USA*

8-1-3211 Nano Silicon/Porous Carbon Nanotubes Composite for Lithium Storage with High Capacity and Superior Rate Capability

11:15-11:30 [Arunakumari Nulu](#), Venugopal Nulu, Keun Yong Sohn

Inje University, Korea

8-1-2543 SEI-Inhibited NiSi-nanowire Anode Anchored on Inner Surface of 3D Graphene Foam for Ultrafast Li-ion Battery

11:30-11:45 [Won Jun Chang](#), Su Han Kim, Dong Won Yang, Sun Sang Kwon, Jae Hyung Lee, Jae Hyeok Shin, Jin Tae Kim, Sang Il Lee, Su Hee Jang, Kyung Min Yang, Won Il Park

Hanyang University, Korea

8-1-2121 Scalable Solid-state Process of Metal Fluorides, Focusing on N-doped Nanocrystalline FeF₃/C with High Power Capability

11:45-12:00 [Jangwook Lee](#), Byoungwoo Kang

Pohang University of Science and Technology, Korea

8-2. Developing solid electrolyte and solid-state batteries

Nov. 14 (Wed)

Halla (8F)

Chair Yoon Seok Jung (Hanyang University, Korea)

8-2-3247 All-solid-state Rechargeable Batteries with Ductile Glass Electrolytes

13:50-14:20 Akitoshi Hayashi, Atsushi Sakuda, Masahiro Tatsumisago

INVITED *Osaka Prefecture University, Japan*

8-2-0395 Ion Conducting Ceramic Based Composite Electrolyte for High Voltage Pseudo-Solid-State Batteries

14:20-14:50 Yongsik Kim, Hyun Woo Kim, Young Jun Lim

INVITED *Ulsan National Institute of Science and Technology, Korea*

8-2-0380 Design of Composite Electrode Sheet toward a High Performance All-Solid-State Battery

14:50-15:20 Woosuk Cho

INVITED *Korea Electronics Technology Institute, Korea*

8-2-2920 Stability of Solid Electrolytes on Lithium Metal in Terms of Thermal and Electrochemical Aspect

15:20-15:35 Byoungwoo Kang, Seung Woo, Habin Chung

Pohang University of Science and Technology, Korea

8-2-2551 Strategies for Enhancing Ionic Conductivity of Nasicon-type Solid Electrolytes

15:35-15:50 Heetaek Park, Byoungwoo Kang

Pohang University of Science and Technology, Korea

8-2-2321 Thin Electrodes with Ceramic Separator for Li/FeS₂ Thermal Batteries

15:50-16:05 Hae-Won Cheong, Seung-Ho Kang, Jang-Hyeon Cho

Agency for Defense Development, Korea

8-2-2291 Understanding the Electrical Property of NASICON(Na₃Zr₂Si₂PO₁₂) in Water Solutions

16:05-16:20 Byoungwoo Kang, Minseok Kang, Heetaek Park

Pohang University of Science and Technology, Korea

8-3. Next-generation of batteries

16:40-18:10, Nov. 13 (Tue)

Lobby (8F)

Chair Byoungwoo Kang (Pohang University of Science and Technology, Korea)

8-3-0985 Blood-based Catalysts Decorated on Carbon Nanotubes for Efficient and Sustainable Li-CO₂ Batteries

Hyun-Soo Kim, Won-Hee Ryu
Sookmyung Women's University, Korea

8-3-2337 Low Potential Hyper Conjugated Carboxylate as Anode Material for Secondary Lithium-ion Batteries

Veerababu Medabalmi¹, Na Moony², Mu-Hyun Baik^{1, 2}, Hye Ryung Byon²
¹Institute for Basic Science, Korea, ²Korea Advanced Institute of Science and Technology, Korea

8-3-3069 Hybrid Al Surface Treatment Process for Improving Metal-polymer Adhesion in Cap-assembly of Secondary Batteries

Vandung Do^{1, 2}, Seung-Won Kim³, Min Seop Kim¹, Wol Il Cho¹
¹Korea Institute of Science and Technology, Korea, ²Korea University of Science and Technology, Korea,
³Shin Heung Energy & Electronics Co., Ltd, Korea

8-3-3221 Electrochemical Characteristics of Magnesium Alloys (Mg-Al, Mg-Si) Anode Materials for Magnesium Secondary Battery

Ji Seong Moon, Venugopal Nulu, Keun Yong Sohn
Inje University, Korea

8-3-3465 Amorphous V₂O₅ Positive Electrode Materials by Precipitation Method in Magnesium Rechargeable Batteries

Duri Kim, Ji Heon Ryu
Korea Polytechnic University, Korea

8-3-3467 Electrochemical Performance of Mg/LiV₃O₈ Hybrid Batteries with Mg-Li Dual Salt Electrolytes

Haebeen Kim, Ji Heon Ryu
Korea Polytechnic University, Korea

8-1. Materials for Li-ion and Na-ion batteries

16:50-17:50, Nov. 14 (Wed)

Lobby (8F)

Chairs Byoungwoo Kang (Pohang University of Science and Technology, Korea)
Youngsik Kim (Ulsan National Institute of Science and Technology, Korea)

8-1-0899 Improving Cell Performance of Ni-rich NCM Cathode Materials for Large-Scale Lithium Ion Batteries

Hyun Soo Kim, Seong-ju Sim, Bong Soo Jin
Korea Electrotechnology Research Institute, Korea

- 8-1-0942** Electrochemical Property of PEDOT-co-PFPT Copolymer Based Anode for Middle or Large Sized Lithium Secondary Battery
Seo Young Jeon, Jung Min Lee, Nam Ju Jo
Pusan National University, Korea
- 8-1-0993** Facile Process to Fabricate an Additive-Free Electrode with Reduce Graphene Oxide by High-kinetic Spray for Flexible Lithium Ion Batteries
Seong Dae Kim¹, Jong-Gun Lee², Tae-Gun Kim², Kuldeep Rana³, Jong Yeob Jeong¹, Jong Hyeok Park¹, Sam S. Yoon², Jong-Hyun Ahn¹
¹Yonsei University, Korea, ²Korea University, Korea, ³Central Power Research Institute, India
- 8-1-1213** Rapid Synthesis of TiO₂/Pristine-CNT Composites via Microwave Irradiation
Geon-Woo Lee, Young-Hwan Kim, Ha-Kyung Roh, Byunghun Park, KwangBum Kim
Yonsei University, Korea
- 8-1-1233** Synthesis of Li₄Ti₅O₁₂@C@rGO Composites by Ethylene Glycol-Assisted Spray Drying for High Power and Long-Life Sodium-Ion Batteries
Ha-Kyung Roh, Geon-Woo Lee, Byung Hoon Park, Yeon Jun Choi, Song Gue Choi, Kwang-Bum Kim
Yonsei University, Korea
- 8-1-1250** SiO_x Coated Si/CNT Composites with Improved Cycling Stability for Li-ion Batteries
Byung Hoon Park, Kwang-Bum Kim
Yonsei University, Korea
- 8-1-1253** SiO_x-coated Li₄Ti₅O₁₂ Composite with Excellent Cycle Performance for Lithium Ion Battery
 KwangBum Kim, SooBean Choi, JunHui Jeong, ByungHoon Park
Yonsei University, Korea
- 8-1-1310** 2-D Expanded Graphite Anode Employing Metal Nanoparticle Pillar for High Capacity Sodium-ion Battery
Seong-Ji Pyo¹, Wonsik Eom², Yoojin Kim¹, Tae Hee Han², Won-Hee Ryu¹
¹Sookmyung Women's University, Korea, ²Hanyang University, Korea
- 8-1-1428** Atomic-layer-deposited Li-Al-O Protection Layer on Li Metal Anode for Li-ion Secondary Batteries
Dae Woong Kim, Hag Seung Lee, Kyu Moon Kwon, Tae Joo Park
Hanyang University, Korea
- 8-1-1499** Novel Design of Core-shell Structured Co-free Cathode Material to Enhanced Thermal and Structural Stability for Lithium Ion Batteries
Ji-Woong Shin, Jin-Ju Bae, Kyoung-Tae Kim, Seon-Jin Lee, Jin Ryu, Jong-Tae Son
Korea National University of Transportation, Korea
- 8-1-1528** Atomic Layer Deposited Transition Metal Binary Compounds for Energy Storage Application
Dip Kumar Nandi, Tae Hyun Kim, Soo-Hyun Kim
Yeungnam University, Korea

- 8-1-1549** **Modification Nanostructured Cobalt-free Layered Oxide Cathode Materials for Lithium-ion Battery by Conductive Polymer**
Jin-Ju Bae, Ji-Woong Shin, Kyoung-Tae Kim, Seon-Jin Lee, Jin Ryu, Jong-Tae Son
Korea National University of Transportation, Korea
- 8-1-1615** **Improvement of Thermal Stability of $\text{LiNi}_{0.825}\text{Mn}_{0.125}\text{Al}_{0.05}\text{O}_2$ Cathode Material**
Seon-jin Lee, Jin Ryu, Ji-Woong Shin, Jin-Ju Bae, Kyoung-Tae Kim, Jong-Tae Son
Korea National University of Transportation, Korea
- 8-1-1659** **Nanocrystalline Cellulose as Lightweight Substrates for Lithium-ion Battery**
Quang Nhat Tran, Il Tae Kim, Sang Joon Park
Gachon University, Korea
- 8-1-2010** **Surface Modified Black Phosphorus- multiwall Carbon Nanotube Composite as a High-performance Anode Material for Lithium-ion and Sodium-ion Batteries**
Safa Haghighat-Shishavan, Mahboobeh Nazarian-Samani, Masoud Nazarian-Samani, Kwang-Bum Kim
Yonsei University, Korea
- 8-1-2019** **Porous Ternary Iron Silicon Phosphide as a Promising Anode Electrode Material for Lithium-ion Batteries**
Mahboobeh Nazarian-Samani, Safa Haghighat-Shishavan, Masoud Nazarian-Samani, Kwang-Bum Kim
Yonsei University, Korea
- 8-1-2028** **Activated Carbon-Decorated Spherical Silicon Nanoparticles Simultaneously-Derived from Brown Rice Husk as an Anode Material for Lithium-ion Batteries**
S Sankar, Deuk Young Kim
Dongguk University, Korea
- 8-1-2129** **MoS_2 -Carbonaceous Nanocomposites Anode Materials for High-Performance Li-ion Batteries**
Quoc Hanh Nguyen, Quoc Hai Nguyen, Taehyun Park, Jaehyun Hur
Gachon University, Korea
- 8-1-2209** **Novel Li-excess Mn Based Cathode Material for High Energy Density Li-ion Batteries**
Junghwa Lee, Byoungwoo Kang
Pohang University of Science and Technology, Korea
- 8-1-2243** **Lithiated Silicon Nanocomposite as a High-capacity Anode for Rechargeable Lithium Batteries**
Anh Dinh Bui^{1,2}, Sun-Hwa Choi², Yoon-Cheol Ha^{1,2}
¹University of Science and Technology, Korea, ²Korea Electrotechnology Research Institute, Korea
- 8-1-2950** **A Preparation of Mesoporous Perforated Co_3O_4 Nanoparticles by Using Carbon Nanotube Template for Li-ion Battery Anode Application**
Dong Ok Shin, Ju Young Kim, Young-Gi Lee
Electronics and Telecommunications Research Institute, Korea
- 8-1-3030** **First-principles Study of Charge Compensation Mechanism on $\text{LiNb}_{1/3}\text{Ni}_{2/3}\text{O}_2$ as Cathode Material**
Maho Harada¹, Naoto Tanibata^{1,2}, Yusuke Noda³, Masanobu Nakayama^{1,3}, Naoaki Yabuuchi⁴
¹Nagoya Institute of Technology, Japan, ²Kyoto University Elements Strategy Initiative for Catalysts and Batteries, Japan, ³National Institute for Materials Science, Japan, ⁴Yokohama National University, Japan

8-1-3034 Analysis of Redox Reaction and Carrier Transport Mechanism in Co-doped Li₂O Cathode by First-principles Calculations

Haein Lee¹, Naoto Tanibata^{1,2}, Masanobu Nakayama^{1,3}, Yoshiyuki Ogasawara⁴, Mitsuhiro Hibino⁴

¹Nagoya Institute of Technology, Japan, ²Kyoto University, Japan, ³National Institute of Materials Science, Japan, ⁴University of Tokyo, Japan

8-1-3161 One-Pot Room Temperature Synthesis of CoOOH Nanoflakes for Energy Storage Applications

Venugopal Nulu, Arunakumari Nulu, Ji Seong Moon, Keun Yong Sohn

Inje University, Korea

8-1-3452 Electrochemical Performances of the Sn-Cu Alloy Negative Electrode Materials through Simple Chemical Reduction Method

Ji Seon Oh, Duri Kim, Seung Ho Chae, Seungjoo Oh, Seong Tae Yoo, Haebeen Kim, Ji Heon Ryu

Korea Polytechnic University, Korea

8-1-3576 Enlarging Interlayer Space of Expanded Graphite Anodes Employing Group VI Metallic Pillars for Improved Na-ion Intercalation

YooJin Kim, SeongJi Pyo, Won-Hee Ryu

Sookmyung Women's University, Korea

8-1-3876 Synthesis of Flower-like Cu₃(MoO₄)₂O Microspheres by Simple Aqueous Precipitation and Its Application for Li-ion Batteries

Duk-Hee Lee, Jae-Ryang Park, Dongyoon Shin, Kyung-Soo Park

Institute for Advanced Engineering, Korea

8-2. Developing solid electrolyte and solid-state batteries

16:50-17:50, Nov. 14 (Wed)

Lobby (8F)

Chairs

Byoungwoo Kang (Pohang University of Science and Technology, Korea)

Yongsik Kim (Ulsan National Institute of Science and Technology, Korea)

8-2-0834 Liquid Based Synthesis of Sulfied Solid Electrolyte

KyungSu Kim, Goojin Jeong, Woosuk Cho, Ji-Sang Yu

Korea Electronics Technology Institute, Korea

8-2-2313 Fabrication of Transparent Thin Film Batteries

Hyunseok Lee^{1,2}, Kwang-Bum Kim², Ji-Won Choi^{1,3}

¹Korea Institute of Science and Technology, Korea, ²Yonsei University, Korea, ³Korea University of Science and Technology, Korea

8-2-2484 Developments of All-Solid-State Na-ion Batteries Using Na⁺ Superionic Conductors

Chang Ki Moon¹, Hyun Jae Lee², Kern Ho Park¹, Hiram Kwak¹, Jongwook Heo³, Keunsu Choi²,

Hyemi Yang², Maeng-Suk Kim², Seung-Tae Hong³, Jun Hee Lee², Yoon Seok Jung¹

¹Hanyang University, Korea, ²Ulsan National Institute of Science and Technology, Korea, ³Daegu Gyeongbuk Institute of Science and Technology, Korea

- 8-2-2486** **Diagnosis of Sheet-Type All-Solid-State Batteries Using Three-Electrode Cells**
Young Jin Nam, Kern Ho Park, Dae Yang Oh, Woo Hyun An, Yoon Seok Jung
Hanyang University, Korea
- 8-2-2913** **A Solid Proton Conducting Electrolyte Leading towards Self-charging Supercapacitor**
Sindhuja Manoharan, Parthiban Pazhamalai, Karthikeyan Krishnamoorthy, Sang-Jae Kim
Jeju National University, Korea
- 8-2-2989** **Chemical Stability and Ionic Conduction Mechanism of NASICON Type Li Ion Conductor by First Principle Calculation**
Koki Nakano¹, Yusuke Noda², Masanari Otake¹, Ryo Kobayashi^{1,2}, Hayami Takeda^{1,3}, Naoto Tanibata¹, Masanobu Nakayama^{1,2}
¹Nagoya Institute of Technology, Japan, ²National Institute for Materials Science, Japan, ³Kyoto University, Japan
- 8-2-3568** **Multi-layer Powder Compaction of Electrodes and Electrolytes for Thermal Batteries**
Hae-Won Cheong¹, Tae-Young Ahn¹, Kiyoul Kim¹, Seung-Ho Kang¹, Jang-Hyueon Cho¹, Chang-Yun Shin², Sin-Soo Jeon², Sang-Jin Lee², Young-Cheol Byun²
¹Agency for Defense Development, Korea, ²Vitzromiltech Co., Ltd, Korea
- 8-2-3649** **Preparation of Li₁₀P₂S₈I Solid Electrolyte and Its Application in All-solid-state Lithium Ion Batteries with Graphite Anode**
Tokoharu Yamamoto, Nguyen Huu Huy Phuc, Hiroyuki Muto, Atsunori Matsuda
Toyohashi University of Technology, Japan
- 8-2-3670** **High Ionic Conductivity of Multiphase Na₃SbS₄**
Hirotsada Gamo, Nguyen Huu Huy Phuc, Reiko Matsuda, Hiroyuki Muto, Atsunori Matsuda
Toyohashi University of Technology, Japan

9. Energy harvesting materials

9-3. Piezoelectric energy harvesting and related hybrid system

Nov. 13 (Tue)

Ara (8F)

Chairs Sohini Kar-Narayan (University of Cambridge, UK)
Miso Kim (Korea Research Institute of Standards and Science, Korea)

9-3-0302 Large-area Solution-manufactured Air-stable 2D Material for High-performance Electronics and Piezoelectric Device

INVITED

Wenzhuo Wu

Purdue University, USA

9-3-3062 Relationship between the Piezoelectric Properties of Ceramics and the Output Power of Various Types of Piezoelectric Energy Harvesters

INVITED

Sun-Woo Kim, Tae-Gon Lee, Sahn Nahm

Korea University, Korea

9-3-0328 PVDF Based Piezoelectric Roadway Energy Harvesting via Displacement Amplification

10:00-10:30

Chong-Yun Kang^{1,2}, Inki Jung^{1,2}, Youn-Hwan Shin^{1,2}, Sangtae Kim¹

INVITED

¹Korea Institute of Science and Technology, Korea, ²KU-KIST Graduate School of Converging Science and Technology, Korea University, Korea

9-3-3831 Piezoelectric Polymer Nanowires for Energy Harvesting Applications

10:30-11:00

Sohini Kar-Narayan

INVITED

University of Cambridge, UK

9-3-1030 Broadband Dual Phase Energy Harvester: Vibration and Magnetic Field

11:00-11:15

Hyun-Cheol Song¹, Chong-Yun Kang^{1,2}, Shashank Priya³

¹Korea Institute of Science and Technology, Korea, ²KU-KIST Graduate School of Converging Science and Technology, Korea University, Korea, ³The Pennsylvania State University, USA

9-3-2459 Enhanced Piezoelectric Energy Harvesting Using Multiple Defect Modes of a Phononic Crystal

11:15-11:30

Soo-Ho Jo¹, Heonjun Yoon¹, Yong Chang Shin¹, Byeng D. Youn¹, Miso Kim², Choon-Su Park², Wonjae Choi²

¹Seoul National University, Korea, ²Korea Research Institute of Standards and Science, Korea

9-3-2093 Correlation of Output Performance of Metamaterial-based Energy Harvesting with Geometric and Material Properties of Piezoelectric Ceramics

11:30-11:45

Tae-Gon Lee¹, Sun-Woo Kim¹, Eun-ji Kim¹, Choon-Su Park², Chong-Yun Kang^{1,3}, Nahm Sahn¹, Miso Kim²

¹Korea University, Korea, ²Korea Research Institute of Standards and Science, Korea, ³Korea Institute of Science and Technology, Korea

9-3-1025 Development of Vibration Based Piezoelectric and Electromagnetic Hybrid Energy Harvester

11:45-12:00

Inki Jung^{1,2}, Jaehoon Choi^{1,2}, Chong-Yun Kang^{1,3}

¹Korea Institute of Science and Technology, Korea, ²Korea University, Korea, ³Korea University of Science and Technology, Korea

9-1. Thermoelectric energy conversion and harvesting

Nov. 13 (Tue)

Ara (8F)

Chairs Kyu Hyoung Lee (Yonsei University, Korea)
Sang-Il Kim (University of Seoul, Korea)

9-1-2690 Atomic-scale Chemical Mapping of Zero-dimensional Defects in Thermoelectric Materials

13:20-13:50 Young-Min Kim^{1,2}

INVITED ¹Sungkyunkwan University, Korea, ²Institute for Basic Science, Korea

9-1-0351 High-performance Thermoelectric Inks for Power Generation Application

13:50-14:20 Jae Sung Son, Seungki Jo, Fredrick Kim, Seungjun Choo

INVITED Ulsan National Institute of Science and Technology, Korea

9-1-0206 Design of Multi-defect Structures in Polycrystalline (Bi,Sb)₂Te₃ Alloys for Low Thermal Conductivity

14:20-14:50 Sang-il Kim

INVITED University of Seoul, Korea

9-1-0122 Double Thermoelectric Power Factor of a 2D Electron System

14:50-15:20 Hiromichi Ohta

INVITED Hokkaido University, Japan

9-1-0804 Facile Path for Electron Hopping in Epitaxial NbO₂ Thin Films

15:20-15:35 Gowoon Kim^{1,2}, Yu-Qiao Zang¹, Taewon Min², Hoyoung Seo³, Jaehyuck Jang³, Hyeonjun Kong²,
Joonhyuk Lee², Jaekwang Lee², Tae-Yeol Jeon⁴, Inwon Lee², JinHyung Cho², Hiromichi Ohta¹,
Hyoungjeen Jeon²

¹Hokkaido University, Japan, ²Pusan National University, Korea, ³Korea Basic Science Institute, Korea,

⁴Pohang University of Science and Technology, Korea

9-1-3063 Thermoelectric Properties of Core/Shell Nanowire Based on Bismuth Grown by On-Film Formation of Nanowires

15:35-15:50

Hongjae Moon, Jeongmin Kim, Wooyoung Lee

Yonsei University, Korea

9-1-2021 Improved Trade-off Relationship between Thermoelectric Performance and Mechanical Reliability of Mg₂Si by Hybridization of Few-layer Reduced Graphene Oxides

15:50-16:05

Gwansik Kim¹, Hyun Jun Rim¹, Byung-Wook Kim², Kyu Hyoung Lee¹, Wooyoung Lee¹

¹Yonsei University, Korea, ²Hyundai Motor Company, Korea

9-1-3014 Approaching High Thermoelectric Performance for Higher Manganese Silicide by Utilizing the Nature of Synthesis and Adopting Nanoparticles

16:05-16:20

Hyun Jun Rim, Gwansik Kim, Wooyoung Lee

Yonsei University, Korea

9-2. Triboelectric energy harvesting

Nov. 14 (Wed)

Ara (8F)

Chair Jeong Ho Cho (Sungkyunkwan University, Korea)

9-2-1945 High-power Generable and Fast Chargeable Triboelectric Nanogenerator for Self-powered Systems

09:00-09:30 [Jeong Min Baik](#)

INVITED *Ulsan National Institute of Science and Technology, Korea*

9-2-0473 Hybridized Nanogenerators for Scavenging Mechanical, Thermal, and Solar Energies

09:30-10:00 [Ya Yang](#)

INVITED *Beijing Institute of Nanoenergy and Nanosystems, Chinese Academy of Sciences, China*

9-2-0474 Battery-free Electronic Smart Toys: A Step toward the Commercialization of Triboelectric Nanogenerators

10:00-10:30 Arunkumar Chandrasekhar, [Sang Jae Kim](#)

INVITED *Jeju National University, Korea*

9-2-2000 Self-powered Medical Electronic Devices

10:30-11:00 [Zhou Li](#)

INVITED *Beijing Institute of Nanoenergy and Nanosystems, China*

9-2-1741 Piezopotential Modulated Graphene Semiconductor Devices

11:00-11:15 [Qijun Sun](#)

Beijing Institute of Nanoenergy and Nanosystems, Chinese Academy of Sciences, China

9-2-0876 Triboelectric Energy Generator for Powering Implantable Electronics

11:15-11:30 [Hong-Joon Yoon](#), Sang-Woo Kim

Sungkyunkwan University, Korea

9-2-2504 Improvement of Electrical Properties of Triboelectric Nanogenerators by Superhydrophobic Surface Treatment

11:30-11:45 [Jae Bum Jeong](#)¹, Suwoong Lee¹, Daewoong Jung¹, Hyeok Kim²

¹Korea Institute of Industrial Technology, Korea, ²Gyeongsang National University, Korea

9-2-0754 Sustainable Direct Current Powering Triboelectric Nanogenerator via Intent Asymmetrical Design

11:45-12:00 [Hanjun Ryu](#), Sang-Woo Kim

Sungkyunkwan University, Korea

9. Energy harvesting materials

Nov. 14 (Wed)

Ara (8F)

Chairs Miso Kim (Korea Research Institute of Standards and Science, Korea)
Jeong Ho Cho (Sungkyunkwan University, Korea)
Jae-Yeol Hwang (Sungkyunkwan University, Korea)

9-2528 Unipolarized Diphenylalanine Peptide Nanotube for Energy Harvester

13:50-14:05 Juhyuck Lee^{1,2}

¹Daegu Gyeongbuk Institute of Science and Technology, Korea, ²University of California, Berkeley, USA

9-0999 Self-resonance Tuning Mechanism of Piezoelectric Energy Harvesters for Broad Frequency Range Vibration

14:05-14:20

Youn-Hwan Shin, Jaehoon Choi, Hyun-Cheol Song, Chong-Yun Kang
Korea Institute of Science and Technology, Korea

9-0998 High Sensitive Piezoelectric Acoustic Sensor Based on Two Dimensional MoS₂

14:20-14:35 Hyoung Taek Kim, Sang-Woo Kim

Sungkyunkwan University, Korea

9-0835 Flexible Single Crystalline PMN-PT Piezoelectric Energy Harvester for Self-Powered Cardiac Pacemaker

14:35-14:50

Seongkwang Hong¹, Young Hoon Jung¹, Jae Hyun Han¹, Hee Seung Wang¹, Chang Kyu Jeong²,
Keon Jae Lee¹

¹Korea Advanced Institute of Science and Technology, Korea, ²Chonbuk National University, Korea

9-0683 Remarkable Performance Triboelectric Generator with Enhanced Polarization of High-k Composite Layer Induced by Triboelectric Field

14:50-15:05

Jihye Kim, Sang-Woo Kim

Sungkyunkwan University, Korea

9-2793 Triboelectric Nanogenerator as Smart Gadgets and Its Self-Powered Applications

15:05-15:20

Arunkumar Chandrasekhar, Gaurav Khandelwal, Vivekananthan Venkateswaran, Woo Joong Kim,
Sang Jae Kim

Jeju National University, Korea

9-2244 High-output Triboelectric Nanogenerators Based on 2D Materials

15:20-15:35

Chaoxing Wu, Tae Whan Kim

Hanyang University, Korea

9-0677 Triboelectric Direct Current Generator Based on Charge-conveying System

15:35-15:50

Minki Kang, Hong Joon Yoon, Sang-Woo Kim

Sungkyunkwan University, Korea

9-2673 In-plane Thermal Conductivity of 2H-MoTe₂ Layer

15:50-16:05

Jungwon Kim¹, Jin Choel Park¹, Suyeon Cho², Sungwng Kim¹

¹Sungkyunkwan University, Korea, ²Ewha Womans University, Korea

9-2595 High-quality Thermoelectric 2D Chalcogenide Films Driven by van der Waals Epitaxy

16:05-16:20 [Jaeyeol Hwang](#)¹, Kyu Hyoung Lee², Sung Wng Kim¹

¹Sungkyunkwan University, Korea, ²Yonsei University, Korea

9-1626 Impurity-free, Mechanical Doping for the Reproducible Fabrication of the Reliable N-type Bi₂Te₃-based Thermoelectric Alloys

16:20-16:35 [Sung-Jin Jung](#)¹, Hyung-Ho Park², Seong Keun Kim¹, Jin-Sang Kim¹, Seung-Hyub Baek¹

¹Korea Institute of Science and Technology, Korea, ²Yonsei University, Korea

9-1332 Structure Nano-engineering for High Thermoelectric Performance: Bi₂Te_{2.7}Se_{0.3}/Oxide Core-shell

16:35-16:50 [Sang-Soon Lim](#)^{1,2}, Kwang-Chon Kim¹, Hyung-Ho Park², Seung-Hyub Baek¹, Seong Keun Kim¹, Jin-Sang Kim¹

¹Korea Institute of Science and Technology, Korea, ²Yonsei University, Korea

9-1. Thermoelectric energy conversion and harvesting

16:40-18:10, Nov. 13 (Tue)

Lobby (8F)

Chair Kyu Hyoung Lee (Yonsei University, Korea)

- 9-1-0901** **Enhanced Thermoelectric Properties of Nano Structured Bi-Sb-Te/MXene Bulk Nano Composite**
Kwang-Chon Kim, Hye Rim Kim, Seung-Hyub Baek, Seong Keun Kim, Chong Min Koo, Jin-Sang Kim
Korea Institute of Science and Technology, Korea
- 9-1-1021** **Microstructural Evolution of GeTe-based Thermoelectric Materials with Various Doping Elements**
Hyunho Kim, Hyerin Jeong, Hyunji Kim, Jaeik Kwak, Ho Seong Lee
Kyungpook National University, Korea
- 9-1-1027** **Interfacial Reaction at the Joint of Thermoelectric Materials and Solders**
Hyerin Jeong¹, YooHwan Choi¹, Hyunho Kim¹, Hyunji Kim¹, Sanghum Cho², Kwan-Ho Park², Ho Seong Lee¹
¹Kyungpook National University, Korea, ²Daeyang Inc., Korea
- 9-1-1134** **Preparation and Thermoelectric Properties of Two Types of Nanostructured Tellurium with Multi-walled Carbon Nanotubes**
Dabin Park, Hyun Ju, Jooheon Kim
Chung-Ang University, Korea
- 9-1-1494** **Thermoelectrical and Optical Properties of the Monolayer H-phase RuO₂ Nanosheets Synthesized by Chemical Exfoliation Method**
Jong Wook Roh
Kyungpook National University, Korea
- 9-1-1901** **Thermoelectric Properties of Synthesized p-type Bi-Te-Sb Bulk Materials by Oxide Reduction Process**
Minsoo Park, Hye Young Koo, Gook Hyun Ha
Korea Institute of Materials Science, Korea
- 9-1-2230** **Synthesis and Thermoelectric Properties in Graphene Incorporated n-type Skutterudite**
Jang-Yeul Tak^{1, 2}, Jung Young Cho¹, Soonil Lee³, Won-Seon Seo¹, Hyung Koun Cho², Young Soo Lim⁴, Weon Ho Shin¹
¹Korea Institute of Ceramic Engineering and Technology, Korea, ²Sungkyunkwan University, Korea, ³Changwon National University, Korea, ⁴Pukyong National University, Korea
- 9-1-2569** **Effect of Nb Doping on the Thermoelectric Properties and Microstructure of (Hf_{0.25}Zr_{0.25}Ti_{0.5}) NiSn Half-Heusler Alloys**
Van Du Nguyen¹, Weon Ho Shin¹, Won-Seon Seo¹, Soonil Lee², Myong Ho Kim²
¹Korea Institute of Ceramic Engineering & Technology, Korea, ²Changwon National University, Korea
- 9-1-2585** **Effect of Dislocation Arrays at Grain Boundaries on Electronic Transport Properties of Bismuth Antimony Telluride: Unified Strategy for High Thermoelectric Performance**
Jae-Yeol Hwang¹, Jung Won Kim², Hyun-Sik Kim³, Sang-Il Kim⁴, Kyu Hyoung Lee⁵, Sung Wng Kim¹
¹Sungkyunkwan University, Korea, ²Institute for Basic Science, Korea, ³Samsung Electronics, Korea, ⁴University of Seoul, Korea, ⁵Yonsei University, Korea

- 9-1-2592 Control of Electrical to Thermal Conductivity Ratio for p-type Filled Skutterudite**
Kyu Hyoung Lee¹, Soon-Mok Choi², Geonsik Son²
¹Yonsei University, Korea, ²Korea University of Technology and Education, Korea
- 9-1-2639 Enhancing Thermoelectric Properties in n-type SnSe Materials**
Joonil Cha, In Chung
 Seoul National University, Korea
- 9-1-2655 Maximizing Thermoelectric Properties by Facile Control over Interfacial Energy-Barrier Scatterings in Nanocrystalline Sb₂Te₃ Electrodeposits**
Jiwon Kim¹, Nosang Myung², Jae-Hong Lim¹
¹Korea Institute of Materials Science, Korea, ²University of California, Riverside, USA
- 9-1-2660 A New Family of n-type Bi₂Te₃ Materials**
Sejin Byun, In Chung
 Seoul National University, Korea
- 9-1-2733 Thermoelectric Properties of Bi₂Te_{3-x}Se_x n-type Thermoelectric Material with Se Content by Rapid Sintering Process**
Chang Hyun Lee^{1,2}, Hyo Soon Shin¹, Dong Hun Yeo¹, Sahn Nahm²
¹Korea Institute of Ceramic Engineering & Technology, Korea, ²Korea University, Korea
- 9-1-2756 Enhancing Thermoelectric Properties in p-type SnSe Materials**
 Chung In, Yongkyu Lee
 Seoul National University, Korea
- 9-1-2808 Atomic Disorder Engineering for High Performance Half Heusler Thermoelectric Materials**
Hojae Lee, Sungwng Kim, Young-Min Kim, Hyeona Mun, Gyeongtak Han
 Sungkyunkwan University, Korea
- 9-1-2812 Fabrication and Hydrogen Sensing Properties of Thermochemical Sensor Based on Thermoelectric Phenomenon**
Seil Kim¹, Jiwon Kim¹, Jae-Hong Lim¹, Yong-Ho Choa²
¹Korea Institute of Materials Science, Korea, ²Hanyang University, Korea
- 9-1-2914 Electronic Structures and Their Effect on Pisarenko Relation between Carrier Concentration and Seebeck Coefficient of Bi₂Te₃, Sb₂Te₃ and Their Compounds**
 Dongkyu Lee¹, Min-Wook Oh²
¹Gwangju Institute of Science and Technology, Korea, ²Hanbat National University, Korea
- 9-1-2995 Thermoelectric Transport Properties of Pb Doped SnSe Alloys (Pb_xSn_{1-x}Se) : DFT-BTE Simulations**
Hyo Seok Kim, Garam Choi, Min Young Ha, Doun Hyun Kim, Won Bo Lee
 Seoul National University, Korea
- 9-1-3150 Sn_{1-x}Se Thin Films with Low Thermal Conductivity: Role of Stoichiometry Deviation in Thermal Transport**
Giuk Jeong¹, Jaeyong Song², Byungha Shin¹
¹Korea Advanced Institute of Science and Technology, Korea, ²Korea Research Institute of Standards and Science, Korea

9-1-3189 Effect of Lattice Relaxation on Thermal Conductivity of Fcc-based Structures: An Efficient Procedure of Molecular Dynamics Simulation

Min Young Ha, Won Bo Lee

Seoul National University, Korea

9-1-3425 Effect of Encapsulation on PEDOT:PSS-Based Thermoelectric Devices

Hyeokjun Kim, Myunsik Kim, Hojun Jang, JooHee Shin, Youngjun Kim, Juhyun Kim, Juhyung Park, Jaeyun Kim, Jeonghun Kwak

University of Seoul, Korea

9-3. Piezoelectric energy harvesting and related hybrid system

16:40-18:10, Nov. 13 (Tue)

Lobby (8F)

Chairs

Sohini Kar-Narayan (University of Cambridge, UK)

Miso Kim (Korea Research Institute of Standards and Science, Korea)

9-3-0149 Impedance Matching Techniques for Multi-layered PZT Ceramics for Piezoelectric Energy Harvesters

Kyung-Ho Cho¹, Dong-Jin Shin², Chung-Kyu Han¹, Chang-Soo Lee¹, Jung-Hyuk Koh²

¹Agency for Defense Development, Korea, ²Chung-Ang University, Korea

9-3-0590 Structural and Electrical Properties of Solution Casted-BaTiO₃-Polyvinylidene Fluoride Composite Layer

Kyu-Seog Hwang¹, Myung-Yun Kim¹, Hyeong-Gap No², Seung Hwangbo²

¹Nambu University, Korea, ²Honam University, Korea

9-3-0592 Calcium Nitrate Tetra-hydrate Doped-polyvinylidene Fluoride Thin Films as Potential Devices for Pressure Sensors

Kyu-Seog Hwang¹, Young-Sun Jeon², Hyeong-Gap No³, Seung Hwangbo³

¹Nambu University, Korea, ²Chunnam Techno University, Korea, ³Honam University, Korea

9-3-0604 Piezo-electret Gated MoS₂ Field Effect Transistor for Sensory Application

Jing Zhao

Beijing Institute of Nanoenergy and Nanosystems, Chinese Academy of Sciences, China

9-3-0709 Piezoelectricity of Bilayer WSe₂ and Sustainable Bilayer WSe₂ Piezoelectric Nanogenerators

Bosung Kim, Ju-hyuck Lee, Sang-Woo Kim

Sungkyunkwan University, Korea

9-3-0757 High-Performance P(VDF-TrFE) Based Piezoelectric, Pyroelectric, and Triboelectric Nanogenerators with Controlled Dipole Alignment and Crystallinity

Hookyoung Lee, Jihye Kim, Sang-Woo Kim

Sungkyunkwan University, Korea

9-3-1289 The Dielectric Properties by Temperature of Li-doped Bi(Mg,Ti)O₃-PbTiO₃ Ceramic

Minyoung Park, Jung-Hyuk Koh

Chung-Ang University, Korea

- 9-3-1803** Development of a Self-poled High-performance Piezoelectric Nano-generator for Biomechanical Energy Harvesting Application
Arathyr Ramachandra Kurup Sasikala, Afeesh Rajan Unnithan, Vignesh Krishnamoorthi,
 Chan Hee Park, Cheol Sang Kim
Chonbuk National University, Korea
- 9-3-2040** Fabrication and Characterization of Electrospun Piezoelectric Nanofibers for Shape-adaptive Energy Harvesting Applications
Sooun Lee^{1,2}, Yong-Il Kim¹, Wooyoung Shim², Miso Kim¹
¹Korea Research Institute of Standards and Science, Korea, ²Yonsei University, Korea
- 9-3-2359** The Flexible Piezoelectric Energy Harvester with a Displacement-Amplifying Mechanism
Jung Hwan Ahn, Kyung Bum Kim, Sang Bum Woo, Won Seop Hwang, Jae Yong Cho, Seong Do Hong,
 Tae Hyun Sung
Hanyang University, Korea
- 9-3-2363** Transparent and Flexible Piezoelectric Nanogenerators Based on Shape-Modulated ZnO Nanorods via Metal Ion Doping on Graphene Electrodes
Hanbyeol Jang, Myungwoo Son, Mi-So Lee, Moon-Ho Ham
Gwangju Institute of Science and Technology, Korea
- 9-3-2479** Optimizing of the Polarization Process for Hard Type Piezoelectric Ceramic Disk
Gyeong Ju Song, Jung Hwan Ahn, Jeong Pil Jhun, Tae Hyun Sung
Hanyang University, Korea
- 9-3-2505** Battery-less Warning System of Conveyor Belt by Piezoelectric Energy Harvesting System
Jae Yong Cho, Kyung-Bum Kim, Hamid Jabbar, Jung Hwan Ahn, Wonseop Hwang, Se Yeong Jeong,
 Tae Hyun Sung
Hanyang University, Korea
- 9-3-2696** Piezoelectric Energy Harvester inside Shoes for a Self-Powered Wireless Switch
Se Yeong Jeong, Jae Yong Cho, Jae Chul Jeong, Jung Hwan Ahn, Won Seop Hwang, Seong Do Hong,
 Tae Hyun Sung
Hanyang University, Korea
- 9-3-2841** Biomass-Derived Dehydroabietylamine Organic Ferroelectric Nanostructure for Harvesting Mechanical Energy
Kausalya Ganesan, Nagamalleswara Rao Alluri, Sudhakaran M.S.P, Young Sun Mok, Sang Jae Kim
Jeju National University, Korea
- 9-3-2851** 0.3BCT-0.7BST Nanoparticles for Eco-friendly Energy Conversion and Self-powered Dye Degradation
Nirmal Prashanth Maria Joseph Raj, Nagamalleswara Rao Alluri, Gaurav Khandelwal, Sang Jae Kim
Jeju National University, Korea
- 9-3-2869** Enhanced Piezoelectricity in $K_{0.5}Na_{0.5}NbO_3$ and Its Application towards a Self-powered Burglar Alarming System
Vivekananthan Venkateswaran, Nagamalleswara Rao Alluri, Arunkumar Chandrasekhar,
 Yuvasree Purusothaman, Sang-Jae Kim
Jeju National University, Korea

- 9-3-2879** **A^{VB}C^{VI} Ternary Chalcogenides for the Development of Efficient Multifunctional Energy Harvester**
Yuvasree Purusothaman, Nagamalleswara Rao Alluri, Arunkumar Chandrasekhar,
 Vivekananthan Venkateswaran, Sang-Jae Kim
Jeju National University, Korea
- 9-3-3099** **Piezoelectric Properties of (1-x)(BiNaTiO₃-BaTiO₃) – xTa Ceramics**
Wook-Hee Han¹, Jinhwan Kim¹, Jae-Hoon Ji¹, Masao Kamiko², Jae-Geun Ha³, Jung-Huck Koh¹
¹Chung-Ang University, Korea, ²The University of Tokyo, Japan, ³Kwangwoon University, Korea
- 9-3-3262** **Self-powered Magnetoelectric Energy Harvesting Effect in Lead-free Ba_{0.85}Ca_{0.15}Ti_{0.9}Zr_{0.1} Thick Film**
ChulHee Ryu, Kyung-Bum Kim, Sang-Bum Woo, Quan Wang, Sung-Min Go, Tae-hyun Sung
Hanyang University, Korea
- 9-3-3399** **Ultrasound-based Wireless Energy Transmission and Communication Wearable Implantable Device**
Peng Jin, Xue Feng
Tsinghua University, China
- 9-3-3513** **Holding Time Effect of (Bi,Sc)O₃-(Pb,Ti)O₃ Piezoelectric Ceramics with Two-step Sintering Process**
Jae-Hoon Ji, Dae Hyun Kim, Byeong Guk Choi, Kul Lee, Bokyung Lee, Chan Woo Kim, Hyun Su Lee,
 Jun Sang Park, Jung-Hyuk Koh
Chung-Ang University, Korea

9-2. Triboelectric energy harvesting

16:50-17:50, Nov. 14 (Wed)

Lobby (8F)

Chair Jeong Ho Cho (Sungkyunkwan University, Korea)

- 9-2-0652** **Tree-wrapped Triboelectric Generator for Harvesting Wind Energy**
Jinyoung Park, Maeum Han, Giyong Kim, Young Jung, Hanchul Cho
Korea Institute of Industrial Technology, Korea
- 9-2-0851** **Calculation of Polarization and Bound Charge Density inside a Dielectric Material in Triboelectric Nanogenerators: Analytical and Numerical Study**
SeongMin Kim, YoHan Jeong, Sang-Woo Kim
Sungkyunkwan University, Korea
- 9-2-1519** **Multi-Dielectric Layer Design for Enhancing Charge Density of Triboelectric Nanogenerator**
Jae Won Lee, Jeong Min Baik
Ulsan National Institute of Science and Technology, Korea
- 9-2-1671** **Supramolecular-Assembled Film with Switchable Alkali Metal Salts for Triboelectric Nanogenerator**
Chanho Park, Suk Man Cho, Cheolmin Park
Yonsei University, Korea
- 9-2-1864** **Silver Nanowires Embedded PDMS Film Decorated by Functionalized Al Nanoparticles in Triboelectric Nanogenerator**
 Jeong Min Baik, Jin Pyo Lee
Ulsan National Institute of Science and Technology, Korea

- 9-2-2223** **Operation Mechanism of Card-type Triboelectric Nanogenerators Assembled by Facilely Materials**
Bonmin Koo, Chaoxing Wu, Tae Whan Kim
Hanyang University, Korea
- 9-2-2298** **Enhanced Energy Harvesting Performance of an Electrospun PVDF/AgNWs Nanofibers-based Triboelectric Nanogenerator**
Donghae Ho, Siuk Cheon, Hyungseok Kang, Han Kim, Youngin Son, Sang-Woo Kim, Jeong Ho Cho
Sungkyunkwan University, Korea
- 9-2-2300** **Mechanically Robust Silver Nanowires Network for Triboelectric Nanogenerators**
Panuk Hong, Hyungseok Kang, Sang-Woo Kim, Jeong Ho Cho
Sungkyunkwan University, Korea
- 9-2-2303** **Light-Transformable and -Healable Triboelectric Nanogenerators**
Jae Hoon Park¹, Kyung Jin Park¹, Zhong Lin Wang², Seungwoo Lee¹, Jeongho Cho¹
¹*Sungkyunkwan University, Korea*, ²*Georgia Institute of Technology, USA*
- 9-2-2715** **Adding a Stretchable Deep-Trap Interlayer for High-Performance Stretchable Triboelectric Nanogenerators**
Dong Wook Kim, Hyejin Hwang, Jae Hyun Kim, Unyong Jeong
Pohang University of Science and Technology, Korea
- 9-2-2807** **Tube Shaped Hybridized Triboelectric Nanogenerator for Scavenging Broad-Mechanical Energy**
Woo Joong Kim, Arunkumar Chandrasekhar, Gaurav Khandelwal, Sang Jae Kim
Jeju National University, Korea
- 9-2-2837** **Improved Performance Triboelectric Nanogenerator Based on Phase Inversion Chemistry for Effective Wind Energy Harvesting**
Gaurav Khandelwal, Arunkumar Chandrasekhar, Nirmal Prashanth Maria Joseph, Sang Jae Kim
Jeju National University, Korea
- 9-2-2889** **Smart Cup Triboelectric Nanogenerator for Scavenging Biomechanical Energy**
Ravi Kumar Divakar, Arunkumar Chandrasekhar, Gaurav Khandelwal, Sang-Jae Kim
Jeju International University, Korea
- 9-2-3537** **Tunable Tribotronic Dual-Gate Logic Devices Based on 2D MoS₂ and Black Phosphorus**
Qijun Sun
Beijing Institute of Nanoenergy and Nanosystems, Chinese Academy of Sciences, China

10. Biomaterials

10-1. Nanobiomaterials and interfaces

Nov. 13 (Tue) Ora (8F)

Chair Jae-Seung Lee (Korea University, Korea)

10-1-5006 Nanoscience as a Tool for Cell Imaging and Activation

13:20-13:50 [Jinwoo Cheon](#)
KEYNOTE Yonsei University, Korea

10-1-3354 Interfacial DNA-Doping of OLED Materials Enabling Bio-Recognition

13:50-14:20 Jinhyuk Park¹, Seunghyuk Baek¹, Chunzhi Cui^{1,2}, [Dong June Ahn](#)¹
INVITED ¹Korea University, Korea, ²Yanbian University, China

10-1-0438 Quantify Grafting Density of Poly(ethylene glycol) on Gold Nanoparticles by Nuclear Magnetic Resonance Spectroscopy

14:20-14:50 Jun Lu, Zhongyuan Lu, [Kun Liu](#)
INVITED Jilin University, China

10-1-0423 Cisplatin-mediated Conformation Changes of Synthetic/Natural Polymers for the Fabrication of Self-associated Polymeric Nanostructures

14:50-15:20 Sang-Min Lee
INVITED The Catholic University of Korea, Korea

10-1-0347 The Frame-Guided Assembly

15:20-15:50 [Dongsheng Liu](#)
INVITED Tsinghua University, China

10-1-0192 Optimizing Grafting Thickness of Sufobetaine Groups on the Polyethylene Surface for Controlling Biofriction Behavior

15:50-16:20 Ji-Hun Seo
INVITED Korea University, Korea

10-2. Polymers for advanced biomaterials

Nov. 14 (Wed) Ora (8F)

Chair Byeong-Su Kim (Yonsei University, Korea)

10-2-0506 Nano/Micro-Biomaterials for in Vitro Construction of Human Tissue Models

09:00-09:30 [Michiya Matsusaki](#)^{1,2}
INVITED ¹Osaka University, Japan, ²JST-PRESTO, Japan

10-2-0214 Promoting Intracellular Delivery of Sub-25 nm Nanoparticles via Defined Levels of Compression

09:30-10:00 [Jonathan Choi](#)
INVITED The Chinese University of Hong Kong, Hong Kong

10-2-0297 Thermogelling Biomaterials for Stem Cell Culture

10:00-10:30 [Byeongmoon Jeong](#)

INVITED *Ewha Womans University, Korea*

10-2-0144 Drug-Initiated Synthesis of Polymer Prodrug Nanocarriers for Anticancer Therapy

10:30-11:00 [Julien Nicolas](#)

INVITED *CNRS, University Paris-Sud, France*

10-3. Nanomaterials for biological and medical applications

Nov. 14 (Wed)

Ora (8F)

Chair In Su Lee (Pohang University of Science and Technology, Korea)

10-3-0500 Oral Drug/Gene Delivery Using Nanocarrier Systems

13:50-14:20 [Hsing-Wen Sung](#)

INVITED *National Tsing Hua University, Taiwan*

10-3-0231 Synthetic Biomolecules for Biologically Functional Nanomaterials

14:20-14:50 [Su Seong Lee](#), Joo-Eun Jee, Yong Siang Ong, Song-Gil Lee, Teck Chuan Lim

INVITED *Institute of Bioengineering and Nanotechnology, Singapore*

10-3-0483 Biomacromolecules for ROS-Mediated Cancer Therapy and Imaging

14:50-15:20 [Jae Hyung Park](#)

INVITED *Sungkyunkwan University, Korea*

10-3-0139 DNA-based Nanomachine for Anti-cancer Therapy

15:20-15:50 [Won Jong Kim](#)

INVITED *Pohang University of Science and Technology, Korea*

10-3-3911 Plasmonically Coupled Nanoreactors for NIR-Light-Mediated Remote Stimulation of Catalysis in Living Cells

15:50-16:05 [Amit Kumar](#), In Su Lee

Pohang University of Science and Technology, Korea

10-1. Nanobiomaterials and interfaces

16:40-18:10, Nov. 13 (Tue)

Lobby (8F)

Chair Jae-Seung Lee (Korea University, Korea)

10-1-0660 Uniformly Oriented Natural Photosystem I through Ferredoxin-binding on the Surface of SWNT for Photoanodic Applications

Hwiseok Jun¹, Yoon Sung Nam^{1,2}

¹Korea Advanced Institute of Science and Technology, Korea, ²KAIST Institute for NanoCentury, Korea Advanced Institute of Science and Technology, Korea

10-1-0662 Taste Signal Transmission via DNA-mediated Cell-to-cell Assembly

Bon Il Koo¹, Trang Huyen Le-Kim¹, Jun Su Yun¹, Yoon Sung Nam^{1,2}

¹Korea Advanced Institute of Science and Technology, Korea, ²KAIST Institute for NanoCentury, Korea Advanced Institute of Science and Technology, Korea

10-1-0672 Synthesis of Bio-inspired Mesoporous Polymer Microspheres and Its Application for Gold Recovery

Kyeong Rak Kim¹, Yoon Sung Nam^{1,2}

¹Korea Advanced Institute of Science and Technology, Korea, ²KAIST Institute for NanoCentury, Korea Advanced Institute of Science and Technology, Korea

10-1-0737 Ferritin-caged Plasmonic Metal Nanostructures for Biosensing Applications

Jeonga Kim¹, Yoon Sung Nam^{1,2}

¹Korea Advanced Institute of Science and Technology, Korea, ²KAIST Institute for NanoCentury, Korea

10-1-1999 Characterization of Protein-assisted Assembly of Single-walled Carbon Nanotubes

Eun-Hee Lee¹, Seung-Woo Lee²

¹Ewha Womans University, Korea, ²Seoul National University of Science and Technology, Korea

10-1-2597 Synthesis, Properties and Applications of Poly(acrylic acid)-g-DNA

Xiaole Hu, Chan-Jin Kim, Shine K Albert, So-Jung Park

Ewha Womans University, Korea

10-1-2620 Synthesis and Self-assembly of pH Responsive Peptide-Polythiophene Conjugates

Shine Albert, So-Jung Park

Ewha Womans University, Korea

10-2. Polymers for advanced biomaterials

16:50-17:50, Nov. 14 (Wed)

Lobby (8F)

Chair Byeong-Su Kim (Yonsei University, Korea)

10-2-1177 Non-vascular Stent Coating with Core/shell Structural Nanofibers to Control the Drug Release

Ji Yeon Lee, Byeong Cheol Son, Chan Hee Park, Cheol Sang Kim

Chonbuk National University, Korea

10-2-1580 Development of Nanofiber-coated Stent for Filtering Fine-sized Blood Clots of Cerebral Vessels
Seo Yeon Lee¹, Do Hee Lee¹, Han Ki Kim², Jinwoo Kim³, Chan Hee Park¹, Cheol Sang Kim¹
¹Chonbuk National University, Korea, ²CGBio Co., Ltd, Korea, ³BioALPHA Co., Ltd, Korea

10-2-3246 Poly(vinyl alcohol)-based Hydrogel Nanofibers as Artificial Extracellular Matrices
Sungrok Wang, Dong-Hee Kang, Myung-Han Yoon
 Gwangju Institute of Science and Technology, Korea

10-3. Nanomaterials for biological and medical applications

16:50-17:50, Nov. 14 (Wed)

Lobby (8F)

Chair In Su Lee (Pohang University of Science and Technology, Korea)

10-3-0931 Modification of Ferritin Outer Surface with Fibrin Binding Peptide for Enhanced Tumor Targeting and Therapy
Dong Jae Lee, Surim Kim, Moon Young Yang, Yoon Sung Nam
 Korea Advanced Institute of Science and Technology, Korea

10-3-0954 Defect Chemistry for Highly Luminescent CuInS₂/ZnS Core-shell Quantum Dots Utilized in Deep-tissue Bio-imaging
Hyebin Na¹, Jae Chul Park¹, Yoon Sung Nam^{1,2}
¹Korea Advanced Institute of Science and Technology, Korea, ²KAIST Institute for NanoCentury, Korea

10-3-1082 DNA-functionalized Quantum Dot Nanoprobe for FRET-based Detection of DNA
Jae Chul Park¹, Yoon Sung Nam^{1,2}
¹Korea Advanced Institute of Science and Technology, Korea, ²KAIST Institute for NanoCentury, Korea

10-3-1616 Ultralight Hybrid 3D Hydrogels with Electrospun Cellulosic Nanofibers for Tissue Engineering
Joshua Lee¹, Sung Won Ko¹, Young Min Oh², Chan Hee Park¹, Cheol Sang Kim¹
¹Chonbuk National University, Korea, ²Chonbuk National University Medical School and Hospital, Korea

10-3-1771 Crystallization of Calcium Deficient Hydroxyapatite Nanocrystals on Woven Silk Fibroin Fabric via Precipitation Process
Piyapong Pankaew
 Rajamangala University of Technology Phra Nakhon, Thailand

10-3-1797 Electrospun Zwitterionic Biomimetic 3D Nanofiber Scaffolds for Enhanced Adipogenesis and Soft Tissue Reconstruction
Afeesh Rajan Unnithan, Arathyram Ramachandra Kurup Sasikala, Vignesh Krishnamoorthi, Cheol Sang Kim, Chan Hee Park
 Chonbuk National University, Korea

10-3-1888 Optimization of Multicolor Tunable Photoluminescence in Silica Spheres for Biological Applications
 Ki Chul Kim, Ji Hui Yoon
 Mokwon University, Korea

- 10-3-2024** Epinephrine Fluorescent Sensor Based on Polypyrrole - Graphene Quantum Dots Composites
Thi Hoa Le, Hye Won Gil, Sang Joon Park
 Gachon University, Korea
- 10-3-2877** 6 Inch In₂O₃ Nano-scale Thin Film Transistor Having Mass Production Capability for Biosensor Applications
Jaesoon Park¹, Dongho Kang², Jinhong Park², Donghwan Jun¹
¹Korea Advanced Nano Fab Center, Korea, ²Sungkyunkwan University, Korea
- 10-3-3314** Sensitive Detection of Dopamine by Fluorescence Intensity of Fluorescent Oligomer Dopamine Induced by MnO₂
DoYeong Koh, JeongKeun Kook, SangWha Lee
 Gachon University, Korea
- 10-3-3480** Insulating Characteristics of TiO₂ Thin Films
Teresa Oh
 Cheongju University, Korea
- 10-3-3556** Photochemical Regeneration of NADH Biomimetics for Biocatalyzed Asymmetric Hydrogenation
Jinhyun Kim¹, Caroline E. Paul², Chan Beum Park¹
¹Korea Advanced Institute of Science and Technology, Korea, ²Wageningen University & Research, Netherlands
- 10-3-3569** Integration of Solid-State Nanopores in Dielectric Microfluidic Substrate for Electrical and Optical Sensing
Jaehyun Kang, Hyun-Mi Kim, Ki-Bum Kim
 Seoul National University, Korea
- 10-3-3610** Sensitivity Dependence of Different Structures in Quasi-two-dimensional Indium Oxide Films-based Electrochemical Transistors
Yun Young Choi, Se Rin Lim, Joon Hui Park, You Seung Rim
 Sejong University, Korea
- 10-3-3625** Nanoporous Bismuth Vanadate Photoelectrode for Light-triggered Disassembly of Alzheimer's β -amyloid Aggregates
Kayoungkim Kim, Sahng Ha Lee, Da Som Choi, Chan Beum Park
 Korea Advanced Institute of Science and Technology, Korea
- 10-3-3688** Flexible, Bioresorbable Field-Effect-Transistor Based Dopamine Sensor Comprised of Hybrid Nanomaterials
Seung Min Yang, Jaehyung Shim, Tae-Min Jang, Chul-Ho Lee, Suk-Won Hwang
 KU-KIST Graduate School of Converging Science and Technology, Korea University, Korea
- 10-3-3701** Nanopore Analysis of on Drug-Induced Conformation Change of a Cancer Target Protein Complex
Hongsik Chae¹, Dong-Kyu Kwak², Seung-Wook Chi², Ki-Bum Kim¹
¹Seoul National University, Korea, ²Korea Research Institute of Bioscience and Biotechnology, Korea

- 10-3-3721** High Performance, Stretchable, Transient Gas Sensors Based on Silicon Nanomembranes for Implantable Device
Gwan-Jin Ko¹, Chong-Yun Kang^{1,2}, Suk-Won Hwang¹
¹KU-KIST Graduate School of Converging Science and Technology, Korea University, Korea, ²Korea Institute of Science and Technology, Korea
- 10-3-3722** Discrimination of Selectively Labeled Peptides Using Solid-state Nanopores
Jae-Seok Yu¹, Ji Eun Lee², Jun Seok Lee², Cheolju Lee², Sangwook Wu³, Ki-Bum Kim¹
¹Seoul National University, Korea, ²Korea Institute of Science and Technology, Korea, ³Pukyong National University, Korea
- 10-3-3830** Physical and Biocompatible Characteristics of Nano Sized Grain Zinc-Nickel Ferrite/Biphasic Calcium Phosphate Ceramic
Piyapong Pankaew
Rajamangala University of Technology Phra Nakhon, Thailand
- 10-3-3900** Synergistic Effect of Halloysite Nanotubes and Graphene Oxide on Properties of Polyelectrolyte Complex Hydrogels
Anuj Kumar, SunMi Zo, Hyunduck Kim, Sung Soo Han
Yeungnam University, Korea

11. Computational materials science

11-1. Material design by machine-learning

Nov. 12 (Mon)

Ballroom 4 (2F)

Chairs Yongjin Lee (ShanghaiTech University, China)
Sang Soo Han (Korea Institute of Science and Technology, Korea)

11-1-5004 Using Artificial Intelligence to Discover New Materials

09:00-09:30 [Chris Wolverton](#)

KEYNOTE *Northwestern University, USA*

11-1-0301 Towards Reliable and Transferable Neural Network Potentials

09:30-10:00 Wonseok Jeong, Kyuhyun Lee, Dongsun Yoo, [Seungwu Han](#)

INVITED *Seoul National University, Korea*

11-1-0261 In-silico Discovery of Novel Nanoporous Materials Using Topological Data Analysis

10:00-10:30 [Yongjin Lee](#)¹, Berend Smit^{2,3}

INVITED ¹ShanghaiTech University, China, ²University of California, Berkeley, USA, ³Ecole Polytechnique Fédérale de Lausanne, Switzerland

11-1-0221 Massive Chemical DB Screening for Developing Organic Electrolytes Applicable to High-Voltage Li-Ion Batteries by Using Artificial Neural Networks

10:30-11:00 [Min Sik Park](#)

INVITED *Samsung Advanced Institute of Technology, Korea*

11-1-0174 A Neural Network Approach for Structural Characterization of Metal Nanoparticles and Clusters

11:00-11:30 [Anatoly Frenkel](#)

INVITED *Stony Brook University, USA*

11-1-0820 Machine Learning for Accelerated Prediction of DOS Patterns

11:30-11:45 [Byung Chul Yeo](#), Sang Soo Han

Korea Institute of Science and Technology, Korea

11-4. Computational design of energy materials

Nov. 12 (Mon)

Ballroom 4 (2F)

Chairs Donghun Kim (Korea Institute of Science and Technology, Korea)
Hyungjun Kim (Korea Advanced Institute of Science and Technology, Korea)

11-4-1908 Rational Design of Novel Membranes for Advanced Lithium Sulfur Batteries: Polymers of Intrinsic Porosity

15:00-15:30 [Tod Pascal](#)

INVITED *University of California, San Diego, USA*

11-4-0545 Theory and Modeling of Correlated Ionic and Electronic Motions in Hybrid Organic-inorganic Perovskites

15:30-16:00

INVITED

[Andrew Marshall Rappe](#)

University of Pennsylvania, USA

11-4-0494 The Role of Mixing in Metal-Halide Perovskites: Theoretical Study

16:00-16:30

INVITED

[Ki-Ha Hong](#)

Hanbat National University, Korea

11-4-0272 Novel Materials for Ferroelectric Photovoltaics

16:30-17:00

INVITED

[Donghun Kim](#)

Korea Institute of Science and Technology, Korea

11-4-2312 Atomistic Modeling for Impurity Engineering of TiO₂

17:00-17:15

[Seungchul Kim](#)

Korea Institute of Science and Technology, Korea

11-4-1049 A Computational Investigation of the Initial Stage of Li – O Intermediates on the Vanadium Disulfide Monolayer for the Li – Air Batteries

17:15-17:30

[Jungwook Woo](#), [Yong-chae Chung](#)

Hanyang University, Korea

11-4-0726 A Novel Class of Oxynitrides Stabilized by Nitrogen Dimer Formation

17:30-17:45

[Sangtae Kim](#), [Chong-Yun Kang](#), [Seung-Hyub Baek](#)

Korea Institute of Science and Technology, Korea

11-3. Multiscale modeling of mechanical properties of materials

Nov. 13 (Tue)

Ballroom 4 (2F)

Chair

[Seunghwa Ryu](#) (Korea Advanced Institute of Science and Technology, Korea)

11-3-3358 Studying Nanoindentation of Au Nanoparticles across Multiple Scales

09:00-09:30

INVITED

[Roy Shyamal](#)^{1,2}, [Riccardo Gatti](#)³, [Benoit Devincere](#)³, [Dan Mordehai](#)²

¹TU Bergakademie Freiberg, Germany, ²Technion, Israel, ³The French National Center for Scientific Research, France

11-3-1950 Sequential Multiscale Modeling of Nanocarbon/Polymer Nanocomposites

09:30-10:00

INVITED

[Seunghwa Yang](#)

Chung-Ang University, Korea

11-3-1283 Tersoff Potential Model Fitted for Elastic Behavior of Silicene

10:00-10:30

INVITED

[Sanghyuk Yoo](#)¹, [Byeongchan Lee](#)², [Keonwook Kang](#)¹

¹Yonsei University, Korea, ²Kyong Hee University, Korea

11-3-0406 Fracture Behaviors of Ni-Ti Alloys

10:30-11:00

INVITED

[Byeongchan Lee](#)

Kyung Hee University, Korea

- 11-3-3228** Extended Analytic Model and Simulation of Staggered Platelet Structure and Its Application to 3D Printing Technology
11:00-11:15 [Youngsoo Kim](#), Yong Tae Kim, Seunghwa Ryu
Korea Advanced Institute of Science and Technology, Korea
- 11-3-3090** Structural Design and Analysis of Silica Aerogel Semiconductor Thin Film for High Stiffness and Low Permittivity
11:15-11:30 [YongJin Kim](#), Hyung Gyu Lee, SangHyuk Yoo, Keonwook Kang
Yonsei University, Korea
- 11-3-3072** A Thermodynamical Study of Impaled State and Wetting Transition from Cassie-Baxter to Wenzel State
11:30-11:45 [Donggyu Kim](#)¹, Su Jin Lim², Yeseul Kim², Byung Mook Weon², Seunghwa Ryu¹
¹*Korea Advanced Institute of Science and Technology, Korea*, ²*Sungkyunkwan University, Korea*
- 11-3-3064** Micromechanics-based Homogenization Method Applicable to a Wide Range of Interfacial Damage for Reinforced Composites Having Anisotropic Matrix
11:45-12:00 [Sangryun Lee](#), Jinyeop Lee, Seunghwa Ryu
Korea Advanced Institute of Science and Technology, Korea
- 11-3-3002** Free Thermal Vibration of SWNT and Its Modeling in CGMD Simulation
12:00-12:15 [Heeyuen Koh](#)¹, Yuta Yoshiomoto², Junichiro Shiomi², Shohei Chiashi², Shigeo Maruyama²
¹*Korea Institute of Science and Technology, Korea*, ²*The University of Tokyo, Japan*

11-2. Computation of interfaces and surfaces

Nov. 13 (Tue)

Ballroom 4 (2F)

Chair Hyunyou Kim (Chungnam National University, Korea)

- 11-2-3571** Correlating Structure and Function for Nanoparticle Catalysts
13:20-13:50 [Graeme Henkelman](#)
INVITED *University of Texas at Austin, USA*
- 11-2-3000** Computational Modelling: Nano-Catalysis vs. Single-Atom Catalysis
13:50-14:20 [Jun Li](#)
INVITED *Tsinghua University, China*
- 11-2-0338** C₂N-graphene Supported Single-atom Catalysts for CO₂ Electrochemical Reduction Reaction: Mechanistic Insight and Catalyst Screening
14:20-14:50 [Wei An](#), Xudong Cui, Xiaoyang Liu, Hao Wang, Yong Men, Jinguo Wang
INVITED *Shanghai University of Engineering Science, China*
- 11-2-0255** Mechanistic Study of Enhanced CO Oxidation Activity on Rare-Earth and Transition Metal Doped CeO₂
14:50-15:20 [Hyungjun Kim](#)¹, Kyeounghak Kim², Kyung-Jong Noh², Gunhee Lee¹, Myeong Gon Jang¹, [Jeong Woo Han](#)²
INVITED ¹*University of Seoul, Korea*, ²*Pohang University of Science and Technology, Korea*

11-2-0513 Challenges in First-principle Modelling of Electrocatalytic Processes: An Experimentalist View

15:20-15:50 [David J. Fermin](#)

INVITED *University of Bristol, UK*

11-2-0168 First Principle Investigation on Forming-free Process of MAPbI₃-based Hybrid Perovskite Memristor

15:50-16:20 [Donghwa Lee](#), Seonghun Kim

INVITED *Pohang University of Science and Technology, Korea*

11-2-2874 Influence of Surface Adsorbate Interactions on the Reaction Kinetics of Methanol Synthesis from CO₂ Hydrogenation

16:20-16:35 [Bo Yang](#), Panpan Wu

ShanghaiTech University, China

11-1. Material design by machine-learning

18:00-19:30, Nov. 12 (Mon)

Lobby (2F)

Chair Sang Soo Han (Korea Institute of Science and Technology, Korea)

11-1-1442 Neural Network Potentials Molecular Dynamics Simulations of Ni Silicidation

Wonseok Jeong, Kyuhyun Lee, Dongsun Yoo, Seungwu Han
Seoul National University, Korea

11-1-1581 Automated Lattice Constant Estimation of X-ray Diffraction by Ensemble Learning

Yuta Suzuki^{1,2}, Hideitsu Hino³, Takafumi Hawaii², Masato Kotsugi¹, Kanta Ono²
¹Tokyo University of Science, Japan, ²High Energy Accelerator Research Organization, Japan, ³The Institute of Statistical Mathematics, Japan

11-1-1826 Miscible Pt-Au Nanoparticles Catalyst with Superior Selectivity and Productivity for H₂O₂ Direct Synthesis

Hong Woo Lee, Sang Soo Han
Korea Institute of Science and Technology, Korea

11-1-2193 Machine-Learning-Driven Identification of Promising Catalysts for N₂ Electroreductions

Myungjoon Kim, Byung Chul Yeo, Sang Soo Han, Donghun Kim
Korea Institute of Science and Technology, Korea

11-4. Computational design of energy materials

18:00-19:30, Nov. 12 (Mon)

Lobby (2F)

Chairs Donghun Kim (Korea Institute of Science and Technology, Korea)
Hyungjun Kim (Korea Advanced Institute of Science and Technology, Korea)

11-4-0640 Evaluation and Improvement of Self-consistent Hybrid Functional for van der Waals Description in Diverse Systems

Sejun Kim, Hyungjun Kim
Korea Advanced Institute of Science and Technology, Korea

11-4-0962 The Study of Metal-water Interface According to pH during Electrochemical Oxygen Reduction Using QM/MM

Seungjae Shin, Minho Kim, Hyungjun Kim
Korea Advanced Institute of Science and Technology, Korea

11-4-1344 Theoretical Prediction of Electrochemical CO₂ Reduction at Sulfur Vacancy of MoS₂

Sungwoo Kang¹, Youngho Kang², Seungwu Han¹
¹Seoul National University, Korea, ²Korea Institute of Materials Science, Korea

11-4-1457 Modelling of Surface Atomic Arrangements of Bimetallic Nanoparticles

Kayoung Yun¹, Ho-Seok Nam², Seungchul Kim¹
¹Korea Institute of Science and Technology, Korea, ²Kookmin University, Korea

- 11-4-1693** How Well Can You Describe the van der Waals Interaction of a Crystalline Polymer System?
[Hyeonju Lee](#)
Korea Advanced Institute of Science and Technology, Korea
- 11-4-1744** First Principles Calculation for Development of Vanadium Oxide Electrocatalyst
 Hyungjun Kim, [Dong Yup Shin](#)
Korea Advanced Institute of Science and Technology, Korea
- 11-4-1824** The Origin of Hysteresis in Hybrid Perovskite Solar Cell from First-Principles Calculations
 Seong Hun Kim, Kyung-Yeon Doh, June Ho Lee, Donghwa Lee
Pohang University of Science and Technology, Korea
- 11-4-3415** First-Principles Investigation on the Band Gap Variation of the Copper-Based Layered-Halide Perovskite
[June Ho Lee](#), Sung-hun Kim, Kyung-yeon Doh, Donghwa Lee
Pohang University of Science and Technology, Korea
- 11-4-3813** Controlling the Stability of B-metal (Co) in $\text{SrTi}_{1-x}\text{Co}_x\text{O}_{3-\delta}$ for Enhancing B-metal Exsolution on Perovskite Materials
 Jeong Woo Han, [Kyeounghak Kim](#)
Pohang University of Science and Technology, Korea

11-2. Computation of interfaces and surfaces

16:40-18:10, Nov. 13 (Tue)

Lobby (2F)

Chair Hyunyou Kim (Chungnam National University, Korea)

- 11-2-1354** Alloy Design Strategy of Fe Nitriding: A Combined DFT, kMC, and CLAPHAD Study
[Ku Kang](#), Changsoo Lee, Soonho Kwon, Hyuckmo Lee
Korea Advanced Institute of Science and Technology, Korea
- 11-2-1370** Analysis of Surface Structure of Pd@Au Nanoparticles under CO Oxidation Condition
[Hyesung An](#), Hyunwoo Ha, Mi Yoo, Hyuk Choi, Hyun You Kim
Chungnam National University, Korea
- 11-2-1382** Atomically Vitalized CO-Tolerant Pt Single-Atom Catalysts Stabilized at $\text{CeO}_x\text{-TiO}_2$ Interfaces
 Hyunwoo Ha¹, [Mi Yoo](#)¹, Siwon Lee², Chunjoong Kim¹, WooChul Jung², Hyun You Kim¹
¹Chungnam National University, Korea, ²Korea Advanced Institute of Science and Technology, Korea
- 11-2-1398** Interface Engineering for a Poison-free CO Oxidation by Pt@Cu Core@Shell Nanoparticles
[Hyuk Choi](#), Hyesung An, Hyunwoo Ha, EunJi Kang, HyunYou Kim
Chungnam National University, Korea
- 11-2-1718** Lead-free Perovskite Solar Cells: High-throughput Screening and DFT Calculation
 Kihoon Bang, [Youngtae Park](#), Hyuck Mo Lee
Korea Advanced Institute of Science and Technology, Korea

- 11-2-1751 Polarization-Density-Based Electron Density Modeling of Metal Surfaces**
Jihun An¹, Hyung-Kyu Lim², Hyungjun Kim¹
¹Korea Advanced Institute of Science and Technology, Korea, ²Kangwon National University, Korea
- 11-2-1818 A Study on the Optimal Oxygen Reduction Catalyst Design Method Using Density Functional Theory and Machine Learning**
Doosun Hong, Hyuck Mo Lee
 Korea Advanced Institute of Science and Technology, Korea
- 11-2-1851 Density Functional Theory(DFT) Based Screening of the Pt Alloys with p-Block Element for Oxygen Reduction Reaction Catalyst**
Jung Woo Choi, Soonho Kwon, Hyuck Mo Lee
 Korea Advanced Institute of Science and Technology, Korea
- 11-2-2786 Theoretical Design of TiC-supported Single Atom Catalyst for H₂ and H₂O₂ Production**
Suman Kalyan Sahoo, Jeong Woo Han
 Pohang University of Science and Technology, Korea
- 11-2-3196 Morphological Study of Adipic Acid Crystals in Aqueous Solution Using Interfacial Structure Analysis**
Minhwan Lee, Bumjoon Seo, Seulwoo Kim, Ji Ho Ryu, Youn-Woo Lee, Won Bo Lee
 Seoul National University, Korea
- 11-2-3906 Combinatorial Study of Theory and Experiment for Catalytic CO Oxidation over Au Nanoparticles Supported on CeO₂**
Hyunwoo Ha¹, Sinmyung Yoon², Kwangjin An², Hyun You Kim¹
¹Chungnam National University, Korea, ²Ulsan National Institute of Science and Technology, Korea

11-3. Multiscale modeling of mechanical properties of materials

16:40-18:10, Nov. 13 (Tue)

Lobby (2F)

Chair Seunghwa Ryu (Korea Advanced Institute of Science and Technology, Korea)

- 11-3-0972 Predict the Physical Characteristic of Desulfurization Gypsum Mortar Using Artificial Neural Network**
 Xing Shuli, Hongseok Jang
 Chonbuk National University, Korea
- 11-3-1179 Estimation of Radon Emission from Phosphorus Gypsum Mortar Using Electrostatic Collection Method and Recurrent Neural Networks Analysis**
Hongseok Jang, Jinwoo Yoon, Junhyeon Cho
 Chonbuk National University, Korea
- 11-3-1427 Evaluation of Viscous Properties of Loess Using Deep Neural Network**
Juhee Kim, Junhyeon Cho, Yongtaek Lim, Hongseok Jang, Seungyoung So
 Chonbuk National University, Korea

11-3-2573 Molecular Dynamics Simulation Study on Graphene Flake Oscillators

Oh Kuen Kwon¹, Jeong Won Kang², Joon-Hoon Park²

¹Semyung University, Korea, ²Korea National University of Transportation, Korea

11-3-3209 Origin of Compression-tension Asymmetry in FCC Materials at Nano Scale; A Molecular Dynamics Simulation

Hadi Ghaffarian^{1,2}, Seunghwa Ryu¹, Keonwook Kang²

¹Korea Advanced Institute of Science and Technology, Korea, ²Yonsei University, Korea

11-3-3287 The Modification of Tersoff Potential for High Energy Interactions

Youhwan Jo, Byeongchan Lee

Kyung Hee University, Korea

12. Advanced materials characterization

12-1. In-situ experiment and characterization by (S)TEM and synchrotron X-ray techniques		
Nov. 12 (Mon)		Chuja (2F)
Chairs	Chan-Cuk Hwang (Pohang Accelerator Laboratory, Korea) Byung Mook Weon (Sungkyunkwan University, Korea)	
12-1-3546	In-situ X-ray Imaging for Colloids and Fluids	
09:00-09:30	<u>Byung Mook Weon</u>	
INVITED	<i>Sungkyunkwan University, Korea</i>	
12-1-2512	Combined Neutron and Synchrotron X-ray Diffraction Study of 'Layered-Layered-Spinel' Composite Cathodes	
09:30-10:00	<u>Docheon Ahn</u>	
INVITED	<i>Pohang Accelerator Laboratory, Korea</i>	
12-1-0356	Grain Size Strengthening: Mechanism Based Descriptions beyond Hall-Petch	
10:00-10:30	<u>Christoph Kirchlechner</u>	
INVITED	<i>Max Planck Institut Fuer Eisenforschung, Germany</i>	
12-1-2318	ARPES, Momentum-Space Microscope for 2D Material's Electronic Structure	
10:30-11:00	<u>Chan-Cuk Hwang</u>	
INVITED	<i>Pohang Accelerator Laboratory, Korea</i>	
12-1-2056	Behavior of 4f and Charge-transfer Excitations in CeO2 for Photo- and Thermo-chemical Catalysis	
11:00-11:30	<u>Soonnam Kwon</u>	
INVITED	<i>Pohang Accelerator Laboratory, Korea</i>	
12-1-2502	Colloidal Nanoparticles Directly Observed by Multi-Dimensional Liquid Phase TEM	
11:30-12:00	<u>Jungwon Park</u>	
INVITED	<i>Seoul National University, Korea</i>	
12-1-2738	Lattice Strain and Phase Transition Induced by Li Migration in Cyclic NCM111 ($\text{LiNi}_{1/3}\text{Co}_{1/3}\text{Mn}_{1/3}\text{O}_2$)	
12:00-12:15	<u>Young Woon Byeon</u> ^{1,2} , Jun-Dong Kim ^{1,2} , Cheol-Hwee Shim ¹ , Jae-Pyoung Ahn ¹ ¹ Korea Institute of Science and Technology, Korea, ² Korea University, Korea	

12-1. In-situ experiment and characterization by (S)TEM and synchrotron X-ray techniques		
Nov. 12 (Mon)		Chuja (2F)
Chairs	Christoph Kirchlechner (Max-Planck-Institut für Eisenforschung GmbH, Germany) Sang Ho Oh (Sungkyunkwan University, Korea)	
12-1-0257	In-situ TEM Characterization of Deformation Twinning Mechanisms in Metallic Materials	
15:00-15:30	<u>Jin Kyung Kim</u> ¹ , Min Hyeok Kwon ² , Bruno C. De Cooman ³ , Sang Ho Oh ¹	
INVITED	¹ Sungkyunkwan University, Korea, ² Pohang University of Science and Technology, Korea, ³ NLMK Group, Russia	

- 12-1-2005** Mechanical Properties of Metallic Materials at Nanoscale
15:30-16:00 [In-Suk Choi](#)
INVITED *Seoul National University, Korea*
- 12-1-0280** In-situ TEM Study on Dislocation Plasticity in Single Crystal FeCrCoMnNi HEA
16:00-16:30 [Subin Lee](#)¹, Christian H. Liebscher¹, Sang Ho Oh², Gerhard Dehm¹
INVITED ¹Max-Planck-Institute for Iron Research, Germany, ²Sungkyunkwan University, Korea
- 12-1-2768** Interpretation about Deformation Twinning-detwinning Behavior of Single Crystalline Au Nanowire by In-situ TEM Tensile Test
16:30-16:45 [Sung-Hoon Kim](#)^{1,2}, Jong-Hyun Seo³, Jae-Chul Lee², Jae-Pyoung Ahn¹
¹Korea Institute of Science and Technology, Korea, ²Korea University, Korea, ³SK Hynix Inc., Korea
- 12-1-2915** Control of Polar and Non-polar Phases toward Improving Electrostrain
16:45-17:15 [Si-Young Choi](#)¹, Kyung Song², Gi-Yeop Kim¹
INVITED ¹Pohang University of Science and Technology, Korea, ²Korea Institute of Materials Science, Korea
- 12-1-2895** Direct Observation of Magnetic Domain Dynamics in Z-type Hexaferrite
17:15-17:45 [Kyung Song](#)¹, Hyunjong Lee¹, Si-Young Choi²
INVITED ¹Korea Institute of Materials Science, Korea, ²Pohang University of Science and Technology, Korea
- 12-1-2086** In situ Negative Cs HRTEM Imaging of Topotactic Phase Transformation from Perovskite SrFeO₃ to Brownmillerite SrFeO_{2.5}
17:45-18:00 [Yao Long Xing](#)¹, Kyeong Tae Kang¹, Zhen Wang¹, Bumsu Park¹, Jinsol Seo¹, Jong Chan Kim², Hu Young Jeong², Woo Seok Choi¹, Sang Ho Oh¹
¹Sungkyunkwan University, Korea, ²Ulsan National Institute of Science and Technology, Korea

12-3. Atomic level analysis of low dimensional structures by aberration corrected (S)TEM

Nov. 13 (Tue)

Chuja (2F)

Chairs Juan-Carlos Idrobo (Oak Ridge National Laboratory, USA)
Zonghoon Lee (Ulsan National Institute of Science and Technology, Korea)

- 12-3-3515** Single Crystalline Binary and Ternary Nanobelts Composed of Transition Metal Ditellurides
09:00-09:30 [Soon-Yong Kwon](#)
INVITED *Ulsan National Institute of Science and Technology, Korea*
- 12-3-2546** Insertion of Two-dimensional Materials to Improve the Performance of Silicon Devices
09:30-10:00 [Yeonchoo Cho](#)
INVITED *Samsung Advanced Institute of Technology, Korea*
- 12-3-0292** Localised Electronic Structure Engineering and Fingerprinting in Low Dimensional Materials
10:00-10:30 [Quentin Ramasse](#)^{1,2}, Fredrik Hage², Demie Kepaptsoglou^{2,3}, Trevor Hardcastle^{1,2}
INVITED ¹University of Leeds, UK, ²SuperSTEM Laboratory, UK, ³University of York, UK

12-3-1007 Interplay of Strain and Lattice Structure in Novel 2D Semiconductors

10:30-11:00 Wu Zhou

INVITED *University of Chinese Academy of Sciences, China*

12-3-0164 Towards Atomically Precise Manipulation of 2D Nanostructures in the Electron Microscope

11:00-11:30 Toma Susi, Mukesh Tripathi, Jannik Meyer, Jani Kotakoski

INVITED *University of Vienna, Austria*

12-3-2758 Local Lattice Match for Commensurate State Transition of Graphene/hBN van der Waals Heterostructure

11:30-11:45 Na Yeon Kim, Jung Hwa Kim, Zonghoon Lee

Ulsan National Institute of Science and Technology, Korea

12-3-2370 Direct Imaging of Atomic Structure of Two-dimensional Oxide Nanosheets

11:45-12:00 Haneul Choi^{1,2}, Gwangyeob Lee^{1,2}, Jin-Woo Park², Jong Wook Roh³, Hye Jung Chang¹

¹Korea Institute of Science and Technology, Korea, ²Yonsei University, Korea, ³Kyungpook National University, Korea

12-3-0937 In Situ Transmission Electron Microscopy Observation of Heteroepitaxial Growth of 3C-SiC on Si Nanomembrane

12:00-12:15 Kangsik Kim¹, Seungwoo Son¹, SeonWoo Lee², Jong-Hyun Ahn², Zonghoon Lee¹

¹Ulsan National Institute of Science and Technology, Korea, ²Yonsei University, Korea

12-3-2453 Real Time Observation of the Interfacial Reconstruction by Layer-by-layer Crystallization of the Perovskite Oxide Heterointerface

12:15-12:30 Gwangyeob Lee¹, Shin-ik Kim¹, Gyeontak Han², Young-Min Kim², Seung-Hyub Baek¹, Do Hyang Kim³, Hye Jung Chang¹

¹Korea Institute of Science and Technology, Korea, ²Sungkyunkwan University, Korea, ³Yonsei University, Korea

12-2. Characterization of local electronic structures and chemical states

Nov. 13 (Tue)

Chuja (2F)

Chairs Masaharu Oshima (The University of Tokyo, Japan)
Hyun-Joon Shin (Pohang Accelerator Laboratory, Korea)

12-2-0275 Local Electronic States of Field Effect Transistors Revealed by Scanning Photoelectron Microscopy

13:20-13:50 Masaharu Oshima

INVITED *The University of Tokyo, Japan*

12-2-2601 Investigation of the Electronic Structures of Transition Metal Phosphorus Tri-sulfides by Using Scanning Transmission X-ray Microscopy

13:50-14:20 Wondong Kim^{1,2}

¹Korea Research Institute of Standards and Science, Korea, ²University of Science and Technology, Korea

12-2-2159 High-throughput Characterization of Local Electronic and Chemical States with Machine Learning

14:20-14:50 Kanta Ono

INVITED *High Energy Accelerator Research Organization, Japan*

12-2-2266 Introduction of an In-situ Research Platform for Nanomaterials without Contamination Established in KBSI

14:50-15:20

INVITED

[Cheolho Jeon](#)

Korea Basic Science Institute, Korea

12-2-2571 Spontaneous Ionic Polarization in Ammonia-Based Ionic Liquid and Introduce APXPS Beamline at PAL

15:20-15:50

INVITED

[Ki-jeong Kim](#)

Pohang Accelerator Laboratory, Pohang University of Science and Technology, Korea

12-2-2065 NEXAFS: An Effective Tool to Investigate Influence of Pre and Post Synthesis Treatment on MgO Thin Films and Nanoparticles

15:50-16:05

[Jitendra Pal Singh](#), Keun Hwa Chae

Korea Institute of Science and Technology, Korea

12-2-2108 Spectro-microscopes Based on Soft x-rays at the PLS-II

16:05-16:20

[Hyun-Joon Shin](#), Jaeyoon Baik, Namdong Kim, HeeSeob Kim

Pohang Accelerator Laboratory, Korea

12-2. Characterization of local electronic structures and chemical states

Nov. 13 (Tue)

Chuja (2F)

Chairs

[Cheolho Jeon](#) (Korea Basic Science Institute, Korea)

[Hyun-Joon Shin](#) (Pohang Accelerator Laboratory, Korea)

12-2-0429 Band-gap Tuning of 2D Materials by Mechanical and Chemical Enginnering

16:40-17:10

INVITED

[Hyunseob Lim](#)

Chonnam National University, Korea

12-2-0355 Te Vacancy Driven Superconductivity in Type II Weyl Semimetal MoTe₂

17:10-17:40

INVITED

[Suyeon Cho](#)¹, Se Hwang Kang², Ho Sung Yu², Hyowon Kim³, Wonhee Ko³, Sung Woo Hwang³, Woo Hyun Han⁴, Duk Hyun Choe⁴, Young Hwa Jung⁵, Kee Joo Chang⁴, Young Hee Lee², Heejun Yang², Sung Wng Kim²

¹Ewha Womans University, Korea, ²Sungkyunkwan University, Korea, ³Samsung Advanced Institute of Technology, Korea, ⁴Korea Advanced Institute of Science and Technology, Korea, ⁵Pohang Accelerator Laboratory, Korea

12-2-2027 Recent Unraveled Facts on Chemically Treated Graphene: Face-dependent Effects and Photo-assisted Fluorine Doping

17:40-18:10

INVITED

[Kyuwook Ihm](#)

Pohang Accelerator Laboratory, Korea

12-1. In-situ experiment and characterization by (S)TEM and synchrotron X-ray techniques

16:40-18:10, Nov. 13 (Tue)

Lobby (2F)

Chairs Subin Lee (Max-Planck-Institute for Iron Research, Germany)
Kyung Song (Korea Institute of Materials Science, Korea)

12-1-0746 Deformation Behavior of Gamma Phase in TiAl Alloys Using In-situ Transmission Electron Microscopy Experiments and Molecular Dynamics

Seong-Woong Kim¹, Taegu Lee², Seunghwa Ryu², Seung Eon Kim¹

¹Korea Institute of Materials Science, Korea, ²Korea Advanced Institute of Science and Technology, Korea

12-1-1193 Sintering Behavior of Au Nanopowders with Different Particle Size: A Real-Time Synchrotron X-ray Scattering Study

Jang-Hyeong Lee, Sae-Heum Park, Tae-Sik Cho

Kyungpook National University, Korea

12-1-2179 Anisotropic Evaporation of ZnO Observed by In-situ Cs-Corrected High Resolution Transmission Electron Microscopy

Zhen Wang¹, Subin Lee², Bumsu Park¹, Hu Young Jeong³, Junhyeok Bang⁴, Young-Min Kim¹, Sang Ho Oh¹

¹Sungkyunkwan University, Korea, ²Max Planck Institute for Iron Research GmbH, Germany, ³Ulsan National Institute of Science and Engineering, Korea, ⁴Korea Basic Science Institute, Korea

12-1-2289 Direct Observation of Dehydrogenation of Mg₂FeH₆ by Using In-situ Transmission Electron Microscopy

Joseph Song^{1,2}, Julien O. Fadonougbo¹, Hyunmin Kim^{1,3}, Jeewan Bae¹, Jaeyoung Hong¹,

Young Whan Cho¹, Gyeong Ho Kim¹, Soongju Oh², Jinyoo Suh¹, Dong Won Chun¹, Jaepyoung Ahn¹

¹Korea Institute of Science and Technology, Korea, ²Korea University, Korea, ³Yonsei University, Korea

12-1-2531 Dynamics of Pd Nanoparticles in Graphene Liquid Cell Electron Microscopy

Jaeyoung Hong¹, Jee-Hwan Bae¹, Hee-Young Park¹, Hyunmin Kim², Jae-Pyeong Ahn¹, Sung Jong Yoo¹, Dong Won Chun¹

¹Korea Institute of Science and Technology, Korea, ²Yonsei University, Korea

12-1-2735 Isotropic and Ultrafast-chargeable Sodiation Behavior of Sn Crystals

Young Woon Byeon^{1,2}, Yong-Seok Choi², Jae-Pyoung Ahn¹, Jae-Chul Lee²

¹Korea Institute of Science and Technology, Korea, ²Korea University, Korea

12-1-2744 Oxidation Behavior of Co, Cr, and Ni Nanopowders: A Real-Time Synchrotron X-ray Scattering Study

Sae-Heum Park, Jang-Hyeong Lee, Tae-Sik Cho

Kyungpook National University, Korea

12-1-2766 In-situ TEM Electrical Biasing of LAO/STO Interface-Devices Revealing Charge Modulation and Associated Structural and Chemical Changes

Jinsol Seo¹, Bumsu Park¹, Christoph T. Koch², Hyungwoo Lee³, Chang-Beom Eom³, Sang Ho Oh¹

¹Sungkyunkwan University, Korea, ²Humboldt University, Germany, ³University of Wisconsin-Madison, USA

12-2. Characterization of local electronic structures and chemical states

16:40-18:10, Nov. 13 (Tue)

Lobby (2F)

Chair Jae Pyoung Ahn (Korea Institute of Science and Technology, Korea)

- 12-2-0733** Processing and Characterization of $(\text{Pr}_x\text{Y}_{1-x})_{1+\delta}\text{Ba}_{2-\delta}\text{Cu}_3\text{O}_{7-y}$ Cuprate Perovskite Powder by Solid-State Reaction Method
Poom Prayoonphokkharat^{1,2}, Penphitcha Amonpattaratkit³, Anucha Watcharapasorn¹
¹Chiang Mai University, Thailand, ²Takpittayakhom School, Thailand, ³Synchrotron Light Research Institute, Thailand
- 12-2-0770** Optimization of a Structured Illumination Microscopy (SIM) with a Spatial Filter
Jeongheon Han^{1,2}, Kisung Kwak¹, Ji-Hoon Kang^{1,2}, Byeong-Kwon Ju², Min-Chul Park¹
¹Korea Institute of Science and Technology, Korea, ²Korea University, Korea
- 12-2-1705** The Study on the Comparison Korean Outdoor Corrosion Tests and Chamber Accelerated Corrosion Tests Using 0.5wt% Carbon Steel
Eui Yeol Cho¹, Gi Bong Kwon¹, Ki Woong Moon¹, Jong Ryoul Kim²
¹Korea Testing Laboratory, Korea, ²Hanyang University, Korea
- 12-2-2066** Size Dependent Local Electronic/Atomic Structure, Magnetic and Optical Response of Cobalt Ferrite Nanoparticle: XAS-XMCD Investigations
Jitendra Pal Singh¹, So Hee Kim¹, Weon Cheol Lim¹, Hermaunt Kumar², Sung Ok Won¹, Keun Hwa Chae¹
¹Korea Institute of Science and Technology, Korea, ²Rajkiya Engineering College, India
- 12-2-2071** Near-edge X-ray Absorption Fine-structure Study of Polycrystalline Zinc Ferrite Thin Film
Jitendra Pal Singh, Keun Hwa Chae
 Korea Institute of Science and Technology, Korea
- 12-2-2490** Growth and Properties of $\text{Ga}_2\text{O}_3/4\text{H-SiC}$ Isotype Heterojunction Diodes
Ji-Ho Seo¹, Seong-Ji Min¹, Seulki Cho², Daeseok Lee¹, Jong-Min Oh¹, Sang-Mo Koo¹
¹Kwangwoon University, Korea, ²Korea University, Korea
- 12-2-2547** Observation of the Solid Electrolyte Interface (SEI) and Measurement of Its Electric Properties
Jun-Hyoung Park¹, Hyung Cheoul Shim², Jae-Pyoung Ahn³, Jae-Chul Lee¹
¹Korea University, Korea, ²Korea Institute of Machinery and Materials, Korea, ³Korea Institute of Science and Technology, Korea
- 12-2-2587** Characterization of $\text{HfO}_2/\text{Al}_2\text{O}_3/4\text{H-SiC}$ MOS Structures
Young-Jae Lee¹, Seulki Cho², Seong-Ji Min¹, Daeseok Lee¹, Jong-Min Oh¹, Sang-Mo Koo¹
¹Kwangwoon University, Korea, ²Korea University, Korea
- 12-2-2760** Improved Interface and Electrical Properties of $\text{Al}_2\text{O}_3/3\text{C-SiC}$
Woo-young Son, Seong-Ji Min, Jong-min Oh, Dae-seok Lee, Sang-Mo Koo
 Kwangwoon University, Korea
- 12-2-2815** HfO_2 Films on 4H-SiC Deposited by RF Sputtering
Seong-Ji Min, Jae-In An, Dae-Seok Lee, Jong-Min OH, Sang-Mo Koo
 Kwangwoon University, Korea

12-2-2919 Catalytically Active Au Engineered by Lattice Strain and Charge Transfer for Direct Synthesis of H₂O₂

Jin Soo Kim^{1,2}, Joseph Song¹, Hong Kyu Kim¹, Sung-Hoon Kim¹, Inho Kim³, Taekyung Yu³, Geun-Ho Han², Kwan-Young Lee², Jae-Chul Lee², Jae-Pyoung Ahn¹

¹Korea Institute of Science and Technology, Korea, ²Korea University, Korea, ³Kyung Hee University, Korea

12-2-3096 Doping Dependent Electro-Thermal Analysis of 4H-SiC Trench MOSFETs

Thi Ngoc Nguyen, Jae-in An, Sang-mo Koo

Kwangwoon University, Korea

12-2-3100 Structural and Electrical Properties of Copper Oxide/n-type Silicon Carbide Heterostructures

Seulki Cho^{1,2}, Seong-Ji Min², Jae-In An², Ji-Ho Seo², Young-Jae Lee², Wooyoung Son², Byungmoo Moon¹, Sang-Mo Koo²

¹Korea University, Korea, ²Kwangwoon University, Korea

12-2-3429 Investigation of Electrically Active Defect in Magnesium Doped GaN Using High Resolution Laplace Deep Level Transient Spectroscopy

Jong-Beom Lim¹, Byung-Guon Park¹, Reddeppa Maddaka¹, Hoang Hai Nguyen¹, Moon-Deock Kim¹, Song-Gang Kim², Woochul Yang³

¹Chungnam National University, Korea, ²Joongbu University, Korea, ³Dongguk University, Korea

12-3. Atomic level analysis of low dimensional structures by aberration corrected (S)TEM

16:40-18:10, Nov. 13 (Tue)

Lobby (2F)

Chairs

Juan-Carlos Idrobo (Oak Ridge National Laboratory, USA)

Zonghoon Lee (Ulsan National Institute of Science and Technology, Korea)

12-3-3751 Lithium Detection through Advanced Transmission Electron Microscopy

Hyunmin Kim¹, Jee-Hwan Bae², Wooyoung Shim¹, Dong Won Chun²

¹Yonsei University, Korea, ²Korea Institute of Science and Technology, Korea

13. General program

13-2. Nano materials

Nov. 12 (Mon)

Mara (2F)

Chair Sehun Kwon (Pusan National University, Korea)

13-2-0424 Atomic Layer Deposition : A Few Prospective Applications Aiming Mass-production after Current Si-based Semiconductor Process

09:00-09:30

INVITED

Tae Joo Park

Hanyang University, Korea

13-2-2827 Thermodynamically Designing of Metal-Organic Frameworks Derived Cobalt Disulfide Nanoparticles as Efficient Electrocatalysts for Oxygen Evolution Reaction

09:30-09:45

In-Kyoung Ahn, Wonhyo Joo, Ho-Young Kang, Gi-Baek Lee, Ji-Yong Kim, Young-Chang Joo
Seoul National University, Korea

13-2-2225 Facile Preparation of Manganese Oxides Derived from Mn-MOF as an Efficient Catalyst for Enhanced Low-temperature Selective Catalytic Reduction (SCR) of NO_x with NH₃

09:45-10:00

Byeonggab Ji, Junhyung Lee, Seung-Yeop Kwak
Seoul National University, Korea

13-2-2063 Modulation of Visible and Near-infrared Transmittance Based on Electrochromic and Thermochromic Hybrid Structures

10:00-10:15

Sang Jin Lee^{1,2}, Kang So Hee¹, Nahm Sahn², Choi Dong Soo³, Han Seung Ho¹
¹Korea Electronics Technology Institute, Korea, ²Korea University, Korea, ³Dong-A University, Korea

13-2-1796 Epitaxial PMN-PZT Thin Film on Si with Buffer Layers

10:15-10:30

Soo Young Jung^{1,2}, Byeong-hyeon Lee², Sung-Ok Won², Ho Won Jang¹, Seung-Hyub Baek^{2,3}
¹Seoul National University, Korea, ²Korea Institute of Science and Technology, Korea, ³University of Science and Technology, Korea

13-2-1538 Development of Novel Polycaprolactone/MWCNT/Fe₃O₄ Hybrid Materials

10:30-10:45

Yi-Huan Lee, Chia-Wei Lee, Yi-Chen Ou, Cheng-Hui Lee, Ying-Tien Hsu, Hsin-Ta Wang
National Taipei University of Technology, Taiwan

13-6. Materials for sensors and actuators

Nov. 12 (Mon)

Mara (2F)

Chairs Ho Won Jang (Seoul National University, Korea)
Chong-Yun Kang (Korea Institute of Science and Technology, Korea)

13-6-0887 New Perspective of Room-temperature Gas Sensor Using Ionic Conduction Based SnO₂ Nanorods

15:00-15:15

Young Geun Song^{1,2}, Young-Seok Shim³, Jun Min Shu⁴, Ho Won Jang⁴, Byeong-Kwon Ju², Chong-Yun Kang^{1,5}

¹Korea Institute of Science and Technology, Korea, ²Korea University, Korea, ³Korea Advanced Institute of Science and Technology, Korea, ⁴Seoul National University, Korea, ⁵KU-KIST Graduate School of Converging Science and Technology, Korea University, Korea

- 13-6-3061** Acetylene Sensing Performance of Un- and M (Al, In)-doped ZnO Quantum Dots
15:15-15:30 [Minsun Park](#), Ran Yoo, Aran Gu, Yunji Park, Hyun-Sook Lee, Wooyoung Lee
Yonsei University, Korea
- 13-6-3056** Enhanced Isoprene Sensing Properties of Size Effects on ZnO Particles
15:30-15:45 [Yunji Park](#), Ran Yoo, Seungryol Park, Jun Ho Lee, Hwaebong Jung, Wooyoung Lee
Yonsei University, Korea
- 13-6-3601** Free-standing Aluminum-Doped Zinc Oxide Nanofibers for Highly Sensitive NO₂ Sensors with Full Recovery at Room Temperature
15:45-16:00 [Amit Sanger](#), Sung Bum Kang, Kyoung Jin Choi
Ulsan National Institute of Science and Technology, Korea
- 13-6-3026** Highly Sensitive Resistors Based on Pd-coated SnO₂ Nanorod Arrays for Monitoring of H₂ in both Air and Oil
16:00-16:15 [Min Hyung Kim](#), Byungjin Jang, Wooyoung Lee
Yonsei University, Korea
- 13-6-3025** Development of Highly Selective Breath Acetone Analyzer Integrated with a Sensor Based on ZnO Quantum Dots and a Miniaturized Gas Chromatographic Column
16:15-16:30 [Hwaebong Jung](#)¹, Wonhee Cho¹, Ran Yoo¹, Hyun-sook Lee¹, Yong-Sahm Choe², Justin Y. Jeon¹, Wooyoung Lee¹
¹Yonsei University, Korea, ²Ilsenlab Inc., Korea
- 13-6-0905** P-N Heterojunction of WO₃@NiO Nano-hemispheres for Improved Selectivity and Sensitivity to NO₂
16:30-16:45 [Seung Yeop Yi](#)^{1,2}, Young Geun Song^{1,3}, Chong-Yun Kang^{1,2}
¹Korea Institute of Science and Technology, Korea, ²KU-KIST Graduate School of Converging Science and Technology, Korea University, Korea, ³Korea University, Korea
- 13-6-3017** Real-time Detection of 2-CEES by Al-doped ZnO Quantum Dot Sensors
16:45-17:00 [Jun Ho Lee](#), Hwaebong Jung, Wooyoung Lee
Yonsei University, Korea
- 13-6-2855** Humidity Sensing Properties of High Sensitive BaTiO₃-Based Composite Film Fabricated at Room Temperature by Aerosol Deposition
17:00-17:15 [Myung-Yeon Cho](#), Ik-Soo Kim, Won-Jung Kim, Eun-Seong Kim, Nam-Young Kim, Jong-Min Oh
Kwangwoon University, Korea
- 13-6-2847** Design of Tunable Guided-mode Resonance Filter with Graphene
17:15-17:30 [Hwa Seub Lee](#)¹, Tae-Yeon Seong², Gyu-Won Hwang¹, Won Mok Kim¹, Inho Kim¹, Joon Young Kwak¹, Kyeong-Seok Lee¹
¹Korea Institute of Science and Technology, Korea, ²Korea University, Korea
- 13-6-2191** Effect of Surface Area of ZnO Nanorod-gated AlGaIn/GaN HEMT-based Photodetectors
17:30-17:45 [Fasihullah Khan](#)¹, Hafiz Muhammad Salman Ajmal¹, Jihyun Kim², Sam Dong Kim¹
¹Dongguk University, Korea, ²Sungkyunkwan University, Korea

13-6-1636 Improved Deformation and Response Rate of Ionic Polymer Metal Composite Actuator with Silver Nanowires-platinum Composite Electrode

17:45-18:00

Minjeong Park¹, Hanbin Lee¹, Sookhyun Hwang¹, Seonpil Kim², Minhyon Jeon¹

¹Inje University, Korea, ²Gyeongju University, Korea

13-6-1238 Lithium Alloy Based Electrochemical Actuators

18:00-18:15

Myoung-Sub Noh^{1,2}, Sangtae Kim¹, Seung-Hyub Baek¹, Chong-Yun Kang^{1,2}

¹Korea Institute of Science and Technology, Korea, ²KU-KIST Graduate School of Converging Science and Technology, Korea University, Korea

13-6-3825 Graphene Tribotronic Transistors for Touch Sensing

18:15-18:30

Usman Khan, Tae-Ho Kim, Sang-Woo Kim

Sungkyunkwan University, Korea

13-3. Magnetic materials

Nov. 13 (Tue)

Udo (2F)

Chair

Haein Yim (Sookmyung Women's University, Korea)

13-3-0996 Electrical Resistivity and Magnetic Performance of Nd-Fe-B-type Magnet Consolidated Using Dielectric Materials

09:00-09:30

INVITED

Hae-Woong Kwon¹, Kyung Min Kim¹, Min Seok Kang¹, Dong Hwan Kim², Jung Goo Lee³, Ji Hoon Yu³, Kwang Ho Shin⁴

¹Pukyong National University, Korea, ²Star-group Ind. Co., Korea, ³Korea Institute of Materials Science, Korea, ⁴Kyungsung University, Korea

13-3-1274 Fabrication of Rare Earth Free New Permanent Magnetic Materials

09:30-10:00

INVITED

Chul-Jin Choi¹, Ji-Hun Park¹, Ping-Zhan Si², HuiDong Qian¹, Jung-Tae Lim¹

¹Korea Institute of Materials Science, Korea, ²Jiliang University, China

13-3-3850 Magnetic Properties of Mn-based Rare-earth-free Permanent Magnets

10:00-10:30

INVITED

Wooyoung Lee

Yonsei University, Korea

13-3-2853 Finding Skyrmion in a Strong Permanent Magnet Using Lorentz TEM

10:30-11:00

INVITED

Hye Jung Chang

Korea Institute of Science and Technology, Korea

13-3-3126 Enhanced Coercivity of the Nd-Fe-B Sintered Magnets with Tb-diffused Microstructure by the Consecutive Heat Treatment Method

11:00-11:15

Sumin Kim¹, Hyun-Sook Lee¹, Donghwan Kim², Jong Wook Roh³, Wooyoung Lee¹

¹Yonsei University, Korea, ²STAR GROUP, Korea, ³Kyungpook National University, Korea

13-3-2333 Study on Magnetic Properties of Ba₄Me₂Fe₃₆O₆₀ (Me : Mn, Zn, Cu, Ni) by Sol-gel Method

11:15-11:30

Kwang Pil Jeong, Jeong Gon Kim, Su Won Yang, Jin Hyuk Choi, Min Young Kim, Seong Il Cho, Han Ul Sim
Incheon National University, Korea

- 13-3-2489** Study on Easy Magnetization Axis and Reflection Loss Change of $\text{BaCo}_x\text{Ti}_{1-x}\text{Fe}_{12-2x}\text{O}_{19}$ Nanopowder
 11:30-11:45 Su-won Yang, Jeong-gon Kim, Kwang-pil Jwong, Jae-ho Yun, Jin-hyuk Choi
Incheon National University, Korea

13-1. Energy materials

Nov. 14 (Wed)

Ballroom 4 (2F)

Chair Seok In Na (Chonbuk National University, Korea)

- 13-1-3267** Substantially Enhanced Front Illumination Photocurrent in Porous SnO_2 Nanorods/Networked BiVO_4 Heterojunction Photoanodes
 09:00-09:15 Swetha S M Bhat, Jun Min Suh, Seokhoon Choi, Seung-Pyo Hong, Sol A Lee, Changyeon Kim, Cheon Woo Moon, Mi Gyoung Lee, Ho Won Jang
Seoul National University, Korea
- 13-1-3264** Thermally Self-sustaining Operation of a Tubular Solid Oxide Fuel Cell Stack
 09:15-09:30 Jong-Eun Hong, Mushtaq Usman, Seung-Bok Lee, Tak-Hyoung Lim, Rak-Hyun Song
Korea Institute of Energy Research, Korea
- 13-1-2405** Synthesis of B,N Co-doped Carbon via Chlorination of Titanium Carbonitride and Titanium Boride Mixture
 09:30-09:45 Dae-Gwon Ha, Mun Keun Lee, Shinhoo Kang, In-Ho Jung
Seoul National University, Korea
- 13-1-2382** Stability Enhancement of Low-temperature Solid Oxide Fuel Cell by Cathode Surface Modification with Chemical Etching and Atomic Layer Deposition (ALD)
 09:45-10:00 Donghwan Kim¹, Hyung Jong Choi², Jung Hoon Park¹, Joon Hyung Shim², Ji-Won Son^{1,3}
¹Korea Institute of Science and Technology, Korea, ²Korea University, Korea, ³Korea University of Science and Technology, Korea
- 13-1-2250** Thermo-fluidic Analysis of Solid Oxide Fuel Cell Stacks by Numerical Approach
 10:00-10:15 Sanghyeok Lee^{1,2}, Ho Il Ji¹, Hyoungchul Kim¹, Kyung Joong Yoon¹, Ji-Won Son¹, Jong Ho Lee¹, Byung Kook Kim¹, Hae-Weon Lee¹, Wonjoon Choi², Jongsup Hong³
¹Korea Institute of Science and Technology, Korea, ²Korea University, Korea, ³Yonsei University, Korea
- 13-1-0849** Renewable and Effective Nanoporous Carbon for Hydrogen Storage
 10:15-10:30 Nour Attia, Minji Jung, Jaewoo Park, Hyunchul Oh
Gyeongnam National University of Science and Technology, Korea
- 13-1-3914** Newly Functionalized HTL Material for High Performance and Stable Inverted Planar Perovskite Solar Cells
 10:30-10:45 Dilpreet Singh Mann, Seok In Na
Chonbuk National University, Korea

13-4. Electronic & optical materials

Nov. 14 (Wed)

Ballroom 4 (2F)

Chair Sehun Kwon (Pusan National University, Korea)

13-4-3477 The Effect of Chemical Crosslinking of PEDOT:PSS with PVA on Charge Carrier Concentration

13:50-14:05 Ji Hwan Kim, Myung-Han Yoon
Gwangju Institute of Science and Technology, Korea

13-4-2376 Optical Fiber Liquid Level Sensor Based on Cascaded Long-period Fiber Gratings Written on Polarization-maintaining Fiber by CO₂ Laser

14:05-14:20 Sungwook Choi, Jihoon Kim, Seul-Lee Lee, Sun Jae Jeong, Min Seok Kim, Do Kyung Kim, Yong Wook Lee
Pukyong National University, Korea

13-4-1586 New-type Thin Film Transistors Using Two-dimensional Electron Gas in Atomic-layer-deposited Al₂O₃/TiO₂ Ultrathin (<10 nm) Film Heterostructure

14:20-14:35 Tae Jun Seok¹, Yuhang Liu¹, Hae Jun Jung², Soo Bin Kim², Dae Hyun Kim¹, Sung Min Kim²,
Jae Hyuck Jang³, Deok-Yong Cho⁴, Sang Woon Lee², Tae Joo Park¹
¹Hanyang University, Korea, ²Ajou University, Korea, ³Korea Basic Science Institute, Korea,
⁴Chonbuk National University, Korea

13-4-1509 Simultaneous Measurement of Strain and Temperature Using Long-period Fiber Grating in Polarization-maintaining Photonic Crystal Fiber

14:35-14:50 Do Kyung Kim, Jihoon Kim, Seul-Lee Lee, Sungwook Choi, Sun Jae Jeong, Min Seok Kim, Yong Wook Lee
Pukyong National University, Korea

13-4-1431 Wavelength-switchable Fiber Laser Based on Long-period Fiber Grating Written on Polarization-maintaining Photonic Crystal Fiber

14:50-15:05 Min Seok Kim, Jihoon Kim, Seul-Lee Lee, Sungwook Choi, Sun Jae Jeong, Do Kyung Kim, Yong Wook Lee
Pukyong National University, Korea

13-4-1172 Bidirectional Current Gating in VO₂-based Device with High-repetition-rate Pulse Beams Using Near-infrared Laser Diode

15:05-15:20 Jihoon Kim, Sungwook Choi, Seul-Lee Lee, Sun Jae Jeong, Min Seok Kim, Do Kyung Kim, Yong Wook Lee
Pukyong National University, Korea

13-4-0959 Applications of Hybrid Perovskite for Photodetector and X-Ray Detector

15:20-15:35 Son Singh, Rahim Abdur, Md. Abdul Kuddus Sheikh, Jaegab Lee
Kookmin University, Korea

13-4-0949 Input-polarization-controlled Switching of Free Spectral Range of Optical Fiber Comb Filter Based on Polarization-diversity Loop Structure

15:35-15:50 Seul-Lee Lee, Jihoon Kim, Sungwook Choi, Sun Jae Jeong, Min Seok Kim, Do Kyung Kim, Yong Wook Lee
Pukyong National University, Korea

13-4-1709 Direct Ink Writing on Three-Dimensional Surface Using Viscoelastic Inks for Wireless Power Transfer Application

15:50-16:05 Rajaram Kaveti, Jihoon Kim
Kongju National University, Korea

13-5. Structural & composite materials

Nov. 14 (Wed)

Ballroom 4 (2F)

Chair Sangyong Shin (University of Ulsan, Korea)

13-5-2835 Effect of Zn Filler Metal on Al/Mg Dissimilar Lap Joints Produced by Friction Stir Spot Welding

16:05-16:20 Hyun-Joon Park¹, Jae-Ha Kim², Jong-Gun Lee¹, Seung-Boo Jung¹

¹Sungkyunkwan University, Korea, ²Korea Institute of Industrial Technology, Korea

13-5-1955 Impact Stress Redistribution through Dynamic Analysis of Fractal Cut Materials

16:20-16:35 In-suk Choi¹, Vivek Anand Karuppasamy^{2,3}, Young-joo Lee¹, Sang-Hoon Kim²

¹Seoul National University, Korea, ²Korea Institute of Science and Technology, Korea, ³University of Science and Technology, Korea

13-5-0667 Metal-organic Framework-derived Formation of Porous Ni@C Nanospheres through Post-pyrolysis Method

16:35-16:50

Mohit Kumar, Young Hun Lee, Min Seob Kim, Dong In Jeong, Dae Ho Yoon
Sungkyunkwan University, Korea

13-2. Nano materials

18:00-19:30, Nov. 12 (Mon)

Lobby (2F)

Chair Han-Bo-Ram Lee (Incheon National University, Korea)

13-2-0361 Fracture Effect on NonoBubble

Min Jung Kim¹, Jung Geun Han¹, Won Dam Kim², Sang Hun Song¹

¹Chung-Ang University, Korea, ²DongMyeong Engineering, Korea

13-2-0479 Remediation Characteristics of Copper Contaminated Soil Using Nanobubble

Dasom Chung¹, Sohee Jeong², Jung-Geun Han¹

¹Chung-Ang University, Korea, ²DOHWA Engineering Co., Ltd., Korea

13-2-1112 One-pot Synthesis of Amine-functionalized CdTe Quantum Dots

HyeLan An, Leeseung Kang, Chan Gi Lee

Institute for Advanced Engineering, Korea

13-2-1210 Tungsten as Next-generation Semiconductor Interconnects

Dooho Choi

Dong-Eui University, Korea

13-2-1281 Magnetotransport and the Spin-orbit Coupling Properties of Epitaxial $(\text{Bi}_{1-x}\text{Sb}_x)_2(\text{Te}_{1-y}\text{Se}_y)_3$ Thin Films

Milim Lee^{1,2}, Seong Won Cho^{3,4}, Suyoun Lee^{3,4}

¹Korea Institute of Industrial Technology, Korea, ²Yonsei University, Korea, ³Korea Institute of Science and Technology, Korea, ⁴Korea University of Science and Technology, Korea

13-2-1302 Synthesis and Structural Characterization of Anatase TiO₂ with Calcium, Strontium and Vanadium Metal Dopants Using Solid-state Reaction Method

Hoang Van Quy, Dang Hai Truyen, He Rui, Maro Kim, Sangmo Kim, Chung Wung Bark

Gachon University, Korea

13-2-1514 Accelerated Life Test of RuO₂ Based Thick Film Resistors on Ceramic Substrate

SungSoon Choi, KwanHun Lee, Solbin Oh

Korea Electronics Technology Institute, Korea

13-2-1669 The Synthesis of 3D Carbon Nanotubes-graphene Coated on Copper Nanowires for the Oxidation Prevention+

SeongJun Park¹, Minjeong Park¹, Sanghyun Yoo¹, Seonpil Kim², Minhyon Jeon¹

¹Inje University, Korea, ²Gyeongju University, Korea

13-2-1672 A Study on the Hexagonal-boron Nitride Growth by Using the Thermal Chemical Vapor Deposition

Minyeob Kim¹, Minjeong Park¹, Yunkyeong Bae¹, Seonpil Kim², Chae Eun Lee¹, Minhyon Jeon¹

¹Inje University, Korea, ²Gyeongju University, Korea

13-2-1696 Characterization of Ga₂O₃ Thin Films for Power Devices by Pulsed Laser Deposition

Hyung-Jin Choi, Shin-Ik Kim, Seung-Hyub Baek

Korea Institute of Science and Technology, Korea

- 13-2-1781** Effects of High-energy Beam Irradiation on the PEDOT:PSS Thin Film
Hong Jang, Felix Sunjoo Kim
 Chung-Ang University, Korea
- 13-2-1786** Fabrication of Photocatalytic Thin Films Using TiO₂ Anatase Solution for Photovoltaic Applications
Jeongin Park¹, Yong Seob Park², Donguk Kim¹, Jaehyeong Lee¹
¹Sungkyunkwan University, Korea, ²Chosun College of Science and Technology, Korea
- 13-2-1892** Study of Alternating Current Impedance in n-Type Si/B-doped p-Type Ultrananocrystalline Diamond Heterojunctions Produced through Pulsed Laser Deposition
Rawiwan Chaleawpong¹, Nathaporn Promros¹, Peerasil Charoenyuenyao¹, Adison Nopparuchikun¹, Takanori Hanada², Shinya Ohmagari³, Tsuyoshi Yoshitake²
¹King Mongkut's Institute of Technology Ladkrabang, Thailand, ²Kyushu University, Japan, ³National Institute of Advanced Industrial Science and Technology, Japan
- 13-2-1894** Mechanical and Wetting Properties of β -FeSi₂ Films Built Using Facing-Targets Direct-Current Sputtering
Peerasil Charoenyuenyao¹, Nathaporn Promros¹, Rawiwan Chaleawpong¹, Tsuyoshi Yoshitake²
¹King Mongkut's Institute of Technology Ladkrabang, Thailand, ²Kyushu University, Japan
- 13-2-1930** Characteristic of Steam Cured Carbon Amino Silica Black Mortar Using Methyl Cellulose Polymer
Hongseok Jang, Seungyoung So, Jijon Kang
 Chonbuk National University, Korea
- 13-2-2099** Fast Proton Transport through High Diffusivity Domain Boundaries in VO₂ Thin Films
Narae Park, Jaeseong Park, Junwoo Son
 Pohang University of Science and Technology, Korea
- 13-2-2171** Investigating Catalytic Functions of WO₃ and SiO₂ Promoters Used to Improve Catalytic NH₃-SCR Consequence at Elevated Temperatures
 Somin Lee^{1,2}, Dong Wook Kwon², Jongsik Kim², Heon Phil Ha²
¹Korea University, Korea, ²Korea Institute of Science and Technology, Korea
- 13-2-2176** Deploying Metal Vanadates as Active Sites for Selective Catalytic NOx Reduction with NH₃
Dong Ho Kim, Dong Wook Kwon, Jongsik Kim, Heon Phil Ha
 Korea Institute of Science and Technology, Korea
- 13-2-2269** Joining of Power Device and Ceramic Substrate Using Cu Nano Paste for Power Electronic Applications
 Jong-Hoon Back, Byung-Suk Lee, Jeong-Won Yoon
 Korea Institute of Industrial Technology, Korea
- 13-2-2408** Improving the Optical and Ultraviolet Photoresponse Properties of Hydrothermally Grown ZnO Nanorods by Step-annealing
Dongwan Kim, Jae-Young Leem
 Inje University, Korea

- 13-2-2457** Effect of the Seed Layer Type and Precursor Concentration on the Structural, Morphological, and Photoresponse Properties of Hydrothermally Grown ZnO Nanorods
Euije Jo, Jae-Young Leem
Inje University, Korea
- 13-2-2619** Microstructure and Electrical Properties Difference of HfO_2 Deposited by Atomic Layer Deposition with $\text{La}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$ Solution
 Seon Yong Kim, Yong Chan Jung, Sejong Seong, Taehoon Lee, In-Sung Park, Jinho Ahn
Hanyang University, Korea
- 13-2-2796** WO_3 and TiO_2 Bilayer Thin Films Deposited by rf Magnetron Sputtering as an Efficient Photocatalyst
Young Woong Jo¹, Chadraseshkar Loka^{1,2}, Kee-Sun Lee^{1,2}
¹Kongju National University, Korea, ²Smart Natural Space Research Center, Korea
- 13-2-2865** Cu Metal Coatings at Room Temperature via Aerosol Deposition Process
Won-Jung Kim¹, Myung-Yeon Cho¹, Ik-Soo Kim¹, Dong-Won Lee², Sang-Mo Koo¹, Daeseok Lee¹, Jong-Min Oh¹
¹Kwangwoon University, Korea, ²Korea Testing Laboratory, Korea
- 13-2-3053** Study on Optical Behavior of Nano Crystallization Glass-ceramic on $\text{BaO-TiO}_2\text{-SiO}_2$ System
Yoorim Rho, Seunggu Kang
Kyonggi University, Korea
- 13-2-3085** Transition Metal Multiple Doping TiO_2 Photocatalyst Synthesis Using Thermal Plasma, and Band Gap Characteristics
Myongsun Shin^{1,2}, Soonjik Lee¹, JeongMi Yeon¹, SunYong Choi¹
¹Cheorwon Plasma Research Institute, Korea, ²Kwangwoon University, Korea
- 13-2-3107** Synthesis of High Purity Tungsten Nanoparticles by Inductively Coupled Thermal Plasmas
Dongyoon Shin, Duk-Hee Lee, Jae-Ryang Park, Kyung-Soo Park
Institute for Advanced Engineering, Korea
- 13-2-3120** Study on Crystallization Glasses Based on Diopside by Heat Treatment Schedule and Nucleation Agent
Byeongguk Kang, Seunggu Kang
Kyonggi University, Korea
- 13-2-3524** Fluidized Bed Reactor Atomic Layer Deposition of Noble Metals for the Application of Nanocatalysts
Woo-Jae Lee¹, Chang-Min Kim¹, Cheol Min Hyun², Ji-Hoon Ahn², Se Hun Kwon¹
¹Pusan National University, Korea, ²Korea Maritime and Ocean University, Korea
- 13-2-3636** TiO_2 -CNT Core/Shell Photoelectrode in Dye-Sensitized Solar Cells
Moo-Hyun Seo, Kyoeong-Han Na, Won-Youl Choi
Gangneung-Wonju National University, Korea

- 13-2-3647 Magnetic Properties of NiZn Ferrite Nanofibers Prepared by Electrospinning**
Kyeonghan Na¹, Wan-Tae Kim¹, Dong-Cheol Park¹, Hyun-Gyoo Shin², Sea-Hyun Lee³, Tae-Hyeob Song³, Won-Youl Choi¹
¹Gangneung-Wonju National University, Korea, ²Korea Testing Laboratory, Korea, ³Korea Institute of Civil Engineering & Building Technology, Korea
- 13-2-3652 Dynamic Cryptographic Nanoprints Mediated by Kerker's Conditions**
Jaehyuck Jang, Heonyeong Jeong, Junsuk Rho
 Pohang University of Science and Technology, Korea
- 13-2-3714 Effect of Step Quenching on Multi-Step Aging Behavior in Al-Mg-Si Alloys**
Minyoung Song, Insu Kim, Kwangjin Lee, Jaehwang Kim
 Korea Institute of Industrial Technology, Korea
- 13-2-3756 Extraction of I-V, G-V-f and C-V-f Characteristics for p-Type Silicon/Intrinsic Ultrananocrystalline Diamond/n-Type Nanocrystalline Iron Disilicide Heterojunction Photodiodes**
Rawiwan Chaleawpong¹, Nathaporn Promros¹, Peerasil Charoenyuenyao¹, Tsuyoshi Yoshitake²
¹King Mongkut's Institute of Technology Ladkrabang, Thailand, ²Kyushu University, Japan
- 13-2-3869 Synthesis and Photocatalytic Properties of Fluorine-Containing TiO₂ Hollow Structures by Facile Wet Chemical Process**
 Duk-Hee Lee, Dongyoon Shin, Jae-Ryang Park, Hyun-Woo Shim, Chan-Gi Lee, Kyung-Soo Park
 Institute for Advanced Engineering, Korea
- 13-2-3871 Fabrication of Ultrafine and Cosmetic Grade TiO₂/SiO₂ Core/Shell Nanopowders by Sol-gel Process**
 Duk-Hee Lee, Tae-Hyung Kim, Dongyoon Shin, Kyung-Soo Park, Jae-Ryang Park
 Institute for Advanced Engineering, Korea
- 13-2-3873 A Study on Continuous Micro-reactor Synthesis of Quantum Dots**
 Duk-Hee Lee, Tae-Hyung Kim, Dongyoon Shin, Jae-Ryang Park, Kyung-Soo Park, Chan-Gi Lee
 Institute for Advanced Engineering, Korea
- 13-2-3877 Preparation of Fluorine-containing TiO₂ Nanoparticles Using Ammonium Hexafluorotitanate by Solution Routes**
Duk-Hee Lee, Jae-Ryang Park, Dongyoon Shin, Kyung-Soo Park
 Institute for Advanced Engineering, Korea
- 13-2-3881 A Study on the Silver Nanoparticles Synthesis from LTCC by-products**
 Dongyoon Shin, Nak-Kyoon Ahn, Soyeong Joo, Duk-Hee Lee, Jae-Ryang Park, Kyung-Soo Park, Jin-Ho Yoon
 Institute for Advanced Engineering, Korea
- 13-2-3885 A Study on F-TiO₂-WO₃ Photocatalyst with Enhanced Visible Light Photocatalytic Activity**
 Dongyoon Shin, Nak-Kyoon Ahn, Duk-Hee Lee, Jae-Ryang Park, Kyung-Soo Park
 Institute for Advanced Engineering, Korea

13-3. Magnetic materials

16:40-18:10, Nov. 13 (Tue)

Lobby (2F)

Chair Haein Yim (Sookmyung Women's University, Korea)

- 13-3-0582** Giant Anisotropic Magnetocaloric Effect in Double-perovskite $\text{Gd}_2\text{CoMnO}_6$ Single Crystals
Jaeyoung Moon, Mikyung Kim, Hyunjun Shin, Young Jai Choi, Nara Lee
Yonsei University, Korea
- 13-3-0614** Magnetic and Mechanical Properties of the Fe-based Alloys for Various Zr/Nb Ratios
Haein Yim
Sookmyung Women's University, Korea
- 13-3-1215** Effect of Iron Content of Y^{3+} -Substituted Sr M-type Hexagonal Ferrites Synthesized by Solid-state Reaction
KnagHyuk Lee, Sang-Im Yoo
Seoul National University, Korea
- 13-3-1300** The Effect of Fe-Alumina Core-shell Structure on the Magnetic Properties
SungJoon Choi, Sunwoo Lee, Sang-Im Yoo
Seoul National University, Korea
- 13-3-2704** The Magnetic Field Dependence Properties of Quasi Two Dimensional Electron-piezoelectric Potential Interacting System in GaN and ZnO
Su-Ho Lee¹, J.Y. Sug², J.G. Go³
¹Dong-A University, Korea, ²Kyungpook National University, Korea, ³Changwon National University, Korea
- 13-3-2977** Characterization and Synthesis of Ni-Zn Ferrite Nanoparticles Synthesized by Thermal Decomposition
JinAh Hwang^{1,2}, JungHyun Baek¹, Byeong-Kwon Ju², MyoungPyo Chun¹
¹Korea Institute of Ceramic Engineering & Technology, Korea, ²Korea University, Korea

13-6. Materials for sensors and actuators

16:40-18:10, Nov. 13 (Tue)

Lobby (2F)

Chair Chong-Yun Kang (Korea Institute of Science and Technology, Korea)

- 13-6-0955** Stress Driven Large Electrostrain Response under Low Electric-field of Incipient Piezoelectrics
 Muhammad Sheeraz¹, Aman Ullah², Chang Won Ahn¹
¹University of Ulsan, Korea, ²University of Science and Technology, Pakistan
- 13-6-1603** Fabrication of Thin Film p-Si Using Electrodeposition Assisted Stripping (EAS) Method for Humidity Sensor
Soobin Park, Byungkwan Kwan, Dongik Lee, Kimoon Park, Bongyoung Yoo
Hanyang University, Korea

- 13-6-1670** Ionic Electroactive Polymer Actuators Based on Nafion-CNTs Nano Composite Membrane for High Driving Force
Joohee Kim, Minjeong Park, Seonpil Kim, Seokju Yoo, Sungmin Yang, Minhyon Jeon
Inje University, Korea
- 13-6-1858** MnO₂ / ZnO Double Layer Based Gas Sensor for Preventing Organosilicon Poisoning
Yeong Min Kwon, Jeong Min Baik
Ulsan National Institute of Science and Technology, Korea
- 13-6-1869** Crack Detection of Steel Plate Using Eddy Current Generated by Horizontally Attached Electrode
Dong-ik Lee, Soobin Park, Byungkwan Kwak, Bongyoung Yoo, Songjun Lee
Hanyang University, Korea
- 13-6-1878** Effects of the Post-annealing Treatment on Crystallinity, Composition, and Gas Sensing Performance of MoS₂ Sheets
Chang Min Lee, Chan Ho Jin, Cheol Hyoun Ahn, Hyung Koun Cho, Jun Hyung Lim, Jinho Joo
Sungkyunkwan University, Korea
- 13-6-1880** The Effect of Film Thickness of MoS₂ on the Gas Response to NO₂
Chan Ho Jin, Chang Min Lee, Jinho Joo
Sungkyunkwan University, Korea
- 13-6-2239** Fabrication of Carbon-metal Oxide Nanocomposites through Microwave Irradiation and Their Applications in Gas Sensor
Hyoun Woo Kim, Myung Sik Choi, Jae Hoon Bang, Wansik Oum, Han Gil Na, Changhyun Jin
Hanyang University, Korea
- 13-6-2280** Effect of Catalysts on CO Gas Sensing Properties of In₂O₃ Nanoparticle
Jinah Hwang^{1, 2}, MyoungPyo Chun¹, Byeong-Kwon Ju²
¹Korea Institute of Ceramic Engineering & Technology, Korea, ²Korea University, Korea
- 13-6-2523** PZT-PZNN Cu-MLCA with Low Temperature Sintering Composition
Jeoung Sik Choi¹, Chang Hyun Lee¹, Hyo Soon Shin¹, Dong Hun Yeo¹, Joon Hyung Lee²
¹Korea Institute of Ceramic Engineering & Technology, Korea, ²Kyungpook National University, Korea
- 13-6-2778** Ultra-violet Photonic Response of N₂O Plasma-treated ZnO Nanostructures Grown on AlGaIn/GaN HEMTs
John Kim¹, Noor Ul Huda², Fasihullah Khan², Waqar Khan², Hafiz Muhammad Salman Ajmal², Samdong Kim²
¹Sungkyunkwan University, Korea, ²Dongguk University, Korea
- 13-6-2858** BaTiO₃/Metal Composite Films via Aerosol Deposition Process for Humidity Sensor Applications
Ik-Soo Kim, Myung-Yeon Cho, Won-Jung Kim, Liang-Jun Ge, Eun-Seong Kim, Dong-Won Lee, Nam-Young Kim, Jong-Min Oh
Kwangwoon University, Korea

- 13-6-3007** A First-principles Study on Small Polaron Hopping in the NTC Thermistor Material, Perovskite-type YCrO₃
Hirotsugu Nojima¹, Hein Lee¹, Naoto Tanibata¹, Masanobu Nakayama¹, Teiichi Suzuki²
¹Nagoya Institute of Technology, Japan, ²Shibaura Electronics Co., Ltd., Japan
- 13-6-3039** Development of the Multi SAW Sensor with Temperature Compensation System to Improve UV Detection Accuracy at Ambient Temperature
Munbae Jeon¹, Minji Jeon¹, Yeon Hwa Kwak¹, Dasom Bae¹, Kunnyun Kim¹, Byeong-Kwon Ju²
¹Korea Electronics Technology Institute, Korea, ²Korea University, Korea
- 13-6-3121** Low-temperature NO₂ Sensing Characteristics of p-type SnO Thin-film-based Gas Sensor
Hwan-Seok Jeong, Min-Jae Park, Soo-Hun Kwon, Hyo-Jun Joo, Hyuck-In Kwon
 Chung-Ang University, Korea
- 13-6-3225** Fabrication and Characterization of Ionic Polymer Metal Composite Actuators with an Insulating Layer+
Yunkyeong Bae¹, Minjeong Park¹, Seokju Yoo¹, Seonpil Kim², Minjyon Jeon¹
¹Inje University, Korea, ²Gyeongju University, Korea
- 13-6-3231** PEDOT:PSS/Graphene Oxide-silver Nanowires Paper Electrodes by Using Triton X-100 to Enhance the Driving Properties of Electroactive Polymer Actuators+
Seokju Yoo¹, Minjeong Park¹, Yunkyeong Bae¹, Hanbin Lee¹, Seonpil Kim², Minhyon Jeon¹
¹Inje University, Korea, ²Gyeongju University, Korea
- 13-6-3240** Glove Sensor Application of Metal Strain Gauge
Yeon Hwa Kwak, Shinyoung Kim, Kunnyun Kim
 Korea Electronics Technology Institute, Korea
- 13-6-3377** Substrate Comparison for a SAW-based Biosensor
Minji Jeon¹, Yeon Hwa Kwak¹, Munbae Jeon¹, Kunnyun Kim¹, Byeong-Kwon Ju²
¹Korea Electronics Technology Institute, Korea, ²Korea University, Korea
- 13-6-3583** Gold Nanostructures Electrodeposited on Amine-terminated ITO Glass as a SERS-active Substrate for Serotonin Detection
 Viet Duc Phung, Do Yeong Koh, Won Sik Jung, Sang-Wha Lee
 Gachon University, Korea
- 13-6-3735** A Study on the Dark Current of a Photodetector Using Ultra-Thin Hafnium Oxide Tunneling Layer Using a Novel Solution Process
Kee-Tae Kim, Da-Hee Song, Se-Young Oh
 Sogang University, Korea
- 13-6-3784** Multi-Sensor Comprising Capacitive, Resistive and Conductive Micro-sensors
Seung Eon Moon, Jaewoo Lee, Jeong Hun Kim, Sol Yee Im, Jong Pil Im
 Electronics and Telecommunications Research Institute, Korea

13-1. Energy materials

16:50-17:50, Nov. 14 (Wed)

Lobby (2F)

Chair Soo Young Kim (Chung-Ang University, Korea)

13-1-0944 Effect of the Partial Oxalate Process on the (1-x)PMN-xPT Ceramics for Enhance Ferroelectric and Piezoelectric Properties

Jinhwan Kim¹, Sanghyun Yoon¹, Wook-Hee Han¹, Young-Ho Ko², Kyung-Ho Cho², Jung-Hyuk Koh¹

¹Chung-Ang University, Korea, ²Agency for Defense Development, Korea

13-1-1090 Hydriding Kinetics Optimal Conditions of Mg-Ca Hydrogen Absorbing Alloys

MinGyeom Kim, Jeong-Heum Han, Young-Hwan Lee, Jong-Tae Son, Tae-Whan Hong

Korea National University of Transportation, Korea

13-1-1099 Hydrogenation Properties of Mg-Al-Zn-CaO-H_x by Hydrogen Induced Mechanical Alloying

JeongHeum Han, MinGyeom Kim, YoungHwan Lee, JongTae Son, TaeWhan Hong

Korea National University of Transportation, Korea

13-1-1109 Fabrication of Hydrogen Separation Membrane on Al₂O₃-TiN Composites by MA and Hydrogen Permeability Evaluation

YoungHwan Lee, MinGyeom Kim, JeongHeum Han, JongTae Son, TaeWhan Hong

Korea National University of Transportation, Korea

13-1-1323 High Performance of Perovskite Solar Cell by TiCl₄ Treatment on the Surface Roughness of the Electron Transport Layer

Truyen Hai Dang, Nguyen Thi Nguyen, He Rui, MaRo Kim, Sang Mo Kim, Chung Wung Bark

Gachon University, Korea

13-1-1348 High Density Graphene Tube Microsphere with a Hierarchical Structure for Electric Double Layer Capacitors

Young Hwan Kim, Kwang Bum Kim

Yonsei University, Korea

13-1-1350 Synthesis of Micrometer-sized Spherical ZIF-8/Graphene Composites via Spray Drying Method for Energy Storage Applications

Hun Seok Choi, Kwang-Bum Kim

Yonsei University, Korea

13-1-1369 Development of Solar Water Heating System Using Photo-thermal Conversion Material

Hye Jin Lee¹, Daemyeong Geum², Won Jun Choi², Jeong Min Baik¹

¹Ulsan National Institute of Science and Technology, Korea, ²Korea Institute of Science and Technology, Korea

13-1-1400 Grain Size Control of Organic-Inorganic Hybrid Perovskite Solar Cells by Using Laser Annealing Process

Donghun Jung, Taewoo Jeon, Sangouk Kim

Korea Advanced Institute of Science and Technology, Korea

- 13-1-1521** **Monitoring and Detection of Paraffin Wax Deposition in Flowline Based on Ultrasonic Analysis**
Dong-Gun Lee¹, Jong-Se Lim², Young-Ju Kim¹, Nam-Sub Woo¹, Sang-Mok Han¹, Jiho Ha¹
¹Korea Institute of Geoscience and Mineral Resources, Korea, ²Korea Maritime and Ocean University, Korea
- 13-1-1605** **Spalling of Membrane Si Layer from Macro-porous Si by Electrodeposition Assisted Stripping(EAS) Process for Emitter Wrap through Solar Cell Substrate**
Kyounghoon Moon, Soobin Park, Bongyoung Yoo
 Hanyang University, Korea
- 13-1-1842** **Molybdenum Sulfide/N-doped CNT Hybrid Electrochemical Catalysts for Hydrogen Evolution**
Gangsang Lee, Dongjun Li, Sangouk Kim
 Korea Advanced Institute of Science and Technology, Korea
- 13-1-2044** **Effects of Secondary Metal Catalyst on Direct Internal Steam Reforming of n-butane in Multiscale-architected Thin-film-based SOFCs at Low Temperatures (≤ 600 °C)**
Cam-Anh Thieu^{1,2}, Ho-Il Ji¹, Hyoung-chul Kim¹, Kyung-Joong Yoon¹, Jong-Ho Lee^{1,2}, Byung-Kook Kim¹, Hae-Weon Lee¹, Ji-Won Son^{1,2}
¹Korea Institute of Science and Technology, Korea, ²Korea University of Science and Technology, Korea
- 13-1-2140** **Ruthenium Sulfide: A New Pseudocapacitive Electrode Material for Supercapacitor Application**
Karthikeyan Krishnamoorthy, Parthiban Pazhamalai, Sang-Jae Kim
 Jeju National University, Korea
- 13-1-2204** **Preparation of Carbyne/Ni Using Chemical Dehydrohalogenation Process: A Novel Binder-free Electrode for Supercapacitor Application**
Vimal Kumar Mariappan, Parthiban Pazhamalai, Karthikeyan Krishnamoorthy, Sang-Jae Kim
 Jeju National University, Korea
- 13-1-2261** **Direct Growth of Copper Molybdenum Sulfide Nanostructures on Nickel Foam as High-Performance Binder-Free Negative Electrodes for Supercapacitors**
Surjit Sahoo, Parthiban Pazhamalai, Karthikeyan Krishnamoorthy, Sang-Jae Kim
 Jeju National University, Korea
- 13-1-2497** **Columnar Grain Size Effect on Cross-plane Conductivity of Yttria-stabilized Zirconia Thin Films**
Jung Hoon Park^{1,2}, Kyung Joong Yoon¹, Hyoungchul Kim¹, Ho-Il Ji¹, Jong-Ho Lee¹, Seung Min Han², Ji-Won Son¹
¹Korea Institute of Science and Technology, Korea, ²Korea Advanced Institute of Science and Technology, Korea
- 13-1-2633** **Enhanced Physicochemical of Sulfonated Poly (arylene ether sulfone) Composite Membranes Having SiO₂ for Polymer Electrolyte Membrane Fuel Cell Applications**
Sabuj Chandra Sutradhar, Faiz Ahmed, Taewook Ryu, Sujin Yoon, Inhwan Choi, Jaewoong Kim, Daeho Kim, Whangi Kim
 Konkuk University, Korea
- 13-1-2651** **Synthesis of Monomer and Characterization of Polycarbonate to Increase Tg and Thermal Stability**
Sujin Yoon, Sabuj Chandra Sutradhar, Faiz Ahmed, Taewook Ryu, Jin Lei, Seungchan Lee, Md Mahabubur Rahman, Whangi Kim
 Konkuk University, Korea

- 13-1-3478 The Passivation Properties with Various Annealing Condition of P-doped Poly-Si/SiO_x/c-Si Structure**
Sungjin Choi^{1,2}, Kwan Hong Min^{1,3}, Myeong Sang Jeong^{1,3}, Jeong In Lee¹, Min Gu Kang¹, Sungeun Park¹, Donghwan Kim³, Hee-eun Song¹
¹Korea Institute of Energy Research, Korea, ²KU-KIST Green School, Graduate School of Energy and Environment, Korea University, Korea, ³Korea University, Korea
- 13-1-3481 A Study on the Rear Void Formation in the PERC Solar Cells by Firing Process**
Myeong Sang Jeong^{1,2}, Sungjin Choi^{1,3}, Kwan Hong Min^{1,2}, Min Gu Kang¹, Jeong In Lee¹, Sungeun Park¹, Donghwan Kim², Hee-Eun Song¹
¹Korea Institute of Energy Research, Korea, ²Korea University, Korea, ³Green School, Graduate School of Energy and Environment, Korea University, Korea
- 13-1-3921 Efficient Planar Perovskite Solar Cells with a Novel Electron-interfacial-layer Engineering**
Da-Seul Choi, Seok-In Na
 Chonbuk National University, Korea
- 13-1-3926 Solution Processable Interfacial Modification for Efficient Perovskite Solar Cells**
Jeongjoo Lee, Seok-In Na
 Chonbuk National University, Korea
- 13-1-3929 Efficiency Improvement of Planar Structure Mixed-Cation Metal Halide Perovskite Solar Cells with Perovskite Modification from Bulk to Surface**
Mi-Jung Choi, Seok-In Na
 Chonbuk National University, Korea

13-4. Electronic & optical materials

16:50-17:50, Nov. 14 (Wed)

Lobby (2F)

Chair Sehun Kwon (Pusan National University, Korea)

- 13-4-0719 CO₂ Laser Annealing Effects for the Stress Reduced Al-doped ZnO Multilayer Thin Films**
Gae Hun Jo, Jung-Hyuk Koh
 Chung-Ang University, Korea
- 13-4-0855 Heteroepitaxial β -Ga₂O₃ on Various Substrates for Reduced Self-heating and Scale Down**
 Jiwoo Oh¹, Jiyeon Ma¹, Junseok Heo², Geonwook Yoo¹
¹Soongsil University, Korea, ²Ajou University, Korea
- 13-4-1096 Thickness-dependent Stress Instability of β -Ga₂O₃ Nanomembrane Field-effect Transistors**
 Jiyeon Ma, Geonwook Yoo
 Soongsil University, Korea
- 13-4-1108 Direct Growth of Tin Dioxide Nanostructures on Graphene Nanosheets**
Jong-Il Kim, Ki-Chul Kim
 Mokwon University, Korea

- 13-4-1126** Phase Transition Characteristics of VO₂ Thin Film on Bendable Glass Substrate Deposited by RF Magnetron Sputtering
Ki June Jang, Ki-Chul Kim
 Mokwon University, Korea
- 13-4-1131** Direct Growth of Vanadium Oxide Thin Layers on Layer-controlled Graphene Nanosheets
Jun-Seob Park, Ki-Chul Kim
 Mokwon University, Korea
- 13-4-1141** Facile In-Situ Synthesis of Highly Conductive EDOT/Aniline Copolymer Films
Yu-Ping Lee¹, Chieh-Chuan Lin¹, Yi-Huan Lee², Chi-An Dai¹
¹National Taiwan University, Taiwan, ²National Taipei University of Technology, Taiwan
- 13-4-1174** Bidirectional Current Gating in Two-terminal Device Based on VO₂/AlN/Si Heterostructure Thin Film Using 976 nm Laser Diode
Jihoon Kim, Sungwook Choi, Seul-Lee Lee, Sun Jae Jeong, Min Seok Kim, Do Kyung Kim, Yong Wook Lee
 Pukyong National University, Korea
- 13-4-1316** Enhanced Electrical Properties of Platinum Spotted AZO/PET Thin Films Prepared by Sol-gel process
Minyoung Park, Jung-Hyuk Koh
 Chung-Ang University, Korea
- 13-4-1441** Tunable Narrowband Fiber Multiwavelength Filter Based on Polarization-diversified Loop Structure
Do Kyung Kim, Jihoon Kim, Seul-Lee Lee, Sungwook Choi, Sun Jae Jeong, Min Seok Kim, Yong Wook Lee
 Pukyong National University, Korea
- 13-4-1639** Preparation of Ga-doped ZnO Thin Films on c-plane Sapphire Substrates by MOCVD Using Ultrasonic Nebulization
 Choon-Ho Lee, Min-Seok Choi
 Keimyung University, Korea
- 13-4-1653** Electrical and Optical Properties of ZnO Thin Films Grown on c-plane Sapphire Substrates by Metal-organic Chemical Vapor Deposition Using Ultrasonic Nebulization
 Choon-Ho Lee, Min-Seok Choi
 Keimyung University, Korea
- 13-4-1841** Simultaneous Measurement of Bending and Temperature Using Long-period Fiber Grating Written on Polarization-maintaining Fiber
Sun Jae Jeong, Jihoon Kim, Seul-Lee Lee, Sungwook Choi, Min Seok Kim, Do Kyung Kim, Yong Wook Lee, Jin Sil Han
 Pukyong National University, Korea
- 13-4-1940** Universal Wavelength Tuning Method of First-order Fiber Multiwavelength Filter Based on Polarization-diversified Loop Configuration
Do Kyung Kim, Jihoon Kim, Seul-Lee Lee, Sungwook Choi, Sun Jae Jeong, Min Seok Kim, Yong Wook Lee
 Pukyong National University, Korea

- 13-4-2151 Transmittance Controllable Smart Window with Long Term Bistability for Display Applications**
Hojun Ryu, Chil Seong Ah, Seong M. Cho, Tae-Youb Kim, Ju Hee Song
Electronics and Telecommunications Research Institute, Korea
- 13-4-2157 Oxygen-vacancy-assisted Recovery Process for Increasing Electron Mobility in n-type BaSnO₃ Epitaxial Thin Films**
Yujeong Lee, Daseob Yoon, Junwoo Son
Pohang University of Science and Technology, Korea
- 13-4-2315 Characterizing the Electrical and Optical Properties of Oxide/Ag-based Alloy/oxide Multilayer for TCOs Application**
Joohee Jang^{1,2}, Ji-Won Choi^{1,2}
¹Korea Institute of Science and Technology, Korea, ²Korea University of Science and Technology, Korea
- 13-4-2697 Quantum Transition Properties of the Electron Deformation Potential Phonon Interacting Quasi Two Dimensional System in GaN and GaAs**
Su-Ho Lee¹, J. Y. Sug², S.M. Joo³
¹Dong-A University, Korea, ²Kyungpook National University, Korea, ³Masan University, Korea
- 13-4-2862 The Effect of Perforated Plate Configuration on the Flow Field and Thin Film Growth in PECVD Reactor**
Guensuk Lee^{1,2}, Han Seo Ko², Dong Kee Sohn²
¹Samsung Electronics Co. Ltd., Korea, ²Sungkyunkwan University, Korea
- 13-4-3106 Monitoring of Thermal Impedance Parameter as a Prognostics Health Monitoring Precursor for Power Semiconductor**
SungSoon Choi
Korea Electronics Technology Institute, Korea
- 13-4-3346 Electrical and Optical Properties of Al-doped ZnO Thin Films Grown on c-plane Sapphire Substrates by Metal-organic Chemical Vapor Deposition Using Ultrasonic Nebulization**
Min-Seok Choi, Choon-Ho Lee
Keimyung University, Korea
- 13-4-3466 Optical Characteristics of Transparent Privacy Film with SiO₂/SiON Multilayer**
Hyeong Seok Sung, Ji Won Yoon, Hee Chul Lee, Seong Eui Lee
Korea Polytechnic University, Korea
- 13-4-3666 The Study on Growth of GaN on Sapphire Nanomembrane and Its Application to Micro-LEDs**
Seungmin Lee¹, Jongmyeong Kim¹, Daeyoung Moon¹, Daehan Choi¹, Yongjo Park², Euijoon Yoon¹
¹Seoul National University, Korea, ²Advanced Institutes of Convergence Technology, Korea
- 13-4-3678 Electrical Properties of High Mobility Ultrathin Amorphous Indium Zinc Oxide Deposited by Atomic Layer Deposition**
Yeong-Ho Cho, Kibum Kim
Seoul National University, Korea

- 13-4-3712** Process Dependence of Electrical Properties of a-Si/TiN Structure for Microbolometer Applications
Ho-Seung Jeon, Wan-Gyu Lee
National Nanofab Center, Korea
- 13-4-3739** Fabrication of Nano-cavity Patterned Sapphire Substrates and Their Application to the Growth of GaN
 Donghyun Lee, Jehong Oh, Seungmin Lee, Giwoong Kim, Jongmyeong Kim, Jeonghwan Jang, Daeyoung Moon, Byungsoo Kim, Yongjo Park, Euijoon Yoon
Seoul National University, Korea
- 13-4-3745** Analysis of Plasma-treated Sapphire Surface and Its Effect on Crystallized Al₂O₃ Quality
 Giwoong Kim¹, Jungel Ryu¹, Jehong Oh¹, Duiyoung Yang¹, Dukkyu Bae², Byungsoo Kim¹, Yongjo Park³, Euijoon Yoon¹
¹Seoul National University, Korea, ²Hexa Solution Co., Korea, ³Advanced Institute of Convergence Technology, Korea

13-5. Structural & composite materials

16:50-17:50, Nov. 14 (Wed)

Lobby (2F)

Chair Sangyong Shin (University of Ulsan, Korea)

- 13-5-0668** Effects of Mg Additions on Microstructure and Mechanical Properties of the Al-RE Alloy
Hyeon-Taek Son, Yong-Ho Kim, Hyo-Sang Yoo
Korea Institute of Industrial Technology, Korea
- 13-5-0812** Effect of Annealing Process on Mechanical and Microstructural Properties of Multi-filament Al/Cu Cladding Fabricated by Hydrostatic Extrusion
Jongbeom Lee¹, Jeongmin Park², Haguk Jeong¹
¹Korea Institute of Industrial Technology, Korea, ²Inha University, Korea
- 13-5-0814** Effect of Strain on Mechanical and Microstructural Evolution of in situ MgB₂ Claddings during Hydrostatic Extrusion
Jongbeom Lee¹, Sangyong Park², Haguk Jeong¹
¹Korea Institute of Industrial Technology, Korea, ²Inha University, Korea
- 13-5-0816** Mechanical and Microstructural Evolution of In Situ MgB₂ Claddings via Various Processes
Jongbeom Lee¹, Sangyong Park², Haguk Jeong¹
¹Korea Institute of Industrial Technology, Korea, ²Inha University, Korea
- 13-5-1071** Development of Novel PCL-Based Self-Healing Materials
 Yi-Huan Lee, Yan-Nian Zhuang, Tun-Fun Way, Syang-Peng Rwei
National Taipei University of Technology, Taiwan
- 13-5-1084** Flame Retardant and Low Dielectric Epoxy Resin Based on Cyclotriphosphazenes
Heesun Chun¹, Ji Young Chang²
¹Samsung Electro-Mechanics Co. Ltd., Korea, ²Seoul National University, Korea

- 13-5-1089** Effect of Two-step Aging on Microstructure and Mechanical Properties of A356 Alloy
Joon Hwi Yu, Taek Kyun Jung, Sang Wook Kim, Soong Keun Hyun, Yoon Jun Kim
Inha University, Korea
- 13-5-1149** Synergistic Improvements in the pH Buffering of ZnO Nanorod Composite Films
Yu-Ping Lee¹, Chieh-Chuan Lin¹, Yi-Huan Lee², Chi-An Dai¹
¹National Taiwan University, Taiwan, ²National Taipei University of Technology, Taiwan
- 13-5-1198** The Effect of Structure Orientation of Fluorinated Ethylene–Propylene/Graphite Composite
Moon Hee Lee, Kwang Sang Park, Byung Choon Kim, Seong Moon Oh, Jong Seok Woo
Morgan Advanced Materials, Korea
- 13-5-1288** Thermal Property Evaluation of Atmospheric Plasma Sprayed Multilayer Coating of Al₂O₃ and YSZ
Byeong-Hong Jeong¹, Woo-Sik Whang², Taek-Keun Jung¹, Soong-Keun Hyun¹
¹Inha University, Korea, ²Bedell One Corporation, Korea
- 13-5-1387** Study on Sensing Materials Based on Carbon Nano Tube for Electrochemical Sensing
Yinhua Cui, Sung Gyu Pyo
Chung-Ang University, Korea
- 13-5-1393** Effect of Thiodiphenol-Based Epoxy Resin on the Thermal Properties of an Aluminum Oxide Composite
Hyunwoo Oh, Taeseob Oh, Jooheon Kim
Chung-Ang University, Korea
- 13-5-1407** A Study on the Thermal Conductivity of PLA/Alumina Composite: The Effect of Filler Treatment
Zelalem Lule, Jooheon Kim
Chung-Ang University, Korea
- 13-5-1490** A Study of Mechanical Hardness of Polyaniline/silica Hybrid Thin Films
Young Been Lee, Felix Sunjoo Kim
Chung-Ang University, Korea
- 13-5-1555** Dislocation Structure in Hot Deformed Al-Zn-Mg Alloy by X-ray Line Profile Analysis
Gyeong-Seo Lee¹, Sang-Wook Kim¹, Hyeon-Woo Son¹, Myoung-Hun Kim¹, Taek-Kyun Jung¹,
 Kyung-Taek Kim², Sung-Woo Park², Byung-Hoon Lee², Tae-Hwan Kim², Soong-Keun Hyun¹
¹Inha University, Korea, ²Korea Institute of Industrial Technology, Korea
- 13-5-1720** Analysis of Microstructure and Electric Conductivity in Al-RE Alloy by Heat-treatment Condition
HyoSang Yoo^{1,2}, YongHo Kim¹, SeongHee Lee², SungHo Lee¹, HyeonTaek Son¹
¹Korea Institute of Industrial Technology, Korea, ²Mokpo National University, Korea
- 13-5-1726** Microstructure and Mechanical Properties of the Al-RE Alloy with Ca Addition
Yong-Ho Kim, Hyo-Sang Yoo, Sung-Ho Lee, Hyeon-Taek Son
Korea Institute of Industrial Technology, Korea
- 13-5-1737** Photo-response of Graphene Oxide-Polyaniline Composites
Jongwan Choi
Sahmyook University, Korea

- 13-5-2104** Balancing of between Thermal Conductivity and Light-weight Characteristics in Cu/Al Clad Heat-sinker with Macro- and Microstructure Control
Haguk Jeong, Jongbum Lee, Jungmin Park
Korea Institute of Industrial Technology, Korea
- 13-5-2339** Bonding and Bending Properties of 22MnB5 Steel and Al7075 Composites Prepared by Laser Welding
Dongki Choi^{1,2}, Tae-Bum Kim³, Taek-Kyun Jung^{2,4}, Soong-Keun Hyun²
¹Hydrofast Co., Ltd., Korea, ²Inha University, Korea, ³Korea Institute of Industrial Technology, Korea, ⁴Research and Development to Business(RtoB) Co., Ltd., Korea
- 13-5-2426** Nanocrystalline Diamond Coating on Ti by Hot Filament CVD
Byoung Su Choi¹, Hae Chan Kim¹, Jin Kon Kim¹, Sungu Hwang¹, Jeong Seog Kim², Hyun Cho¹
¹Pusan National University, Korea, ²Nextop Korea Co. Ltd, Korea
- 13-5-2437** Development of Privacy Films with Controlled Viewing Angle Using Nanoimprint Process and Nanoink Filling
Gwan Hyeon Kim, So Won Kim, Seong Eui Lee, Hee Chul Lee
Korea Polytechnic University, Korea
- 13-5-2440** Evaluation of Ordinary Potland Cement Mortar Material Properties Blended with Graphene Oxide and Hydrogen Nano Bubble Water
YoungHo Kim, Yoonsuk Park, Jung-Geun Han
Chung-Ang University, Korea
- 13-5-2474** Effects of Dies Exit Temperature on Microstructure and Mechanical Properties of Extruded Aluminum Alloy
Young-Chul Shin^{1,2}, Ho-Joon Choi¹, Seong-Sik Lim¹, Kyung-Hwan Hyun², Taek-Kyun Jung^{2,3}, Soong-Keun Hyun²
¹Korea Institute of Industrial Technology, Korea, ²Inha University, Korea, ³Research and Development to Business(RtoB) Co., Ltd., Korea
- 13-5-2519** Three Point Bending Behavior of Alumina Coated on Stainless Steel with Various Coating Thickness
Seong-Sik Lim^{1,2}, Seong-Joo Lim¹, Young-Chul Shin¹, Ho-Joon Choi¹, Hyun-Jong Kim¹, Taek-Kyun Jung³, Chong-Du Cho²
¹Korea Institute of Industrial Technology, Korea, ²Inha University, Korea, ³Research and Development to Business(RtoB) Co., Ltd., Korea
- 13-5-2570** Effect of Additive Composition of Sintered Body on Al₂O₃ Microstructure and Resistance
Chang Min Yoo¹, Chang Hyun Lee¹, Hyo Soon Shin¹, Dong Hun Yeo¹, Sung Hoon Kim²
¹Korea Institute of Ceramic Engineering & Technology, Korea, ²Silla University, Korea
- 13-5-2628** Anti-hydrolysis Effect of Phosphate Ester System Dispersant in Silicon Nitride Slurry for Green Sheet Prepared by Non-aqueous Tape Casting
Shi Yeon Kim^{1,2}, Hyo Soon Shin¹, Dong-hun Yeo¹, Ho Gyu Yoon²
¹Korea Institute of Ceramic Engineering & Technology, Korea, ²Korea University, Korea

- 13-5-2679 Co-firing of Cordierite/W Ceramic Heater Prepared by Tape Casing**
Jin-Hyeon Lim^{1,2}, Si Yeon Kim^{2,3}, Hyo-Soon Shin², Dong-Hun Yeo², Dae-Yong Jeong¹
¹Inha University, Korea, ²Korea Institute of Ceramic Engineering & Technology, Korea, ³Korea University, Korea
- 13-5-3118 Electrical and Mechanical Characteristics of TiO₂/Cu Composite Film via Aerosol Deposition Process**
Dong-won Lee¹, Sang-hun Lee¹, Yong-nam Kim¹, Myung-Yoen Cho², Jong-min Oh²
¹Korea Testing Laboratory, Korea, ²Kwangwoon University, Korea
- 13-5-3241 Study on Crystallization of Wall Tile Crystalline Glaze by Substitution of TiO₂ Nucleating Agent**
Yoorim Rho¹, Kangduk Kim¹, Seunggu Kang¹, Jinho Kim²
¹Kyonggi University, Korea, ²Korea Institute of Ceramic Engineering & Technology, Korea
- 13-5-3273 Fabrication and Characteristics of Al₂O₃/Cu Composite Film via Aerosol Deposition Process**
Sang-Hun Lee¹, Dong-Won Lee¹, Yong-Nam Kim¹, Myung-Yeon Cho², Jong-Min Oh²
¹Korea Testing Laboratory, Korea, ²Kwangwoon University, Korea
- 13-5-3283 Crystallization Kinetics, Structure and Phase Formation Studies of Magnetic Nano-Crystals in Bioactive Glass System**
 Prattana Intawin¹, Kamonpan Pengpat¹, Wilaiwan Leenaku²
¹Chiang Mai University, Thailand, ²Rajamangala University of Technology Phra Nakhon, Thailand
- 13-5-3330 Investigation of Ce Salt Anion Effect on Fuel Cell Performance and Durability with Thin Film Polymer Electrolyte Membrane**
Kyung Ah Lee^{1,2}, Ki Ro Yoon¹, Jin Young Kim¹, Kwan-Young Lee²
¹Korea Institute of Science and Technology, Korea, ²Korea University, Korea
- 13-5-3335 Stabilization of PFSA Membranes Using Mesoporous Silica / Ceria Nanoparticles in PEMFC**
Seung Ho Yook^{1,2}, Ki Ro Yoon¹, Sunhee Jo¹, Kwan Young Lee², Sung Jong Yoo¹, Jong Hyun Jang¹, Hyoung-Juhn Kim¹, Jin Young Kim¹
¹Korea Institute of Science and Technology, Korea, ²Korea University, Korea
- 13-5-3339 Mussel-Inspired Polydopamine Treated Reinforced Membranes with Self-Supported CeOx Radical Scavengers for Highly Stable PEMFC**
Ki Ro Yoon¹, Kyung Ah Lee¹, Sunhee Jo¹, Seung Ho Yook¹, Il-Doo Kim², Jin Young Kim¹
¹Korea Institute of Science and Technology, Korea, ²Korea Advanced Institute of Science and Technology, Korea
- 13-5-3675 Synthesis of Epoxy Particle@Modified Boron Nitride for Excellent Thermal Network at the Low Filler Contents via a Facile One-pot Process**
Wooree Jang^{1,2}, Youn-Sik Lee², Hye Young Koo¹
¹Korea Institute of Science and Technology, Korea, ²Chonbuk National University, Korea
- 13-5-3769 Fabrication and Characterization of ZrO₂ Reinforced Al₂O₃ Nanocomposites Processed by Microwave Hybrid Sintering**
Muhammad Waqas Khalid^{1,2}, Bum Sung Kim^{1,2}, Bin Lee²
¹University of Science and Technology, Korea, ²Korea Institute of Industrial Technology, Korea

AUTHOR INDEX

Author	Paper	Page
A		
Abani	5-1-3691	74
Abbas, Yawar	1-1-3744	30
	1-4-2400	32
Abdur, Rahim	2-1-1011	43
	6-2-0444	82
	13-4-0959	137
Adachi, Chihaya	3-1-5003	49
Ah, Chil Seong	13-4-2151	150
Ahmed, Faiz	13-1-2633	147
	13-1-2651	147
Ahn, Byoung Sub	1-1-0196	34
Ahn, Chang Won	13-6-0955	143
Ahn, Cheol Hyoun	13-6-1878	144
Ahn, Docheon	12-1-2512	126
Ahn, Dong June	10-1-3354	112
Ahn, Donghwan	5-2-1776	74
Ahn, Hee Joon	2-1-0930	43
Ahn, Hyung Soo	3-1-2826	54
Ahn, In-Kyoung	5-3-2830	71
	7-2-2604	87
	13-2-2827	133
Ahn, Jae-Pyeong	12-1-2531	130
Ahn, Jaepyoung	12-1-2289	130
Ahn, Jae-Pyoung	12-1-2738	126
	12-1-2768	127
	12-1-2735	130
	12-2-2547	131
	12-2-2919	132
Ahn, Ji-Hoon	4-2-3519	67

Author	Paper	Page
	13-2-3524	141
Ahn, Jinho	3-2606	53
	5-1-0370	70
	13-2-2619	141
Ahn, JongHyun	2-1-1405	44
Ahn, Jong-Hyun	2-1114	41
	2-2923	42
	2-1-0892	43
	2-1-0896	43
	2-1-0977	43
	2-1-1005	43
	2-1-1225	43
	2-1-1412	44
	2-4-0908	48
	8-1-0993	97
	12-3-0937	128
Ahn, Jongtae	4-3-1573	68
Ahn, Jonh-Hyun	2-2-0898	45
Ahn, Jung Hwan	9-3-2359	109
	9-3-2479	109
	9-3-2505	109
	9-3-2696	109
Ahn, Nak-Kyoon	13-2-3881	142
	13-2-3885	142
Ahn, Seokhoon	4-1-0251	60
	4-1-0933	65
Ahn, Seong-Deok	2-0599	42
	4-3-0585	63
Ahn, Seung Yeop	2-4-3733	48
Ahn, Soyeong	3-2-2727	56

Author	Paper	Page
Ahn, Taek	3-1-2674	54
	3-1-2685	54
Ahn, Tae-Young	8-2-3568	100
Ahn, Young Soo	6-2-2271	83
	6-2-2275	83
Ajmal, Hafiz Muhammad Salman	13-6-2191	134
	13-6-2778	144
Ajmal, Hafiz Muhammad Salman Ajmal	5-3-1957	72
Al Mubarak, Muhibullah	6-3-3140	79
Alban, Marco Vinicio	3-1-3820	55
Albert, Shine	10-1-2620	114
Albert, Shine K	10-1-2597	114
Allouche, Billal	1-1-3044	35
Allouche, Billar	4-1-1677	65
Alluri, Nagamalleswara Rao	9-3-2841	109
	9-3-2851	109
	9-3-2869	109
	9-3-2879	110
Amoli, Vipin	2-3-2558	47
Amonpattaratkit, Penphitcha	12-2-0733	131
An, HyeLan	13-2-1112	139
An, Hyesung	11-2-1370	123
	11-2-1398	123
An, Jae-In	12-2-2815	131
	12-2-3096	132
	12-2-3100	132
An, Jihun	11-2-1751	124
An, Jong-Ki	6-3-3613	85
An, Kwangjin	11-2-3906	124
An, Seung Yeop	2-4-3224	48
An, Wei	11-2-0338	120
An, Woo Hyun	8-2-2486	100

Author	Paper	Page
Andrade-Arvizu, Jacob	6-2-0234	77
Andres, Christian	6-2-0289	77
Ang, Kah-Wee	4-3-0548	63
Ansari, Sajid	8-3-1526	93
Ansari, Zahid	8-3-1526	93
Aqoma, Havid	6-3-3140	79
Arepalli, Vinaya Kumar	6-2-2257	82
Aswaghosh, Loganathan	3-2-0552	50
Attia, Nour	13-1-0849	136
Avancini, Enrico	6-2-0289	77
Aymerich Armengol, Raquel	4-2-1731	61
Azam, Ashraful	4-3-3352	69
Azmi, Randi	6-3-3325	79

B

Back, Jong-Hoon	13-2-2269	140
Bae, Byeong-Soo	3-1-3759	49
Bae, Byung Seong	2-2-0463	44
	3-4-0466	58
Bae, Byung-Hyun	1-2-1104	35
Bae, Dasom	13-6-3039	145
Bae, Dukkyu	13-4-3745	151
Bae, Jeehwan	12-1-2289	130
Bae, Jee-Hwan	12-1-2531	130
	12-3-3751	132
Bae, Jin-Hyuk	6-3-1590	84
Bae, Jin-Ju	8-1-1499	97
	8-1-1549	98
	8-1-1615	98
Bae, Sa Rang	3-3-0704	56
Bae, Sukang	4-1-3699	66
Bae, Wan Ki	3-3-3505	51
	3-3-3202	57

Author	Paper	Page
	3-3-3239	57
	3-3-3364	57
Bae, Yunkyeong	13-2-1672	139
	13-6-3225	145
	13-6-3231	145
Baek, InJu	6-2-0961	82
Baek, JungHyun	5-3-2536	75
	13-3-2977	143
Baek, Kwang Min	5-1-2936	73
	5-3-3855	76
Baek, Minkyung	6-3-1422	84
Baek, Sangwon	2-2-3450	39
	2-2-3461	39
Baek, Seung-Hyub	9-1332	105
	9-1626	105
	9-1-0901	106
	11-4-0726	119
	12-3-2453	128
	13-2-1796	133
	13-6-1238	135
	13-2-1696	139
Baek, Seunghyuk	10-1-3354	112
Baek, Se-Woong	6-2-0135	82
Baek, Soyeon	2-3-0967	46
Baig, Chunggi	2-3-3154	47
Baik, Jaeyoon	12-2-2108	129
Baik, Jeong Min	9-2-1945	103
	9-2-1519	110
	9-2-1864	110
	13-6-1858	144
	13-1-1369	146
Baik, Jeong-Min	4-2-1478	66
Baik, Mu-Hyun	8-3-3907	93

Author	Paper	Page
	8-3-2337	96
Bang, Hyo In	2-2-0463	44
	3-4-0466	58
Bang, Jae Hoon	13-6-2239	144
Bang, Joonah	5-3-0193	72
Bang, Junhyeok	12-1-2179	130
Bang, Kihoon	11-2-1718	123
Bari, Gazi A K M Rafiqul	6-3-0863	84
Bark, Chung Wung	6-1-1861	80
	6-1-2751	80
	13-2-1302	139
	13-1-1323	146
Bazant, Martin Z.	8-1-3306	94
Bhat, Swetha S M	13-1-3267	136
Bhopal, Muhammad Fahad	4-3-3472	69
	6-2-3192	83
	6-2-3302	83
Biswas, Swarup	6-3-2508	79
Boampong, Amos	3-4-1649	58
Boccaccini, Aldo	5-3-0922	75
Boo, Jin-Hyo	4-1-2147	65
Boonmongkolras, Passarut	6-2-3142	83
Braun, Trevor	1-2-0578	32
Briere, Gauthier	5-1-3902	70
Buecheler, Stephan	6-2-0289	77
Bui, Anh Dinh	8-1-2243	98
Byeon, Young Woon	12-1-2738	126
	12-1-2735	130
Byon, Hye Ryung	8-3-2051	93
	8-3-3907	93
	8-3-2337	96
Byun, Segi	7-3184	88
	7-1-3181	90

Author	Paper	Page
Byun, Sejin	9-1-2660	107
Byun, Young-Cheol	8-2-3568	100
C		
Cabas-Vidani, Antonio	6-2-0289	77
Cao, VuMinhHan	6-2-0961	82
Capasso, Andrea	4-1220	63
Centeno, Alba	2-2-2134	39
Cha, Joonil	9-1-2639	107
Cha, Seung I.	6-3-0881	79
	7-0883	89
Cha, Soonyoung	4-3-2072	69
Chae, Heeyeop	3-3-0536	51
	3-3-3136	57
Chae, Hongsik	10-3-3701	116
Chae, Keun Hwa	12-2-2065	129
	12-2-2066	131
	12-2-2071	131
Chae, Seung Ho	8-1-3452	99
Chai, Hyun-Jun	4-1-3516	65
	4-2-3727	67
	4-2-3749	68
Chaleawpong, Rawiwan	13-2-1892	140
	13-2-1894	140
	13-2-3756	142
Chan, Paddy Kwok Leung	3-1-0306	49
Chanda, Debashis	5-2-0567	71
Chandrasekhar, Arunkumar	2-3-2813	47
	9-2-0474	103
	9-2793	104
	9-3-2869	109
	9-3-2879	110
	9-2-2807	111

Author	Paper	Page
	9-2-2837	111
	9-2-2889	111
Chang, Hye Jung	12-3-2370	128
	12-3-2453	128
	13-3-2853	135
Chang, Ji Young	13-5-1084	151
Chang, Jun Hyuk	3-3-3202	57
	3-3-3239	57
	3-3-3364	57
Chang, Kee Joo	4-2-1664	61
	12-2-0355	129
Chang, Kyoung Eun	4-3-1378	68
Chang, Sarah	1-1-1543	34
Chang, Seo Hyoung	7-3-0518	87
Chang, Won Jun	8-1-2543	94
Chang, Yujin	1-4-3109	37
Char, Kookheon	3-3-3202	57
	3-3-3364	57
Charoenyuenyao, Peerasil	13-2-1892	140
	13-2-1894	140
	13-2-3756	142
Chee, Sang-Soo	4-2346	62
Chen, B. C.	5-3-0331	75
Chen, Jeng-Jun	3-2-0552	50
Chen, Leng	1-1-2160	30
	1-1-2163	30
Chen, Shuming	3-3-0354	51
Chen, Valerian	5-2-0223	71
Chen, Xiang	8-3-0368	93
Chen, Ying-Zhi	3-2-0552	50
Cheng, Wenlong	2-1-0187	38
Cheng, Xin-Bing	8-3-0368	93
Cheon, Gowoon	4-1-0763	60

Author	Paper	Page
Cheon, Jinwoo	10-1-5006	112
Cheon, JongGyu	1-2-2720	37
Cheon, Jong-Gyu	1-1-2747	30
Cheon, Siuk	9-2-2298	111
Cheong, Hae-Won	8-2-2321	95
	8-2-3568	100
Cheong, Hyeonsik	4-1-2114	65
Cherevko, Serhiy	7-3-0216	87
Cheruku, Rajesh	6-3-1765	84
Chi, Seung-Wook	10-3-3701	116
Chiashi, Shohei	11-3-3002	120
Chiba, Takayuki	3-2-0387	50
Chin, Sang-Hyun	3-3-3838	58
	3-3-3839	58
Chiou, Nan-Jay	3-2-0552	50
Chiou, Y. J.	5-3-0331	75
Cho, Chong-Du	13-5-2519	153
Cho, Churl Hee	6-2-2271	83
	6-2-2275	83
Cho, Deok Ki	7-2-2961	92
Cho, Deok-Yong	13-4-1586	137
Cho, Eui Yeol	12-2-1705	131
Cho, Hanchul	9-2-0652	110
Cho, Hyun	2-1-0935	43
	13-5-2426	153
Cho, Hyung Koun	3-4-3167	59
	7-2208	88
	7-2219	88
	9-1-2230	106
	13-6-1878	144
Cho, Hyunsu	4-3-0585	63
Cho, In Sun	7-1-0459	86
Cho, Jae Sang	6-1-3275	81

Author	Paper	Page
Cho, Jae Yong	9-3-2359	109
	9-3-2505	109
	9-3-2696	109
Cho, Jaehee	4-3-2087	69
Cho, Jang-Hyeon	8-2-2321	95
Cho, Jang-Hyueon	8-2-3568	100
Cho, Jeong Ho	9-2-2298	111
	9-2-2300	111
Cho, Jeongho	9-2-2303	111
Cho, JinHyung	9-1-0804	102
Cho, Jung Young	9-1-2230	106
Cho, Junhyeon	11-3-1179	124
	11-3-1427	124
Cho, Kyung-Ho	9-3-0149	108
	13-1-0944	146
Cho, Myeongki	2-4-3205	48
Cho, Myung-Yeon	13-6-2855	134
	13-2-2865	141
	13-6-2858	144
	13-5-3273	154
Cho, Myung-Yoen	13-5-3118	154
Cho, Nam Sung	4-3-0585	63
Cho, Nammyoung	5-1-3716	74
Cho, Sanghum	9-1-1027	106
Cho, Seong Ho	6-2-0509	77
Cho, Seong Il	13-3-2333	135
Cho, Seong M.	13-4-2151	150
Cho, Seong Won	1-4-1249	37
	13-2-1281	139
Cho, SeongYong	1-2-2720	37
	3-3-2017	51
Cho, Seong-Yong	1-1-2747	30
	3-3-3604	58

Author	Paper	Page	Author	Paper	Page
	4-2-3731	68	Choi, Byoung Deog	1-1-1187	34
Cho, Seulki	12-2-2490	131	Choi, Byoung Su	2-1-0935	43
	12-2-2587	131		13-5-2426	153
	12-2-3100	132	Choi, Byoungdeog	3-4-2939	59
Cho, Seunghee	5-1-2936	73	Choi, Byoung-Deog	1-1-0595	34
Cho, Seungse	2-3-3245	47	Choi, Byung Joon	1-3-3248	31
Cho, So-Hye	3-3-2038	57	Choi, Changhwan	1-1-3744	30
Cho, Soowon	2-3-3154	47		1-3-2366	31
Cho, Suk Man	9-2-1671	110		1-4-2400	32
Cho, Suyeon	9-2673	104	Choi, Changsoon	2-1242	41
	12-2-0355	129		3-2-1461	56
Cho, Tae-Sik	12-1-1193	130		4-3-1479	68
	12-1-2744	130	Choi, Chul-Jin	13-3-1274	135
Cho, Wol Il	8-3-3069	96	Choi, Da Som	10-3-3625	116
Cho, Won Seok	2-2-3450	39	Choi, Daehan	13-4-3666	150
Cho, Wonhee	13-6-3025	134	Choi, Da-Seul	13-1-3921	148
Cho, Woosuk	8-2-0380	95	Choi, Dongki	13-5-2339	153
	8-2-0834	99	Choi, Dongwon	2-1-1075	43
Cho, Yeonchoo	12-3-2546	127	Choi, Dooho	2-2-1231	45
Cho, Yeong-Ho	13-4-3678	150		13-2-1210	139
Cho, Young Seung	1-1-1187	34	Choi, Dukhyun	2-3-2561	47
Cho, Young Whan	12-1-2289	130	Choi, Eun-Ae	2-2428	41
Cho, Young-Rae	2-2-2328	39	Choi, Eunmi	2-2556	41
Cho, Youngsoo	2-2-2894	45		6-3-3613	85
	2-2-2900	45	Choi, Garam	9-1-2995	107
	2-2-2903	45	Choi, Hak-Jong	5-1-2932	73
Cho, Younguk	2-4-3206	48	Choi, Haneul	12-3-2370	128
Cho, Yu Ri	1-4-3866	37	Choi, Ho-Joon	13-5-2474	153
Choa, Sung-hoon	2-1-0930	43		13-5-2519	153
Choa, Yong-Ho	9-1-2812	107	Choi, Hun Seok	13-1-1350	146
Choe, Duk Hyun	12-2-0355	129	Choi, Hyeunseok	2-3-2203	46
Choe, Yong-Sahm	13-6-3025	134	Choi, Hyuk	11-2-1370	123
Choi, Byeong Guk	9-3-3513	110		11-2-1398	123

Author	Paper	Page
Choi, Hyun Tae	4-3-1573	68
Choi, Hyung Jong	13-1-2382	136
Choi, Hyung Wook	6-1-1861	80
	6-1-2751	80
	7-2-1029	91
Choi, Hyung-Jin	13-2-1696	139
Choi, Hyunyong	4-3-2072	69
Choi, Il Yong	7-0715	89
Choi, Inhwan	13-1-2633	147
Choi, In-Suk	12-1-2005	127
	13-5-1955	138
Choi, Jae Myeong	6-2-1801	82
Choi, Jaehoon	9-3-1025	101
	9-0999	104
Choi, Jaemyeong	6-2-1837	82
Choi, Jeoung Sik	13-6-2523	144
Choi, Jin Hyuk	13-3-2333	135
Choi, Jin Woo	3-3-3838	58
	3-3-3839	58
Choi, Jin-hyuk	13-3-2489	136
Choi, Jinyoung	5-3-1061	75
Choi, Ji-Won	5-2-2255	74
	8-2-2313	99
	13-4-2315	150
Choi, Jonathan	10-2-0214	112
Choi, Jongwan	13-5-1737	152
Choi, Jung Woo	11-2-1851	124
Choi, Keunsu	8-2-2484	99
Choi, Keun-Yeong	2-3-2530	46
Choi, Kiwon	6-1-2771	80
Choi, Kwangmin	4-3-0585	63
Choi, Kyoung Jin	6-2-3597	77
	13-6-3601	134

Author	Paper	Page
Choi, Kyoung Soon	4-0635	63
Choi, Mi-Jung	13-1-3929	148
Choi, Min-Ju	7-2582	89
Choi, Min-Seok	13-4-1639	149
	13-4-1653	149
	13-4-3346	150
Choi, Minwoo	2-1-0977	43
Choi, Myung Sik	13-6-2239	144
Choi, Pyungho	3-4-2939	59
Choi, Rino	1-1-2747	30
	1-2-2720	37
Choi, Seokhoon	4-1998	62
	13-1-3267	136
Choi, Seung Hee	3-2-1000	55
	3-2-1098	55
	3-2-1120	55
	3-2-1318	56
Choi, Shinyoung	7-1-0703	90
Choi, Si-Young	4-1-2098	65
	12-1-2895	127
	12-1-2915	127
Choi, Song Gue	8-1-1233	97
Choi, Song-Gue	8-3-1823	93
Choi, Soo Ho	4-2-2892	67
Choi, Soobean	8-1-1253	97
Choi, Sooho	4-1998	62
Choi, Soon-Mok	9-1-2592	107
Choi, Sungjin	13-1-3478	148
	13-1-3481	148
Choi, SungJoon	13-3-1300	143
Choi, SungSoon	13-2-1514	139
	13-4-3106	150
Choi, Sungwook	13-4-0949	137

Author	Paper	Page
Dehm, Gerhard	12-1-0280	127
Devincere, Benoit	11-3-3358	119
Deviprasath, Chinnadurai	7-2-2723	87
Dhakal, Krishna Prasad	2-2347	41
Ding, Ziqi	6-2-0961	82
Divakar, Ravi Kumar	9-2-2889	111
Do, Vandung	8-3-3069	96
Doan, Hien Thi Thu	5-2-1776	74
Doe, Jae-chul	1-2-2226	36
Doh, Kyung-Yeon	7-0715	89
	11-4-1824	123
	11-4-3415	123
Dong, Angang	5-3-0238	72
Dong, Wan Jae	2-2-3476	45
Dong, Xiaochen	2-3-0182	40
Dong, Zhaogang	5-2-0223	71
Durduran, Turgut	2-2-2134	39

E

Earmme, Taeshik	6-3-2956	79
Ebe, Hinako	3-2-0387	50
Eoh, Hongkyu	2-3-1406	46
Eom, Chang-Beom	12-1-2766	130
Eom, Wonsik	8-1-1310	97

F

Fadonougbo, Julien O.	12-1-2289	130
Fang, Hui	2-4-0287	40
Fang, Zheyu	5-2-2972	70
Feng, Xue	2-3-3060	39
	2-3-3353	47
	2-3-3414	47
	2-4-3412	48

Author	Paper	Page
	2-4-3473	48
	9-3-3399	110
Feng, Xuewei	4-3-0548	63
Fermin, David J.	6-2-2516	77
	11-2-0513	121
Fitzsimmons, Michael R.	1-3-5008	31
Frenkel, Anatoly	11-1-0174	118
Fujisaki, Yoshihide	3-4-0265	52
Furuta, Mamoru	3-4-0540	52

G

Galán, Teresa	2-2-2134	39
Gamo, Hirotada	8-2-3670	100
Ganesan, Kausalya	9-3-2841	109
Gänsler, Thomas	4-2-1731	61
Gao, Chao	2-1-5002	38
Gao, Yuan	2-2556	41
Gatti, Riccardo	11-3-3358	119
Ge, Liang-Jun	13-6-2858	144
Gebhardt, Julian	3-2-0541	50
Geiger, Simon	7-3-0216	87
Genevet, Patrice	5-1-3902	70
Gent, William E.	8-1-3306	94
Geum, Dae Myeong	2-4-3733	48
Geum, Daemyeong	13-1-1369	146
Geum, Dae-Myeong	2-4-3224	48
Ghaffarian, Hadi	11-3-3209	125
Gil, Hye Won	10-3-2024	116
Giraldo, Sergio	6-2-0234	77
Go, J.G.	13-3-2704	143
Go, Sung-Min	9-3-3262	110
Gobbi, Marco	4-1-0228	60
Goossens, Stijn	2-2-2134	39

Author	Paper	Page
Goto, Taichi	5-3-0922	75
Gou, Gaoyang	4-3-2465	63
Greer, Julia R.	5-2-0223	71
Gu, Aran	13-6-3061	134
Gu, Minsu	5-3-1975	71
	7-1-2142	90
	7-2-2665	92
Gunasekaran, Rajendra Kumar	6-3-2681	79
Guo, Tzung-Fang	3-2-0552	50
Guo, Wenwu	4-3-0841	68
Gupta, Shuchi	2-2-2134	39
Gwak, Cheong Yeol	5-2-0828	74

H

Ha, Dae-Gwon	13-1-2405	136
Ha, Gook Hyun	9-1-1901	106
Ha, Heon Phil	13-2-2171	140
	13-2-2176	140
Ha, Hyunwoo	11-2-1370	123
	11-2-1382	123
	11-2-1398	123
	11-2-3906	124
Ha, Jae-Geun	9-3-3099	110
Ha, Jiho	13-1-1521	147
Ha, Min Young	9-1-2995	107
	9-1-3189	108
Ha, Tae-Jun	3-4-0285	52
	3-4-2554	59
Ha, Yoon-Cheol	8-1-2243	98
Ha, Yoonhoo	4-3-1903	69
Haass, Stefan	6-2-0289	77
Hadmojo, Wisnu Tanty	6-3-3140	79
	6-3-3300	85

Author	Paper	Page
	6-3-3309	85
Hage, Fredrik	12-3-0292	127
Hagfeldt, Anders	6-1-3492	78
Haghighat-Shishavan, Safa	8-3-1823	93
	8-1-2010	98
	8-1-2019	98
Hahm, Donghyo	3-3-3202	57
	3-3-3364	57
Ham, Moon-Ho	4-2346	62
	9-3-2363	109
Han, Chang-Yeol	3-3-0648	56
Han, Chul Jong	3-3-3484	58
Han, Chung-Kyu	9-3-0149	108
Han, Eun Mi	7-2399	89
Han, Geun-Ho	12-2-2919	132
Han, Gyeongtak	9-1-2808	107
	12-3-2453	128
Han, Hongwei	6-1-0313	78
Han, Hyeuk Jin	5-1-2959	73
	5-1-3551	74
Han, Jae Hyun	3-3-2038	57
	9-0835	104
Han, Jeong Woo	7-2-2790	92
	11-2-0255	120
	11-4-3813	123
	11-2-2786	124
Han, Jeongheon	12-2-0770	131
Han, JeongHeum	13-1-1099	146
	13-1-1109	146
Han, Jeong-Heum	13-1-1090	146
Han, Ji Won	1-1-1450	34
Han, Jin Hee	3-4-1034	58
Han, Jin Sil	13-4-1841	149

Author	Paper	Page
Han, Joon Soo	3-3-2038	57
Han, Jung Geun	13-2-0361	139
Han, Jung-Geun	13-2-0479	139
	13-5-2440	153
Han, Maeum	9-2-0652	110
Han, Sang Ihn	2-1-3816	44
Han, Sang Soo	11-1-0820	118
	11-1-1826	122
	11-1-2193	122
Han, SangMok	4-2-0848	66
Han, Sang-Mok	13-1-1521	147
Han, Seongwu	4-1998	62
Han, Seung Ho	1-4-3866	37
Han, Seung Min	13-1-2497	147
Han, Seungjoo	1-2-0521	33
Han, Seung-Min	1-2-1532	33
Han, SeungSeok	6-3-0140	84
Han, Seungwu	11-1-0301	118
	11-1-1442	122
	11-4-1344	122
Han, SooDeok	4-3-1529	68
Han, Sung Soo	10-3-3900	117
Han, Tae Hee	8-1-1310	97
Han, Woo Hyun	12-2-0355	129
Han, Woohyun	4-2-1664	61
Han, Wook-Hee	9-3-3099	110
	13-1-0944	146
Han, Yoogeun	1-4-3109	37
Han, Yoon Soo	6-3-1765	84
Han, Zhiyuan	2-3-3414	47
Hanada, Takanori	13-2-1892	140
Harada, Maho	8-1-3030	98
Hardcastle, Trevor	12-3-0292	127

Author	Paper	Page
Hasani, Amirhossein	4-0635	63
	4-3-0872	68
Hassan, Gul	1-4-2400	32
Hawai, Takafumi	11-1-1581	122
Hayashi, Akitoshi	8-2-3247	95
Hayashi, Yukihiro	3-2-0387	50
Hee, Kang So	13-2-2063	133
Hengge, Katharina	4-2-1731	61
Henkelman, Graeme	11-2-3571	120
Heo, Do Yeon	6-1-0711	80
Heo, Jongwook	8-2-2484	99
Heo, Junseok	13-4-0855	148
Heo, Seyeon	2-2-2265	45
Heo, Sunwoo	1-1-1146	34
	1-1-1209	34
	1-1-1264	34
	1-1-3044	35
	4-2-1594	66
	4-3-1378	68
Heo, Young-Woo	3-4-0775	58
Hibino, Mitsuhiro	8-1-3034	99
Hinarejos, Fernando Jiménez	7-3-2843	88
Hino, Hideitsu	11-1-1581	122
Ho, C. Y.	5-3-0331	75
Ho, Donghae	9-2-2298	111
Ho, Han Seung	13-2-2063	133
Ho, Phuong	6-3-1765	84
Hoang, Anh Tuan	2-1-1005	43
Hong, Dae Myung	2-2-3476	45
Hong, Doosun	11-2-1818	124
Hong, Jaehyung	2-3-3245	47
Hong, Jaeyoung	12-1-2289	130
	12-1-2531	130

Author	Paper	Page	Author	Paper	Page
Hong, Jihyun	8-1-3306	94	Hur, Jae Seok	3-3041	53
Hong, Jong-Eun	13-1-3264	136	Hur, Jaehyun	8-1-2129	98
Hong, Jongsup	13-1-2250	136	Hur, JaeSeok	3-4-3234	59
Hong, JunHee	3-2-0785	55		3-4-3368	59
Hong, Ki-Ha	11-4-0494	119	Hur, Yoon Hyung	5-3-1015	75
Hong, Namgi	2-4-3733	48	Hwang, Byeong-ung	2-1-1531	44
Hong, Panuk	9-2-2300	111	Hwang, Chan-Cuk	4-1-2248	65
Hong, Seong Do	9-3-2359	109		12-1-2318	126
	9-3-2696	109	Hwang, Chang Kyu	7-2-3328	87
Hong, Seong Hwan	5-3-1646	75		7-2-3294	92
Hong, Seongkwang	9-0835	104	Hwang, Chi-Sun	2-0599	42
Hong, Seung-Pyo	13-1-3267	136	Hwang, Dae-Kue	6-2-2307	83
Hong, Seung-Tae	8-2-2484	99	Hwang, Do Kyung	3-3-1247	57
Hong, Suck Won	2-4-3498	40		4-3-1573	68
Hong, Suklyun	4-3-1326	63	Hwang, Gyu Weon	3-3-1247	57
Hong, SungHyun	4-2-0848	66	Hwang, Gyu-Won	13-6-2847	134
Hong, TaeWhan	13-1-1099	146	Hwang, Han-Na	4-1-2248	65
	13-1-1109	146	Hwang, Heejae	2-3-2561	47
Hong, Tae-Whan	13-1-1090	146	Hwang, Hyejin	9-2-2715	111
Horvath, Barbara	5-1-0759	70	Hwang, Hyeon Jun	1-1-1146	34
Hosaka, Sumio	5-1-0236	70		4-1-1677	65
Hou, Hongshuai	8-1-3529	94		4-3-1378	68
Hsu, Bo-Wei	3-2-0335	49	Hwang, Jaeyeol	9-2595	105
Hsu, Julia	6-3-0411	79	Hwang, Jae-Yeol	9-1-2585	106
Hsu, Ying-Tien	5-3-0838	72	Hwang, JinAh	13-3-2977	143
	13-2-1538	133		13-6-2280	144
Hu, Xiaole	10-1-2597	114	Hwang, Kyu-Seog	9-3-0590	108
Huang, Jia-Qi	8-3-0374	93		9-3-0592	108
Huda, Noor Ul	13-6-2778	144	Hwang, Namhee	3-1-1167	54
Huda, Noor-ul	5-3-1957	72		3-1-1602	54
Huh, Woong	4-1998	62	Hwang, SeongYeon	6-1-2771	80
	4-2013	62	Hwang, Soohyun	7-1-1961	90
	4-3-1529	68	Hwang, Sookhyun	13-6-1636	135

Author	Paper	Page
Hwang, Suk-Won	10-3-3688	116
	10-3-3721	117
Hwang, Sun Kyung	7-2-2961	92
Hwang, Sung Woo	12-2-0355	129
Hwang, Sungu	13-5-2426	153
Hwang, Taehyun	6-1-2909	78
Hwang, Won Seop	9-3-2359	109
	9-3-2696	109
Hwang, Wonseop	9-3-2505	109
Hwangbo, Seung	9-3-0590	108
	9-3-0592	108
Hyeon, Taeghwan	2-1-3816	44
Hyun, Cheol Min	4-2-3519	67
	13-2-3524	141
Hyun, Kyung-Hwan	13-5-2474	153
Hyun, Soong Keun	13-5-1089	152
Hyun, Soong-Keun	13-5-1288	152
	13-5-2339	153
	13-5-2474	153
Hyun, Suk Hun	2-1-0930	43
Hyun, Soong-Keun	13-5-1555	152
I		
Ihm, Kyuwook	12-2-2027	129
Im, James	3-2-5005	50
Im, Jong Pil	1-4-3782	37
	13-6-3784	145
Im, Sol Yee	1-4-3782	37
	13-6-3784	145
Im, Tae Hong	5-3-0808	72
	5-1-3691	74
In, Chung	9-1-2756	107
In, Da Young	3-4-3844	59

Author	Paper	Page
Inoue, Isao H.	1-3-0200	31
Inoue, Mitsuteru	5-3-0922	75
Intawin, Pratthana	13-5-3283	154
Islam, Nazish	8-3-1526	93
Ito, Seigo	6-1-0562	78
Ito, Takuya	7-1-1116	90
Iwanaga, Masanobu	5-1-3902	70
Izquierdo-Roca, Victor	6-2-0234	77
J		
Jabbar, Hamid	9-3-2505	109
Jang, Byungjin	13-6-3026	134
Jang, Chung Hyeon	3-2-3762	50
Jang, Eun-Pyo	3-3-0646	56
Jang, Eunyong	5-3-1646	75
Jang, Guneik	2-2-2894	45
	2-2-2900	45
	2-2-2903	45
Jang, Gyumin	6-1-3629	81
	6-1-3642	81
	6-1-3689	81
	6-1-3697	81
Jang, Hanbyeol	9-3-2363	109
Jang, Ho Won	2-1337	41
	2-2061	41
	4-1998	62
	4-0635	63
	4-3-2025	64
	6-2-3597	77
	7-2047	88
	7-2304	89
	7-2582	89
	7-1-3587	90

Author	Paper	Page	Author	Paper	Page
	13-2-1796	133	Jang, Wooree	13-5-3675	154
	13-6-0887	133	Jang, Yoon Hee	6-2-1836	77
	13-1-3267	136	Jang, Yu Jeong	6-3-1745	84
Jang, Hojun	9-1-3425	108	Jaouen, Frédéric	7-3-0308	88
Jang, Hong	13-2-1781	140	Jee, Eun Song	2-3-2558	47
Jang, Hongseok	11-3-0972	124	Jee, Joo-Eun	10-3-0231	113
	11-3-1179	124	Jeen, Hyoungjeen	9-1-0804	102
	11-3-1427	124	Jeon, Cheolho	12-2-2266	129
	13-2-1930	140	Jeon, Dong-Hwan	6-2-2307	83
Jang, Jae Hyuck	13-4-1586	137	Jeon, Duk Young	5-3-1061	75
Jang, Jaehyuck	9-1-0804	102	Jeon, Ho-Seung	13-4-3712	151
	13-2-3652	142	Jeon, Jae Beom	5-1-1467	73
Jang, Jaewon	4-2346	62	Jeon, Jun-Young	3-4-2554	59
Jang, Jeonghwan	13-4-3739	151	Jeon, Justin Y.	13-6-3025	134
Jang, Jong Hyun	13-5-3335	154	Jeon, Kiung	5-1-1467	73
Jang, Joohee	13-4-2315	150	Jeon, Minhyon	13-6-1636	135
Jang, Joonyoung	7-3-2843	88		13-2-1669	139
Jang, Junhyeok	2-3-3372	47		13-2-1672	139
Jang, Ki June	13-4-1126	149		13-6-1670	144
Jang, Kyung In	2-4-3292	40		13-6-3231	145
Jang, Kyung-In	2-4-2996	40	Jeon, Minji	13-6-3039	145
	2-4-3180	48		13-6-3377	145
Jang, Myeong Gon	11-2-0255	120	Jeon, Minjyon	13-6-3225	145
Jang, Nakwon	3-1-2826	54	Jeon, Munbae	13-6-3039	145
Jang, Seonghun	4-2013	62		13-6-3377	145
Jang, Su Hee	8-1-2543	94	Jeon, MyeongPyo	5-3-2536	75
Jang, Sung Yeon	6-3-3309	85	Jeon, Nam Joong	6-1-1201	78
Jang, Sung-Yeon	6-3-3140	79		6-1-1445	78
	6-3-3325	79	Jeon, Seo Young	8-1-0942	97
	6-3-3300	85	Jeon, Seokwoo	4-3-3352	69
Jang, Tae-Min	10-3-3688	116		7-1-3181	90
Jang, Woongsik	6-1-3272	81	Jeon, Sin-Soo	8-2-3568	100
	6-1-3437	81	Jeon, Taewoo	13-1-1400	146

Author	Paper	Page
Jeon, Tae-Yeol	9-1-0804	102
Jeon, Young-Sun	9-3-0592	108
Jeon, Yu-Rim	1-1-3744	30
Jeong, Beomjin	2-3-0967	46
Jeong, Byeong Guk	3-3-3202	57
	3-3-3239	57
	3-3-3364	57
Jeong, Byeong Hwa	3-4-3844	59
Jeong, Byeong-Hong	13-5-1288	152
Jeong, Byeongmoon	10-2-0297	113
Jeong, Chang Kyu	9-0835	104
Jeong, Dae-Yong	13-5-2679	154
Jeong, Dajeong	6-3-1690	84
Jeong, Dong In	7-2-1029	91
	13-5-0667	138
Jeong, Doo Seok	1-3-0200	31
	1-3-0401	31
	1-3-2942	31
	1-3-2945	31
Jeong, Eunwook	2-2-2328	39
	2-2428	41
Jeong, Giuk	9-1-3150	107
Jeong, Goojin	8-2-0834	99
Jeong, Haguk	13-5-0812	151
	13-5-0814	151
	13-5-0816	151
	13-5-2104	153
Jeong, Heonyeong	5-2-3620	74
	13-2-3652	142
Jeong, Hu Young	4-2013	62
	12-1-2086	127
	12-1-2179	130
Jeong, Hwan-Seok	13-6-3121	145

Author	Paper	Page
Jeong, Hyeon Su	4-1-2710	65
Jeong, Hyerin	9-1-1021	106
	9-1-1027	106
Jeong, Hyun-Jun	3-4-3344	52
Jeong, Jae Bum	9-2-2504	103
Jeong, Jae Chul	9-3-2696	109
Jeong, Jae Hwan	4-0791	62
Jeong, Jae Kyeong	3-3041	53
	3-3207	53
Jeong, Jae Young	1-1-1043	34
Jeong, Jaehwan	4-0649	62
Jeong, Jaekyeong	3-4-3234	59
	3-4-3368	59
Jeong, Jaewoong	2-4-3433	40
Jeong, Jeung-hyun	6-2-1801	82
	6-2-1837	82
Jeong, Jin Young	7-1415	88
Jeong, Jong Yeob	8-1-0993	97
Jeong, Ju Eun	6-3-1765	84
Jeong, JunHui	8-1-1253	97
Jeong, Kwang Pil	13-3-2333	135
Jeong, Min-Gi	8-3-1542	93
Jeong, Myeong Sang	13-1-3478	148
	13-1-3481	148
Jeong, Rak Hyun	4-1-2147	65
Jeong, Sanghyeon	6-1-2794	81
	6-1-2802	81
Jeong, Se Yeong	9-3-2505	109
	9-3-2696	109
Jeong, Seong Guk	3-2-1000	55
	3-2-1098	55
	3-2-1120	55
	3-2-1318	56

Author	Paper	Page
Jeong, Sohee	13-2-0479	139
Jeong, Su-Hun	3-2-2727	56
Jeong, Sun Jae	13-4-0949	137
	13-4-1172	137
	13-4-1431	137
	13-4-1509	137
	13-4-2376	137
	13-4-1174	149
	13-4-1441	149
	13-4-1841	149
	13-4-1940	149
Jeong, Taehee	6-1-2771	80
Jeong, Tahee	6-1-2782	80
Jeong, Unyong	2-3-2475	46
	2-3-2494	46
	4-0321	62
	9-2-2715	111
Jeong, Won Hee	1-3-3248	31
Jeong, Wonseok	11-1-0301	118
	11-1-1442	122
Jeong, Wooseok	1-2-2226	36
Jeong, YoHan	9-2-0851	110
Jeong, YoungKeun	5-3-2536	75
Jhun, Jeong Pil	9-3-2479	109
Ji, Byeonggab	13-2-2225	133
Ji, Choon Woo	5-3-2646	75
Ji, Eunji	4-3-1326	63
Ji, Ho Il	13-1-2250	136
Ji, Ho-Il	13-1-2044	147
	13-1-2497	147
Ji, Hyungmin	1-2-2720	37
Ji, Hyung-Min	1-1-2747	30
Ji, Jae-Hoon	3-2-0785	55

Author	Paper	Page
	9-3-3099	110
	9-3-3513	110
Ji, Su Geun	7-2-2961	92
Ji, Sung Min	6-3-1422	84
Ji, Xiaobo	8-1-3529	94
Jia, Yinglu	4-3-2465	63
Jin, Bong Soo	8-1-0899	96
Jin, Chan Ho	13-6-1878	144
	13-6-1880	144
Jin, Changhyun	13-6-2239	144
Jin, Gangtae	4-2-2077	67
	4-2-2079	67
	4-2-2137	67
	4-3-2072	69
Jin, Hyun Soo	1-1-1450	34
	4-2-1629	61
Jin, Insu	2-2615	41
Jin, Junyoung	3-3-1247	57
Jin, Peng	9-3-3399	110
Jin, Sunghwan	4-2-1362	66
Jin, Tao	5-1-0236	70
Jo, Euije	13-2-2457	141
Jo, Gae Hun	13-4-0719	148
Jo, GaeHun	3-2-0785	55
Jo, Jang Ho	4-3-2112	69
Jo, Ji Young	1-4-0218	32
	4-3-1378	68
Jo, Jung-Ho	3-3-0646	56
Jo, Moon-Ho	4-1-5009	60
	4-1-2098	65
	4-2-2077	67
	4-2-2079	67
	4-2-2137	67

Author	Paper	Page
	4-3-2072	69
Jo, Nam Ju	8-1-0942	97
Jo, Seung Hyun	3-2-2727	56
Jo, Seungki	9-1-0351	102
Jo, Soo-Ho	9-3-2459	101
Jo, Sora	1-4-3866	37
Jo, Subin	2-3-2031	46
Jo, Sungjin	2-2-1105	45
	6-1-1092	80
Jo, Sunhee	13-5-3335	154
	13-5-3339	154
Jo, Yongsu	4-1-2114	65
	4-2-2085	67
	4-3-2112	69
Jo, Youhwan	11-3-3287	125
Jo, Young Woong	13-2-2796	141
Jo, Youngju	3-1-3395	55
John, Jude	7-2-0833	91
	7-2-1872	91
Joo, Hyo-Jun	13-6-3121	145
Joo, Jinho	13-6-1878	144
	13-6-1880	144
Joo, S.M.	13-4-2697	150
Joo, Soyeong	13-2-3881	142
Joo, Wonhyo	5-3-2830	71
	7-2-2604	87
	7-3-2731	88
	13-2-2827	133
Joo, Yong Hwan	1-2-1532	33
Joo, Young-Chang	2-1-1156	43
	5-3-2830	71
	7-2-2604	87
	7-3-2731	88

Author	Paper	Page
	13-2-2827	133
Josell, Daniel	1-2-0557	32
	1-2-0578	32
Ju, Byeong-kwon	1-1-1543	34
	3-3-2038	57
	6-2-1801	82
	6-2-1837	82
	12-2-0770	131
	13-6-0887	133
	13-3-2977	143
	13-6-2280	144
	13-6-3039	145
	13-6-3377	145
Ju, Hyun	9-1-1134	106
Ju, Hyunsu	1-3-0401	31
Ju, Soeun	3-3-2198	57
	3-3-3295	57
Ju, Taifeng	6-1-2782	80
	6-1-2794	81
Jun, Donghwan	10-3-2877	116
Jun, Dong-Hwan	1-2-2461	36
Jun, Hwiseok	10-1-0660	114
Jung, Anhong	2-4-3403	48
	5-3-3409	76
Jung, Beomsic	1-1-1543	34
	6-2-1801	82
	6-2-1837	82
Jung, Dae Soo	2-1-1259	44
Jung, Daesung	4-1-2248	65
Jung, Daewoong	9-2-2504	103
Jung, Donghun	13-1-1400	146
Jung, Dongwook	5-3-3855	76
Jung, Eui Dae	3-2-3762	50

Author	Paper	Page
Jung, Gihun	6-2-3142	83
	7-3184	88
	7-1-3181	90
Jung, Hae Jun	13-4-1586	137
Jung, Han Hee	2-4-3180	48
Jung, Hun-Gi	8-3-1542	93
Jung, Hwaebong	13-6-3017	134
	13-6-3025	134
	13-6-3056	134
Jung, Hyungmi	1-2-1295	36
Jung, In Hwan	6-3-3300	85
	6-3-3309	85
Jung, In-ho	7-2-2604	87
	13-1-2405	136
Jung, Inki	9-3-0328	101
	9-3-1025	101
Jung, Jae Hack	2-2-3517	46
Jung, Jae Woong	6-1-2535	80
Jung, Jaewoong	2-2615	41
	6-1-2695	80
	6-3-2622	85
Jung, Ju-Young	1-4-3109	37
Jung, Kwang Hoon	4-2-3727	67
	4-2-3749	68
Jung, Minji	13-1-0849	136
Jung, Seung-Boo	13-5-2835	138
Jung, Soo Young	13-2-1796	133
Jung, Sung Hyeon	3-4-3167	59
Jung, Sung-Jin	9-1626	105
Jung, Taek Kyun	13-5-1089	152
Jung, Taek-Kyun	13-5-1555	152
	13-5-2339	153
	13-5-2474	153

Author	Paper	Page
	13-5-2519	153
Jung, Taek-Keun	13-5-1288	152
Jung, Won Sik	13-6-3583	145
Jung, WooChul	11-2-1382	123
Jung, Yeon Sik	5-1-3384	70
	5-1-1312	73
	5-1-1467	73
	5-1-2932	73
	5-1-2936	73
	5-1-2959	73
	5-1-2981	73
	5-1-3253	73
	5-1-3551	74
	5-1-3552	74
	5-1-3716	74
	5-3-1015	75
	5-3-1061	75
	5-3-2928	75
	5-3-3533	76
	7-1-1159	90
Jung, Yeonjoon	4-2-1504	61
	4-0791	62
Jung, Yong Chan	3-2606	53
	13-2-2619	141
Jung, Yoon Seok	8-2-2484	99
	8-2-2486	100
Jung, Young	9-2-0652	110
Jung, Young Hoon	9-0835	104
Jung, Young Hwa	12-2-0355	129
Jung, Young-kwang	6-1-3134	81
Jung, Yunsik	5-1-1269	73
Junyoung, Kwon	4-3-0821	64
Jwong, Kwang-pil	13-3-2489	136

Author	Paper	Page
K		
Kalirai, Samanbir	8-1-3306	94
Kamiko, Masao	9-3-3099	110
Kan, Hyuk	1-2-1295	36
Kandasamy, Prabakar	6-3-2681	79
	7-2638	89
Kang, Bong Kyun	7-2-1029	91
Kang, Byeong-Cheol	3-4-2554	59
Kang, Byeongguk	13-2-3120	141
Kang, Byoungwoo	8-1-2121	94
	8-2-2291	95
	8-2-2551	95
	8-2-2920	95
	8-1-2209	98
Kang, Chong-Yun	4-3-1529	68
	9-3-0328	101
	9-3-1025	101
	9-3-1030	101
	9-3-2093	101
	9-0999	104
	10-3-3721	117
	11-4-0726	119
	13-6-0887	133
	13-6-0905	134
	13-6-1238	135
Kang, Dong-Hee	10-2-3246	115
Kang, Dongho	10-3-2877	116
Kang, EunJi	11-2-1398	123
Kang, Ey Goo	1-1-0196	34
Kang, Gi Hwan	6-2-2271	83
	6-2-2275	83
Kang, Goru	6-3-3613	85
Kang, Han Sol	2-3-0967	46

Author	Paper	Page
Kang, Hang	3-4-3844	59
	4-1-3516	65
	4-2-3727	67
	4-2-3749	68
Kang, Hansol	2-3-1406	46
Kang, Hee Seong	4-1998	62
	4-2-1597	67
Kang, Ho-Young	5-3-2830	71
	7-2-2604	87
	7-3-2731	88
	13-2-2827	133
Kang, Hyungseok	9-2-2298	111
	9-2-2300	111
Kang, Hyung-Won	1-4-3866	37
Kang, Jaehyun	10-3-3569	116
Kang, Jeong Won	11-3-2573	125
Kang, Ji-Hoon	12-2-0770	131
Kang, Jijon	13-2-1930	140
Kang, Jiyoung	3-4-1034	58
Kang, Jungsoon	6-1-2802	81
Kang, Keonwook	11-3-1283	119
	11-3-3090	120
	11-3-3209	125
Kang, Kibum	4-0270	62
Kang, Ku	11-2-1354	123
Kang, Kyeong Tae	12-1-2086	127
Kang, Kyowon	2-4-3205	48
Kang, Leeseung	13-2-1112	139
Kang, Min Gu	13-1-3478	148
	13-1-3481	148
Kang, Min Seok	13-3-0996	135
Kang, Minki	9-0677	104
Kang, Minpyo	2-1-1225	43

Author	Paper	Page	Author	Paper	Page
Kang, Minseok	8-2-2291	95		7-1-1116	90
Kang, Moon Sung	2-3-2530	46	Kawano, Yukio	2-2-0491	39
Kang, Se Hwang	12-2-0355	129	Kepaptsoglou, Demie	12-3-0292	127
Kang, Seokhyeong	1-1-3044	35	Keum, Hohyun	2-4-3292	40
Kang, Seunggu	13-2-3053	141	Khalid, Muhammad Waqas	13-5-3769	154
	13-2-3120	141	Khan, Fasihullah	5-3-1957	72
	13-5-3241	154		13-6-2191	134
Kang, Seung-Ho	8-2-2321	95		13-6-2778	144
	8-2-3568	100	Khan, Usman	13-6-3825	135
Kang, Seung-Youl	2-0599	42	Khan, Waqar	5-3-1957	72
	4-3-0585	63		13-6-2778	144
Kang, Shinhoo	13-1-2405	136	Khandelwal, Gaurav	9-2793	104
Kang, Sojung	4-0649	62		9-3-2851	109
Kang, Soo Kyung	3-1-1602	54		9-2-2807	111
Kang, Soojung	1-2-0521	33		9-2-2837	111
	1-2-1749	36		9-2-2889	111
Kang, Suhee	7-3-2843	88	Ki, Gyeongmin	3-1-2674	54
Kang, Sung Bum	6-2-3597	77		3-1-2685	54
	13-6-3601	134	Kido, Junji	3-2-0387	50
Kang, Sungbok	2-3-2203	46	Kim, Bae-Yeon	6-2-1205	82
Kang, Sungwoo	4-1998	62	Kim, Bong Ho	3-4-1034	58
	11-4-1344	122		4-2-1035	66
Kang, Yeonsik	2-3-2203	46		4-2-1039	66
Kang, Youngho	11-4-1344	122	Kim, BongSoo	2-3-2530	46
Kang, Youngjong	4-1-0933	65	Kim, Boram	2-2-3517	46
Kar-Narayan, Sohini	9-3-3831	101	Kim, Bosung	9-3-0709	108
Karuppasamy, Vivek Anand	13-5-1955	138	Kim, Bum Sung	13-5-3769	154
Kashani-Bozorg, Seyyed Farshid	8-3-1823	93	Kim, Bumjoon	6-3-0203	79
Kasian, Olga	7-3-0216	87	Kim, Bumsoo	7-1-3181	90
Katiyar, Ajit Kumar	2-1114	41	Kim, Byeong-Su	5-3-1975	71
Kaveti, Rajaram	13-4-1709	137		7-1-2142	90
Kawamura, Go	5-3-0922	75		7-2-2665	92
	5-3-3656	76	Kim, Byoung-Joon	2-1-1156	43

Author	Paper	Page
	2-1-3822	44
Kim, Byung Choon	13-5-1198	152
Kim, Byung Gi	6-1-3272	81
	6-1-3275	81
Kim, Byung Kook	13-1-2250	136
Kim, Byung-Kook	13-1-2044	147
Kim, Byungsoo	13-4-3739	151
	13-4-3745	151
Kim, Byung-Wook	9-1-3021	102
Kim, Chan Woo	9-3-3513	110
Kim, Changgyun	2-2-1105	45
	6-1-1092	80
Kim, Changjo	6-2-0135	82
Kim, Chang-Min	4-2-3519	67
	13-2-3524	141
Kim, Changyeon	13-1-3267	136
Kim, Chan-Jin	10-1-2597	114
Kim, Chan-Soo	2-1739	41
Kim, Cheol Sang	9-3-1803	109
	10-2-1177	114
	10-2-1580	115
	10-3-1616	115
	10-3-1797	115
Kim, Chunjoong	11-2-1382	123
Kim, Cihyun	4-3-1378	68
Kim, Da Bin	3-2-3762	50
Kim, Dae Hyun	4-2-1629	61
	7-1415	88
	9-3-3513	110
	13-4-1586	137
Kim, Dae Su	1-4-3866	37
Kim, Dae Woong	4-2-1629	61
	7-1415	88

Author	Paper	Page
	8-1-1428	97
Kim, Daeho	13-1-2633	147
Kim, Dae-Hwan	6-2-2307	83
Kim, Dae-Hyeong	2-1242	41
	3-2-1461	56
	4-3-1479	68
Kim, Daewoo	1-1-3212	35
Kim, Dami	3-4-1754	59
Kim, Deuk Young	8-1-2028	98
Kim, Do Hwan	2-3-2530	46
	2-3-2558	47
	2-3-2561	47
Kim, Do Hyang	12-3-2453	128
Kim, Do Kyung	13-4-0949	137
	13-4-1172	137
	13-4-1431	137
	13-4-1509	137
	13-4-2376	137
	13-4-1174	149
	13-4-1441	149
	13-4-1841	149
	13-4-1940	149
Kim, Do-hyun	3-4-3844	59
Kim, Dong Ha	3-2-3802	49
Kim, Dong Ho	13-2-2176	140
Kim, Dong Hwan	13-3-0996	135
Kim, Dong Hyup	5-3-3149	76
Kim, Dong In	4-1-2147	65
Kim, Dong Su	7-2219	88
Kim, Dong Woo	6-3-1745	84
Kim, Dong Wook	9-2-2715	111
Kim, Donggyu	11-3-3072	120
Kim, Donghun	11-4-0272	119

Author	Paper	Page	Author	Paper	Page
	11-1-2193	122	Kim, Geunjin	6-1-1606	80
Kim, Donghwan	6-1-2771	80	Kim, Giwoong	13-4-3739	151
	6-1-2802	81		13-4-3745	151
	13-3-3126	135	Kim, Gi-Yeop	12-1-2915	127
	13-1-2382	136	Kim, Giyong	9-2-0652	110
	13-1-3478	148	Kim, Gowoon	9-1-0804	102
	13-1-3481	148	Kim, Guhyun	1-3-2945	31
Kim, Dong-Kwon	7-2-1293	91	Kim, Gwan Hyeon	13-5-2437	153
	7-2-1327	91	Kim, Gwangwoo	4-1-0857	60
Kim, Dongseok	7-1-2142	90		4-3-1491	68
Kim, DongSub	1-2-2720	37	Kim, Gwansik	9-1-3014	102
Kim, Donguk	13-2-1786	140		9-1-3021	102
Kim, Dongwan	13-2-2408	140	Kim, Gyeong Ho	12-1-2289	130
Kim, Dongyun	7-3-1804	92	Kim, Hae Chan	2-1-0935	43
Kim, Doun Hyun	9-1-2995	107		13-5-2426	153
Kim, Duri	8-3-3465	96	Kim, Hae Jin	1-1-1820	34
	8-1-3452	99	Kim, Haebeen	8-3-3467	96
Kim, Eunghye	3-1-0603	49		8-1-3452	99
Kim, Eun-ji	9-3-2093	101	Kim, Haekyoung	2-1-3822	44
Kim, Eunjong	2-2-3476	45		4-1111	62
Kim, Eun-Seong	13-6-2855	134		6-3-0863	84
	13-6-2858	144	Kim, Han	9-2-2298	111
Kim, Felix Sunjoo	3-1-1419	54	Kim, Han Jun	6-2-3175	83
	13-2-1781	140		6-2-3192	83
	13-5-1490	152		6-2-3302	83
Kim, Fredrick	9-1-0351	102	Kim, Han Ki	10-2-1580	115
Kim, Gaeon	1-2-0927	35	Kim, Hangyel	4-2-1342	61
Kim, Gahui	1-2-1104	35	Kim, Hee-Ok	2-0599	42
	1-2-1423	36	Kim, HeeSeob	12-2-2108	129
Kim, Ga-Yoon	7-2-1151	91	Kim, Hong Kyu	12-2-2919	132
Kim, Geon	6-1-2802	81	Kim, Hong-Dae	4-2-1478	66
Kim, Geon Yeong	5-3-1061	75	Kim, Hongseung	3-1-2826	54
Kim, Geun Jin	6-1-1201	78	Kim, Ho-Yong	3-3-1791	51

Author	Paper	Page
Kim, Hoyoung	7-2-1293	91
	7-2-1327	91
Kim, Hwi-Jae	3-3-0648	56
Kim, Hye Rim	9-1-0901	106
Kim, Hyejin	2-4-3403	48
	5-3-3409	76
Kim, Hyeok	6-3-2508	79
	6-3-1590	84
	9-2-2504	103
Kim, Hyeokjun	9-1-3425	108
Kim, HyeonA	3-3041	53
	3-4-3234	59
	3-4-3368	59
Kim, Hyeongkeun	2-2-3517	46
Kim, Hyo Seok	9-1-2995	107
Kim, Hyosoo	2-3-1484	46
Kim, Hyoun Woo	13-6-2239	144
Kim, Hyoung Gyun	5-3-2830	71
	7-2-2604	87
Kim, Hyoung Kug	4-2-2137	67
Kim, Hyoung Taek	9-0998	104
Kim, Hyoungchul	13-1-2250	136
	13-1-2497	147
Kim, Hyoung-chul	13-1-2044	147
Kim, Hyoung-Juhn	13-5-3335	154
Kim, Hyowon	12-2-0355	129
Kim, Hyun	7-3-1804	92
Kim, Hyun Bin	3-2-1000	55
	3-2-1098	55
	3-2-1120	55
	3-2-1318	56
Kim, Hyun Soo	8-1-0899	96
Kim, Hyun Woo	2-3-2494	46

Author	Paper	Page
	8-2-0395	95
Kim, Hyun You	11-2-1370	123
	11-2-1382	123
	11-2-3906	124
Kim, Hyunduck	10-3-3900	117
Kim, Hyungjun	4-3-1903	69
	5-3-3609	76
	11-2-0255	120
	11-4-0640	122
	11-4-0962	122
	11-4-1744	123
	11-2-1751	124
Kim, Hyunho	9-1-1021	106
	9-1-1027	106
Kim, Hyun-Jae	3-3-3484	58
Kim, Hyunji	9-1-1021	106
	9-1-1027	106
Kim, Hyun-Jong	13-5-2519	153
Kim, Hyun-Mi	4-2-3564	67
	4-2-3731	68
	10-3-3569	116
Kim, Hyunmin	2-2-3835	38
	12-1-2289	130
	12-1-2531	130
	12-3-3751	132
Kim, Hyun-Sik	9-1-2585	106
Kim, Hyun-Soo	8-3-0985	96
Kim, HyunYou	11-2-1398	123
Kim, Ik-Soo	13-6-2855	134
	13-2-2865	141
	13-6-2858	144
Kim, Il Tae	8-1-1659	98
Kim, Il-Doo	7-2-3328	87

Author	Paper	Page	Author	Paper	Page
Kim, Inho	13-5-3339	154	Kim, Jeong Gon	13-3-2333	135
	1-1-1543	34	Kim, Jeong Hun	1-4-3782	37
	6-2-1836	77		6-2-2275	83
	6-2-1801	82		13-6-3784	145
	6-2-1809	82	Kim, Jeong Seog	2-1-0935	43
	6-2-1837	82		13-5-2426	153
	12-2-2919	132	Kim, Jeonga	10-1-0737	114
Kim, Inki	13-6-2847	134	Kim, Jeong-gon	13-3-2489	136
	5-2-3620	74	Kim, Jeonghyun	2-4-0264	40
Kim, Insu	7-1-0703	90		5-3-3585	76
	13-2-3714	142	Kim, Jeongmin	9-1-3063	102
Kim, Inwoo	1-1-3131	35	Kim, JeongOh	3-3041	53
	6-3-1745	84		3-4-3234	59
Kim, Jae Hong	6-3-1765	84		3-4-3368	59
	9-2-2715	111	Kim, Jeongseo	6-1-1861	80
Kim, Jae Joon	2-3-3245	47	Kim, Jeongyong	2-2347	41
Kim, Jae-Ha	13-5-2835	138	Kim, Ji Hwan	13-4-3477	137
Kim, Jaehwang	13-2-3714	142	Kim, Ji Hyeon	6-3-2775	85
Kim, Jae-Kwan	2-1-2152	44	Kim, Ji Hyun	4-3-2112	69
	4-1-2206	65		5-3-1957	72
Kim, Jaewoong	13-1-2633	147	Kim, Jigeon	6-1-2771	80
Kim, Jaeyeon	1-1-3124	35	Kim, Jihoon	13-4-0949	137
Kim, Jaeyun	9-1-3425	108		13-4-1172	137
Kim, Janghyuk	4-2-3082	67		13-4-1431	137
Kim, JeeHoon	6-1-2771	80		13-4-1509	137
Kim, Jeehwan	1-1-3495	30		13-4-1709	137
Kim, Jeha	6-2-2257	82		13-4-2376	137
Kim, Jejung	2-2923	42		13-4-1174	149
	2-1-0892	43		13-4-1441	149
	2-4-0908	48		13-4-1841	149
	1-2-1990	36		13-4-1940	149
Kim, Jemin	1-2-1991	36	Kim, Jihye	9-0683	104
	8-1-3390	94		9-3-0757	108

Author	Paper	Page
Kim, Jihyun	4-2-3082	67
	13-6-2191	134
Kim, Jin	4-3-3352	69
Kim, Jin Kon	2-1-0935	43
	13-5-2426	153
Kim, Jin Kyung	12-1-0257	126
Kim, Jin Lee	3-4-3844	59
Kim, Jin Soo	12-2-2919	132
Kim, Jin Tae	8-1-2543	94
Kim, Jin Young	5-1-3384	70
	6-1-0326	78
	7-2-3328	87
	7-2-3216	92
	7-2-3294	92
	7-2-3388	92
	13-5-3330	154
	13-5-3335	154
	13-5-3339	154
	13-5-3241	154
Kim, Jinho	13-5-3241	154
Kim, Jinhwan	9-3-3099	110
	13-1-0944	146
Kim, JinHyun	1-2-2720	37
	6-1-2909	78
	10-3-3556	116
Kim, Jin-Hyun	1-1-2747	30
Kim, Jin-Sang	9-1332	105
	9-1626	105
	9-1-0901	106
Kim, Jinsik	2-4-3403	48
	5-3-3409	76
Kim, Jin-Tae	6-3-3613	85
Kim, Jinwoo	10-2-1580	115
Kim, Jinyoung	2-3-3245	47

Author	Paper	Page
Kim, Jin-Young	7-2-2961	92
Kim, Jiwan	3-3-2198	57
	3-3-3295	57
	3-3-3484	58
	9-1-2655	107
	9-1-2812	107
	5-3-2830	71
Kim, Ji-Yong	7-2-2604	87
	13-2-2827	133
Kim, John	13-6-2778	144
Kim, Jong Chan	4-2013	62
	12-1-2086	127
Kim, Jong Hun	4-2-1342	61
	4-0791	62
Kim, Jong Kyu	7-0715	89
Kim, Jong Min	5-1-3384	70
	7-2-3216	92
	7-2-3294	92
	7-2-3388	92
Kim, Jong Ryoul	12-2-1705	131
Kim, Jong-Hoon	3-3-3012	57
Kim, Jonghwan	4-1-3590	66
	4-1-3615	66
	4-1-3664	66
Kim, Jong-Il	13-4-1108	148
Kim, Jongmyeong	3-4-3640	59
	13-4-3666	150
	13-4-3739	151
Kim, Jongseok	2-3-2203	46
Kim, Jongsik	13-2-2171	140
	13-2-2176	140
Kim, Jongyoon	1-2-1295	36
Kim, Joo Sung	2-3-2558	47

Author	Paper	Page	Author	Paper	Page
	2-3-2561	47		4-2-3564	67
	7-2208	88		4-2-3731	68
	7-2219	88		10-3-3569	116
Kim, Joohee	13-6-1670	144		10-3-3701	116
Kim, Jooheon	9-1-1134	106		10-3-3722	117
	13-5-1393	152	Kim, Ki-Chul	13-4-1108	148
	13-5-1407	152		13-4-1126	149
Kim, Joonyun	6-1-3134	81		13-4-1131	149
Kim, Joosun	6-1-3629	81	Kim, Kihwan	6-2-3172	77
Kim, Ju Young	8-1-2950	98	Kim, Ki-jeong	12-2-2571	129
Kim, Juhee	11-3-1427	124	Kim, Ki-Ju	4-2-3731	68
Kim, Juho	4-2-2077	67	Kim, Kiyoul	8-2-3568	100
	4-3-2072	69	Kim, Kiyung	1-1-1264	34
Kim, Juhyun	9-1-3425	108		1-1-3044	35
Kim, Jun Sung	4-2-2137	67		4-2-1594	66
Kim, Jun Young	6-3-1690	84	Kim, Kunnyun	13-6-3039	145
Kim, Jun-Dong	12-1-2738	126		13-6-3240	145
Kim, Jung Hwa	4-1-2114	65		13-6-3377	145
	4-2-2085	67	Kim, Kwang Bum	13-1-1348	146
	12-3-2758	128	Kim, KwangBum	8-1-1213	97
Kim, Jung Kyu	7-2-0375	86		8-1-1253	97
Kim, Jung Won	9-1-2585	106	Kim, Kwang-Bum	2-1-1259	44
Kim, Jungmo	4-3-3352	69		8-3-1823	93
Kim, Jungwon	9-2673	104		8-1-1233	97
Kim, Junho	6-3-1152	84		8-1-1250	97
Kim, Kangduk	13-5-3241	154		8-1-2010	98
Kim, Kangmin	4-1-3699	66		8-1-2019	98
Kim, Kangsik	12-3-0937	128		8-2-2313	99
Kim, Kayoungkim	10-3-3625	116		13-1-1350	146
Kim, Kee-Tae	13-6-3735	145	Kim, Kwang-Chon	9-1332	105
Kim, Ki Chul	10-3-1888	115		9-1-0901	106
Kim, Kibum	13-4-3678	150	Kim, Kyeong Rak	10-1-0672	114
Kim, Ki-Bum	1-2-3708	37	Kim, Kyeounghak	11-2-0255	120

Author	Paper	Page
	11-4-3813	123
Kim, Kyoung-Tae	8-1-1499	97
	8-1-1549	98
	8-1-1615	98
Kim, Kyung Bum	2-1-2509	44
	7-2-3103	92
	9-3-2359	109
Kim, Kyung Min	1-1-0488	30
	13-3-0996	135
Kim, Kyung Rok	1-1-3044	35
Kim, Kyung-Bum	9-3-2505	109
	9-3-3262	110
Kim, Kyung-Hye	3-3-0648	56
	3-3-3012	57
Kim, Kyungmi	6-1-3689	81
	6-1-3697	81
Kim, KyungSu	8-2-0834	99
Kim, Kyung-Taek	13-5-1555	152
Kim, Ma Ro	6-1-1861	80
Kim, Maeng-Suk	8-2-2484	99
Kim, Maro	13-2-1302	139
	13-1-1323	146
Kim, Mikyung	13-3-0582	143
Kim, Min Hyung	13-6-3026	134
Kim, Min Jung	4-1220	63
	13-2-0361	139
Kim, Min Seob	7-2-1029	91
	13-5-0667	138
Kim, Min Seok	13-4-0949	137
	13-4-1172	137
	13-4-1431	137
	13-4-1509	137
	13-4-2376	137

Author	Paper	Page
	13-4-1174	149
	13-4-1441	149
	13-4-1841	149
	13-4-1940	149
Kim, Min Seop	8-3-3069	96
Kim, Min Sung	4-3-1479	68
Kim, Min Young	13-3-2333	135
Kim, Mincheol	3-1-3321	55
Kim, MinGyeom	13-1-1090	146
	13-1-1099	146
	13-1-1109	146
Kim, Minho	11-4-0962	122
Kim, Min-Hoi	3-1-2383	54
	3-4-1649	58
Kim, Minjoon	5-1-3552	74
Kim, Minkook	3-3-3484	58
Kim, Min-Sik	4-2-3731	68
Kim, Minsu	4-2-3731	68
Kim, Minyeob	13-2-1672	139
Kim, Miso	9-3-2093	101
	9-3-2459	101
	9-3-2040	109
Kim, Mi-Young	7-2-2604	87
Kim, Moohyun	5-1-2981	73
Kim, Moon-Deock	12-2-3429	132
Kim, Myong Ho	9-1-2569	106
Kim, Myoung-Hun	13-5-1555	152
Kim, Myung Jong	4-1-0251	60
	4-1-0933	65
Kim, Myungjoon	11-1-2193	122
Kim, Myung-Ki	5-2-0419	71
Kim, Myung-Yun	9-3-0590	108
Kim, Myunsik	9-1-3425	108

Author	Paper	Page
Kim, Na Yeon	12-3-2758	128
Kim, Nam Hoon	4-1-3699	66
Kim, Namdong	12-2-2108	129
Kim, Nam-Young	13-6-2855	134
	13-6-2858	144
Kim, Nayeon	3-3-0766	56
Kim, Sam Dong	13-6-2191	134
Kim, Samdong	13-6-2778	144
Kim, Sam-Dong	5-3-1957	72
Kim, Sang Hyeon	2-4-3733	48
Kim, Sang Jae	2-3-2813	47
	9-2-0474	103
	9-2793	104
	9-3-2841	109
	9-3-2851	109
	9-2-2807	111
	9-2-2837	111
Kim, Sang Mo	6-1-2751	80
	13-1-1323	146
Kim, Sang Wook	13-5-1089	152
Kim, Sangho	6-2-1103	82
Kim, Sang-Hoon	13-5-1955	138
Kim, Sang-Hyuck	1-2-0553	32
Kim, Sang-il	9-1-0206	102
	9-1-2585	106
Kim, Sang-Jae	4-3-2139	69
	8-2-2913	100
	9-3-2869	109
	9-3-2879	110
	9-2-2889	111
	13-1-2140	147
	13-1-2204	147
	13-1-2261	147

Author	Paper	Page
Kim, Sang-Kon	5-1-2792	73
Kim, Sangmo	6-1-1861	80
	13-2-1302	139
Kim, Sangouk	13-1-1400	146
	13-1-1842	147
Kim, Sangtae	9-3-0328	101
	11-4-0726	119
	13-6-1238	135
Kim, SangWoo	1-2-2720	37
Kim, Sang-Woo	1-1-2747	30
	2-1-0641	38
	9-2-0754	103
	9-2-0876	103
	9-0677	104
	9-0683	104
	9-0998	104
	9-3-0709	108
	9-3-0757	108
	9-2-0851	110
	9-2-2298	111
	9-2-2300	111
	13-6-3825	135
Kim, Sang-Wook	13-5-1555	152
Kim, Sarah Eunkyung	1-2-1749	36
Kim, Se Hyun	2-1337	41
Kim, Seil	9-1-2812	107
Kim, Sejun	11-4-0640	122
Kim, Seon Yong	3-2606	53
	13-2-2619	141
Kim, Seong Dae	8-1-0993	97
Kim, Seong Hun	11-4-1824	123
Kim, Seong Keun	9-1332	105
	9-1626	105

Author	Paper	Page
	9-1-0901	106
Kim, Seonghun	11-2-0168	121
Kim, SeongMin	9-2-0851	110
Kim, Seong-Woong	12-1-0746	130
Kim, Seonpil	13-6-1636	135
	13-2-1669	139
	13-2-1672	139
	13-6-1670	144
	13-6-3225	145
	13-6-3231	145
Kim, Seulwoo	11-2-3196	124
Kim, Seung Eon	12-1-0746	130
Kim, Seung Mo	1-1-3044	35
	4-3-1378	68
Kim, Seungchul	11-4-2312	119
	11-4-1457	122
Kim, Seunghyun	4-3-2112	69
Kim, Seung-Mo	1-1-1043	34
	1-1-1146	34
	1-1-1209	34
	1-1-1264	34
	4-2-1594	66
Kim, Seung-Won	8-3-3069	96
Kim, Se-Yang	4-1-2114	65
	4-2-2085	67
	4-3-2112	69
Kim, Shi Yeon	13-5-2628	153
Kim, Shin-ik	12-3-2453	128
	13-2-1696	139
Kim, Shinyoung	13-6-3240	145
Kim, Si Yeon	13-5-2679	154
Kim, So Hee	12-2-2066	131
Kim, So Hyun	4-2-3727	67

Author	Paper	Page
	4-2-3749	68
Kim, So Won	13-5-2437	153
Kim, So Youn	5-3-3149	76
Kim, Sohyeon	1-1-3744	30
Kim, Song-Gang	12-2-3429	132
Kim, Soo Bin	13-4-1586	137
Kim, Soo Jin	2-1337	41
Kim, Soo Min	4-1998	62
Kim, Soo Young	2-2-0839	45
	3-3772	52
	3-3-0704	56
	4-0635	63
	4-3-0872	68
	6-1-0711	80
	7-2-0624	91
Kim, Soo-Hyun	1-2-1532	33
	7-2-1536	91
	8-3-1526	93
	8-1-1528	97
Kim, Soo-Kil	7-2-1293	91
	7-2-1327	91
Kim, SooYoung	4-2-0848	66
	4-3-0841	68
Kim, So-Young	1-1-1043	34
	1-1-1209	34
Kim, Su Han	8-1-2543	94
Kim, Suhan	4-3-1529	68
Kim, Sumin	13-3-3126	135
Kim, Sung Hoon	13-5-2570	153
Kim, Sung Hyun	6-3-2317	84
Kim, Sung Min	13-4-1586	137
Kim, Sung Wng	9-2595	105
	9-1-2585	106

Author	Paper	Page	Author	Paper	Page
	12-2-0355	129		4-1-3664	66
Kim, Sung Youb	2-3-3245	47	Kim, Tae-Ho	2-1-1259	44
	4-3-2112	69		13-6-3825	135
Kim, Sungdong	1-2-0521	33	Kim, Taehoon	6-2-0509	77
	1-2-1749	36	Kim, Tae-Hwan	4-2-2137	67
	1-2-1935	36		13-5-1555	152
Kim, Sung-Hoon	12-1-2768	127	Kim, Tae-Hyung	13-2-3871	142
	12-2-2919	132		13-2-3873	142
Kim, Sung-Hun	3-4-1649	58	Kim, Taekeun	2-2-2894	45
	11-4-3415	123	Kim, Taemin	2-4-3362	48
Kim, Sunghwan	5-2-0322	71	Kim, Tae-Won	7-2399	89
Kim, Sunghyun	4-2-1664	61		7-2417	89
Kim, Sungjin	3-2-2727	56	Kim, Taeyeong	2-3-2475	46
Kim, Sungjoo	2-2-3476	45	Kim, Tae-Youb	13-4-2151	150
Kim, Sungjun	6-2-2257	82	Kim, Tae-Young	4-3-1491	68
Kim, Sungwng	4-2-2707	61	Kim, Wan Sik	4-3-1378	68
	9-2673	104	Kim, Wan-Tae	13-2-3647	142
	9-1-2808	107	Kim, Whangi	13-1-2633	147
Kim, Sung-Woo	2-3-3245	47		13-1-2651	147
Kim, Sun-Kyo	3-3-1814	51	Kim, Won Dam	13-2-0361	139
Kim, Sunmean	1-1-3044	35	Kim, Won Jong	10-3-0139	113
Kim, Sun-Woo	9-3-2093	101	Kim, Won Mok	6-2-1836	77
	9-3-3062	101		6-2-1801	82
Kim, Surim	10-3-0931	115		6-2-1809	82
Kim, Tae Hyun	8-1-1528	97		6-2-1837	82
Kim, Tae Soo	2-4-3224	48		13-6-2847	134
	2-4-3733	48	Kim, Wondong	12-2-2601	128
Kim, Tae Whan	9-2244	104	Kim, Won-Jung	13-6-2855	134
	9-2-2223	111		13-2-2865	141
Kim, Tae-Bum	13-5-2339	153		13-6-2858	144
Kim, Tae-Gun	8-1-0993	97	Kim, Woo Joong	9-2793	104
Kim, Taeho	1-1-3131	35		9-2-2807	111
	1-1-3212	35	Kim, WooYeon	6-1-2802	81

Author	Paper	Page
Kim, Wooyul	7-3-0382	87
Kim, Yang Hui	4-1-0933	65
Kim, Yeji	2-2-1105	45
	5-1-1269	73
	6-1-1092	80
Kim, Yejin	1-2-0521	33
	1-2-1749	36
Kim, Yeong Jae	2-2-2470	45
Kim, Yeseul	11-3-3072	120
Kim, Yong	1-3-3248	31
Kim, Yong Hwan	3-4-1034	58
Kim, Yong Tae	11-3-3228	120
Kim, YongHo	13-5-1720	152
Kim, Yong-Ho	13-5-0668	151
	13-5-1726	152
Kim, Yong-Il	9-3-2040	109
Kim, YongJin	11-3-3090	120
Kim, Yong-nam	13-5-3118	154
	13-5-3273	154
Kim, Yong-Seog	2-1739	41
	3-3-1791	51
	3-3-1814	51
Kim, Yoojin	8-1-1310	97
	8-1-3576	99
Kim, Yoon Jun	13-5-1089	152
Kim, Yoon Seok	4-1998	62
Kim, Yoon-jeong	4-1-0933	65
Kim, Yoonseok	4-3-1529	68
Kim, You Joong	4-2-2892	67
Kim, Youjung	1-2-1558	33
Kim, Young	6-1-2782	80
	6-1-2794	81
Kim, Young Been	7-2208	88

Author	Paper	Page
	7-2219	88
Kim, Young Dae	7-2219	88
Kim, Young Hwan	13-1-1348	146
Kim, Young Keun	1-1-0524	30
Kim, Young Kwan	3-1-1163	54
	3-1-1167	54
	3-1-1602	54
Kim, Young Yun	6-1-1445	78
Kim, YoungHo	13-5-2440	153
Kim, Young-Hoon	3-0391	52
	3-2-2727	56
Kim, Young-Hwan	8-1-1213	97
Kim, Young-Il	6-2-2307	83
Kim, Youngjin	6-2-3142	83
Kim, YoungJu	4-2-0848	66
Kim, Young-Ju	13-1-1521	147
Kim, Youngjun	9-1-3425	108
Kim, Young-Min	9-1-2690	102
	9-1-2808	107
	12-3-2453	128
	12-1-2179	130
Kim, Youngsik	8-2-0395	95
Kim, Youngsoo	11-3-3228	120
Kim, Yun-Hi	2-3-2530	46
Kim, Yuri	3-3-3012	57
Kirchlechner, Christoph	12-1-0356	126
Ko, Gwan-Jin	10-3-3721	117
Ko, Han Seo	13-4-2862	150
Ko, Hyunhyub	2-3-0482	39
	2-3-3154	47
	2-3-3245	47
Ko, Kyoungbin	1-1-3131	35
Ko, Min Jae	6-1-2771	80

Author	Paper	Page	Author	Paper	Page
	6-1-2782	80	Koo, Do Hyeong	4-2-1597	67
	6-1-2794	81	Koo, Hye Young	9-1-1901	106
	6-1-2802	81		13-5-3675	154
Ko, Minhwan	1-1-2421	30	Koo, Sang-Mo	12-2-2490	131
Ko, Sung Min	7-2-3103	92		12-2-2587	131
Ko, Sung Won	10-3-1616	115		12-2-2760	131
Ko, Wonhee	12-2-0355	129		12-2-2815	131
Ko, Young-Ho	13-1-0944	146		12-2-3096	132
Kobayashi, Masaharu	1-4-3382	32		12-2-3100	132
Kobayashi, Ryo	8-2-2989	100		13-2-2865	141
Kocabas, Coskun	4-3-3794	63	Kook, JeongKeun	10-3-3314	116
Koch, Christoph T.	12-1-2766	130	Koppens, Frank	2-2-2134	39
Koh, Do Yeong	13-6-3583	145	Kornijcuk, Vladimir	1-3-2942	31
Koh, DoYeong	10-3-3314	116		1-3-2945	31
Koh, Heeyuen	11-3-3002	120	Kotakoski, Jani	12-3-0164	128
Koh, Jung-Huck	9-3-3099	110	Kotsugi, Masato	11-1-1581	122
Koh, Jung-Hyuk	3-2-0785	55	Krishnamoorthi, Vignesh	9-3-1803	109
	9-3-0149	108		10-3-1797	115
	9-3-1289	108	Krishnamoorthy, Karthikeyan	4-3-2139	69
	9-3-3513	110		8-2-2913	100
	13-1-0944	146		13-1-2140	147
	13-4-0719	148		13-1-2204	147
	13-4-1316	149		13-1-2261	147
Komori, Takuya	5-1-0236	70	Kruea-In, Chatchai	1-4-3280	37
Kong, Hyeonjun	9-1-0804	102	Ku, Boncheol	1-1-3744	30
Kong, Minsik	2-3-2494	46	Kuddus Sheikh, Md. Abdul	2-1-1011	43
Konstantatos, Gerasimos	2-2-2134	39		6-2-0444	82
Koo, Bon Il	10-1-0662	114		13-4-0959	137
Koo, Bonkee	6-1-2782	80	Kumar, Amit	10-3-3911	113
	6-1-2794	81	Kumar, Anuj	10-3-3900	117
	6-1-2802	81	Kumar, Dip Nandi	8-3-1526	93
Koo, Bonmin	9-2-2223	111	Kumar, Hermaunt	12-2-2066	131
Koo, Chong Min	9-1-0901	106	Kumar, Mohit	7-2-1029	91

Author	Paper	Page
	13-5-0667	138
Kwak, Byungkwan	1-2-1558	33
	13-6-1869	144
Kwak, Dong-Kyu	10-3-3701	116
Kwak, Hiram	8-2-2484	99
Kwak, Jaeik	9-1-1021	106
Kwak, Jeonghun	9-1-3425	108
Kwak, Jinsung	4-1-2114	65
	4-2-2085	67
	4-3-2112	69
Kwak, Joon Seop	3-4-1034	58
Kwak, Joon Young	13-6-2847	134
Kwak, Kisung	12-2-0770	131
Kwak, Seung-Yeop	13-2-2225	133
Kwak, Yeon Hwa	13-6-3039	145
	13-6-3240	145
	13-6-3377	145
Kwan, Byungkwan	13-6-1603	143
Kwon, Byoung-Hwa	4-3-0585	63
Kwon, Dong Wook	13-2-2171	140
	13-2-2176	140
Kwon, Gi Bong	12-2-1705	131
Kwon, Hae-Woong	13-3-0996	135
Kwon, Hannah	3-2-3802	49
Kwon, Hyeok-Chan	6-1-3629	81
	6-1-3642	81
	6-1-3689	81
	6-1-3697	81
Kwon, Hyuck-In	3-4-3271	52
	13-6-3121	145
Kwon, Hyukyun	2-3-3297	40
	3-1-3321	55
Kwon, Jung Kyu	5-3-3855	76

Author	Paper	Page
Kwon, Junyoung	4-0649	62
	4-3-1083	63
Kwon, Ki Chang	4-1998	62
	4-3-2025	64
	6-2-3597	77
Kwon, Kyu Moon	8-1-1428	97
Kwon, Min Gyu	4-3-1378	68
Kwon, Min Hyeok	12-1-0257	126
Kwon, Oh Kuen	11-3-2573	125
Kwon, Se Hun	13-2-3524	141
Kwon, Se-Hun	4-2-3519	67
Kwon, Seok Bin	3-2-1000	55
	3-2-1098	55
	3-2-1120	55
	3-2-1318	56
Kwon, Soo-Hun	13-6-3121	145
Kwon, Soon Hyeong	3-4-1034	58
	4-2-1035	66
	4-2-1039	66
Kwon, Soonho	11-2-1354	123
	11-2-1851	124
Kwon, Soonnam	12-1-2056	126
Kwon, Soon-Yong	4-1-2114	65
	4-2-2085	67
	4-3-2112	69
	12-3-3515	127
Kwon, Sun Sang	8-1-2543	94
Kwon, Yeong Min	13-6-1858	144
Kwon, Yong-Wook	2-1-3822	44
Kwon, Youngkook	7-3-0159	87
Kyung, Song	4-1-2098	65

Author	Paper	Page
L		
Lau, Daniel S.P.	4-2-0176	61
Le, Thi Hoa	10-3-2024	116
Le, Van Quyet	7-2-0624	91
Lee, Ah Reum	6-2-3175	83
	6-2-3192	83
	6-2-3302	83
Lee, Bin	13-5-3769	154
Lee, Bokyoung	9-3-3513	110
Lee, Byeongchan	11-3-0406	119
	11-3-1283	119
	11-3-3287	125
Lee, Byeong-hyeon	13-2-1796	133
Lee, Byoung Hun	1-1-1043	34
	1-1-1146	34
	1-1-1209	34
	1-1-1264	34
	1-1-3044	35
	4-1-1677	65
	4-2-1594	66
	4-3-1378	68
Lee, Byung-Hoon	13-5-1555	152
Lee, Byung-Suk	1-2-2390	36
	13-2-2269	140
Lee, Caroline	7-3-2843	88
Lee, Chae Eun	13-2-1672	139
Lee, Chaerin	1-2-1390	33
Lee, Chan Gi	13-2-1112	139
Lee, Chang Hyun	9-1-2733	107
	13-6-2523	144
	13-5-2570	153
Lee, Chang Min	13-6-1878	144
	13-6-1880	144

Author	Paper	Page
Lee, Changgu	4-2-0316	61
Lee, Chan-Gi	13-2-3869	142
	13-2-3873	142
Lee, Chang-Lyoul	3-3-3838	58
	3-3-3839	58
Lee, Changsoo	11-2-1354	123
Lee, Chang-Soo	4-2-2077	67
	4-2-2079	67
	9-3-0149	108
Lee, Cheng-Hui	13-2-1538	133
Lee, Cheolju	10-3-3722	117
Lee, Cheolmin	8-3-2107	93
Lee, Chia-Wei	13-2-1538	133
Lee, Chil-hyoung	3-2-1413	56
Lee, Chi-Seung	4-3-2112	69
Lee, Choon-Ho	13-4-1639	149
	13-4-1653	149
	13-4-3346	150
Lee, Chulho	4-3-0821	64
Lee, Chul-Ho	4-1998	62
	4-2013	62
	4-3-1083	63
	4-2-1597	67
	4-3-1529	68
	4-3-2060	69
	10-3-3688	116
Lee, Chungwon	2-2061	41
Lee, Daeseok	12-2-2490	131
	12-2-2587	131
	13-2-2865	141
Lee, Dae-seok	12-2-2760	131
	12-2-2815	131
Lee, Dayoon	1-1-3124	35

Author	Paper	Page
Lee, Deuk Yong	6-2-1205	82
Lee, Do Hee	10-2-1580	115
Lee, Do Kyung	6-3-1745	84
Lee, Doh C.	3-3-3202	57
	3-3-3239	57
	3-3-3364	57
Lee, Doh-Kwon	6-2-1836	77
	6-2-1801	82
	6-2-1809	82
Lee, Dong Jae	10-3-0931	115
Lee, Dong Kyu	2-2-3476	45
Lee, Dong Y.	6-3-0881	79
	7-0883	89
Lee, Dong-Gun	13-1-1521	147
Lee, Donghun	4-1998	62
	4-2013	62
	4-3-1529	68
Lee, Donghwa	7-0715	89
	7-2304	89
	11-2-0168	121
	11-4-1824	123
	11-4-3415	123
Lee, Donghyun	13-4-3739	151
Lee, Dongik	13-6-1603	143
Lee, Dong-ik	13-6-1869	144
Lee, DongKyu	7-2-1872	91
	7-2-1873	91
	9-1-2914	107
Lee, Dong-Won	13-2-2865	141
	13-6-2858	144
	13-5-3118	154
	13-5-3273	154
Lee, Doo Won	4-3-3472	69

Author	Paper	Page
	6-2-3162	83
	6-2-3175	83
	6-2-3192	83
	6-2-3302	83
Lee, Duk-Hee	8-1-3876	99
	13-2-3107	141
	13-2-3869	142
	13-2-3871	142
	13-2-3873	142
	13-2-3877	142
	13-2-3881	142
	13-2-3885	142
Lee, Eun-Hee	10-1-1999	114
Lee, Eunji	2-4-3403	48
	5-3-3409	76
	5-3-3855	76
Lee, Gangsan	13-1-1842	147
Lee, Geon-Woo	2-1-1259	44
	8-1-1213	97
	8-1-1233	97
Lee, Gi Baek	5-3-2830	71
Lee, Gi-Baek	7-2-2604	87
	13-2-2827	133
Lee, Gil Ju	2-2-2265	45
	2-2-2470	45
Lee, Gilwoon	2-3-2475	46
Lee, Guensuk	13-4-2862	150
Lee, Gun Ho	5-3-3533	76
Lee, Gun-Do	4-2-2085	67
	7-2-2604	87
Lee, Gunhee	11-2-0255	120
Lee, Gun-Hwan	2-2428	41
Lee, Gwangyeob	12-3-2370	128

Author	Paper	Page	Author	Paper	Page
Lee, Gwan-Hyoung	12-3-2453	128	Lee, Ho Kyung	6-3-2775	85
	4-2-1342	61	Lee, Ho Seong	9-1-1021	106
	4-2-1504	61		9-1-1027	106
	4-0649	62	Lee, Hochan	2-3-3245	47
	4-0790	62	Lee, Ho-In	1-1-1146	34
	4-0791	62		1-1-1209	34
	4-1220	63		1-1-1264	34
	4-3-1083	63		1-1-3044	35
	4-3-1326	63		4-2-1594	66
	4-3-0821	64		4-3-1378	68
	4-3-2060	69	Lee, Hojae	9-1-2808	107
Lee, Gyeong-Seo	13-5-1555	152	Lee, Hojin	2-3-2530	46
Lee, Gyo Sub	1-3-0401	31		6-2-3172	77
Lee, Gyu Rac	5-1-2959	73	Lee, Hong Woo	11-1-1826	122
	5-1-3551	74	Lee, Hookyoung	9-3-0757	108
Lee, Haechang	2-3-3297	40	Lee, Hwa Seub	13-6-2847	134
	3-1-3820	55	Lee, Hye Jin	13-1-1369	146
Lee, Haein	8-1-3034	99	Lee, Hyeji	1-1-1264	34
Lee, Hae-Weon	13-1-2250	136	Lee, Hyeonchul	1-2-1104	35
	13-1-2044	147	Lee, Hyeonju	11-4-1693	123
Lee, Hag Seung	8-1-1428	97	Lee, Hyeonwoo	3-1-0603	49
Lee, Han Eol	3-0826	53	Lee, Hyeran	6-2-1205	82
Lee, Hanbin	13-6-1636	135	Lee, Hyo-Jong	1-2-0553	32
	13-6-3231	145	Lee, Hyuck Mo	11-2-1718	123
Lee, Haram	6-1-1861	80		11-2-1818	124
Lee, Hark Jun	3-3-3202	57		11-2-1851	124
Lee, Hark June	3-3-3364	57	Lee, Hyuckmo	11-2-1354	123
Lee, Hee Chul	5-3-2646	75	Lee, Hyun Jae	8-2-2484	99
	13-4-3466	150	Lee, Hyun Su	9-3-3513	110
	13-5-2437	153	Lee, Hyung Gyu	11-3-3090	120
Lee, Hee Young	3-4-0775	58	Lee, Hyungsoo	7-1-3681	90
Lee, Hein	13-6-3007	145		7-1-3686	90
Lee, Heon	5-1-2932	73	Lee, Hyungwoo	12-1-2766	130

Author	Paper	Page
Lee, Hyunho	5-3-3609	76
Lee, Hyunjong	12-1-2895	127
Lee, Hyun-Mo	3-4-3344	52
Lee, Hyunseok	8-2-2313	99
Lee, Hyun-Sook	13-6-3025	134
	13-6-3061	134
	13-3-3126	135
Lee, Ilgeum	3-2-3802	49
Lee, In Su	10-3-3911	113
Lee, Ingwan	1-1-3212	35
Lee, In-Ho	4-2-1664	61
Lee, In-Hwan	7-2417	89
Lee, Inwon	9-1-0804	102
Lee, Jae Hee	3-0826	53
Lee, Jae Hyung	8-1-2543	94
Lee, Jae Won	9-2-1519	110
Lee, Jae Yoon	4-1998	62
	4-2013	62
	4-3-1083	63
	2-2-0898	45
Lee, Jae-Bok	12-1-2768	127
Lee, Jae-Chul	12-1-2735	130
	12-2-2547	131
	12-2-2919	132
	2-1-1011	43
Lee, Jaegab	6-2-0444	82
	13-4-0959	137
	1-2-0415	35
Lee, Jae-Ho	1-2-0417	35
	6-2-0961	82
Lee, Jaehyeong	6-3-1970	84
	7-1-1961	90
	13-2-1786	140

Author	Paper	Page
Lee, Jaekwang	9-1-0804	102
Lee, Jae-Ung	4-1-2114	65
Lee, Jaewoo	1-4-3782	37
	13-6-3784	145
Lee, Jaeyoon	4-3-1529	68
Lee, Jae-Yun	8-3-2107	93
Lee, Jang-Hyeong	12-1-1193	130
	12-1-2744	130
Lee, Jangwook	8-1-2121	94
Lee, Jeon Ryang	7-2399	89
	7-2417	89
Lee, Jeong Ik	4-3-0585	63
Lee, Jeong In	13-1-3478	148
	13-1-3481	148
Lee, Jeong Rak	1-2-2226	36
Lee, Jeongjoo	13-1-3926	148
Lee, Ji Eun	10-3-3722	117
Lee, Ji Won	4-1-2147	65
Lee, Ji Yeon	10-2-1177	114
Lee, Jieun	4-1-0449	60
Lee, Ji-Hyun	6-3-1765	84
Lee, Ji-Myon	2-1-2152	44
	4-1-2206	65
Lee, Jin Pyo	9-2-1864	110
Lee, Jin Seok	6-2-2271	83
	6-2-2275	83
Lee, Jinhyun	1-2-1390	33
	1-2-1544	33
	1-2-1558	33
	1-2-1610	36
Lee, Jinyeol	1-1-3131	35
Lee, Jinyeop	11-3-3064	120
Lee, Jong Ho	13-1-2250	136

Author	Paper	Page
Lee, Jong Hwa	4-1-2114	65
Lee, Jongbeom	13-5-0812	151
	13-5-0814	151
	13-5-0816	151
Lee, Jongbum	13-5-2104	153
Lee, Jong-Gun	8-1-0993	97
	13-5-2835	138
Lee, Jong-Ho	13-1-2044	147
	13-1-2497	147
Lee, JongHyeok	5-3-2536	75
Lee, Jong-Lam	2-2-3450	39
	2-2-3461	39
	2-2-3476	45
Lee, Jong-Min	1-1-0595	34
Lee, Jong-Soo	3-3-0766	56
	4-2-1359	61
Lee, Jong-Sook	4-3-0585	63
Lee, Jong-Young	4-0790	62
Lee, Joon Hyung	13-6-2523	144
Lee, Joong Bum	7-1-1159	90
Lee, Joonhyuk	9-1-0804	102
Lee, Joshua	10-3-1616	115
Lee, Juho	6-1-2695	80
Lee, Juhyuck	9-2528	104
Lee, Ju-hyuck	9-3-0709	108
Lee, Jun Hee	8-2-2484	99
Lee, Jun Ho	13-6-3017	134
	13-6-3056	134
Lee, Jun Kyu	6-2-2271	83
	6-2-2275	83
Lee, Jun Seok	10-3-3722	117
Lee, Jun Uk	5-2-0828	74
Lee, June Ho	11-4-1824	123

Author	Paper	Page
	11-4-3415	123
Lee, Jung Goo	13-3-0996	135
Lee, Jung Hye	5-1-2932	73
Lee, Jung Min	4-2013	62
	8-1-0942	97
Lee, Jung-Ho	7-1415	88
Lee, Junghwa	8-1-2209	98
Lee, Jung-Yong	6-2-0135	82
	6-3-0133	83
	6-3-0140	84
	6-3-1152	84
Lee, Junhyung	13-2-2225	133
Lee, Jun-Seo	8-3-2107	93
Lee, Junyeong	2-2-1105	45
	6-1-1092	80
Lee, Kangmin	2-3-3372	47
Lee, Kee-Sun	13-2-2796	141
Lee, Keon Jae	3-2-0180	50
	3-0826	53
	5-3-0808	72
	5-1-3691	74
	9-0835	104
Lee, Ki-Heon	3-3-0648	56
Lee, KnagHyuk	13-3-1215	143
Lee, Kul	9-3-3513	110
Lee, Kwan Young	13-5-3335	154
Lee, KwangJin	13-2-3714	142
Lee, KwanHun	13-2-1514	139
Lee, Kwan-Young	12-2-2919	132
	13-5-3330	154
Lee, Kyeong-Seok	13-6-2847	134
Lee, Kyu Hyoung	9-1-3021	102
	9-2595	105

Author	Paper	Page
	9-1-2585	106
	9-1-2592	107
Lee, Kyu Seung	3-2-1413	56
Lee, Kyuho	2-3-1406	46
Lee, Kyuhyun	11-1-0301	118
	11-1-1442	122
Lee, Kyung Ah	5-1-3384	70
	13-5-3330	154
	13-5-3339	154
Lee, Mi Gyoung	7-1-3587	90
	13-1-3267	136
Lee, Mijung	2-3-3372	47
	3-1-3395	55
Lee, Milim	1-4-1249	37
	13-2-1281	139
Lee, Minhwan	11-2-3196	124
Lee, MinHyuk	7-2-1872	91
	7-2-1873	91
Lee, Min-Young	1-2-1532	33
Lee, Mi-So	9-3-2363	109
Lee, Moon Hee	13-5-1198	152
Lee, Mun Keun	13-1-2405	136
Lee, Nae-eung	2-1-1531	44
	2-3-1484	46
Lee, Nara	13-3-0582	143
Lee, Noho	7-0715	89
Lee, Phillip	6-1-2782	80
	6-1-2794	81
	6-1-2802	81
Lee, Pooi See	2-1-2322	38
Lee, Sahng Ha	10-3-3625	116
Lee, Sang Hee	4-3-3472	69
	6-2-3162	83

Author	Paper	Page
	6-2-3175	83
	6-2-3192	83
	6-2-3302	83
Lee, Sang Ho	3-4-3844	59
Lee, Sang Hun	1-2-3708	37
Lee, Sang Il	8-1-2543	94
Lee, Sang Jin	13-2-2063	133
Lee, Sang Kyung	4-1-1677	65
	4-3-1378	68
Lee, Sang Woon	13-4-1586	137
Lee, Sang Yeon	1-1-2421	30
Lee, Sangbong	4-2-3564	67
Lee, Sang-Hoon	4-2-3731	68
Lee, Sang-hun	13-5-3118	154
	13-5-3273	154
Lee, Sanghyeok	13-1-2250	136
Lee, Sang-Hyun	3-3-3604	58
Lee, Sang-Jin	8-2-3568	100
Lee, Sang-Min	8-1-3390	94
	10-1-0423	112
Lee, Sangryun	11-3-3064	120
Lee, Sangsun	1-2-1990	36
	1-2-1991	36
Lee, SangWha	10-3-3314	116
Lee, Sang-Wha	13-6-3583	145
Lee, Sangwon	1-2-1749	36
Lee, Sea-Hyun	13-2-3647	142
Lee, Seo Yeon	10-2-1580	115
Lee, Seokyeong	2-3-0967	46
Lee, Seong Eui	13-4-3466	150
	13-5-2437	153
Lee, SeongHee	13-5-1720	152
Lee, Seon-Jin	8-1-1499	97

Author	Paper	Page	Author	Paper	Page
	8-1-1549	98	Lee, Song-Gil	10-3-0231	113
	8-1-1615	98	Lee, Songjun	13-6-1869	144
Lee, SeonWoo	12-3-0937	128	Lee, Soo Hong	4-3-3472	69
Lee, Seoung-Ki	4-1-3699	66		6-2-3162	83
Lee, Seoyun	6-1-2782	80		6-2-3175	83
	6-1-2802	81		6-2-3192	83
Lee, Seul-Lee	13-4-0949	137		6-2-3302	83
	13-4-1172	137	Lee, Soonil	9-1-2230	106
	13-4-1431	137		9-1-2569	106
	13-4-1509	137	Lee, Soonjik	13-2-3085	141
	13-4-2376	137	Lee, Sooun	9-3-2040	109
	13-4-1174	149	Lee, Su Seong	10-3-0231	113
	13-4-1441	149	Lee, Subin	12-1-0280	127
	13-4-1841	149		12-1-2179	130
	13-4-1940	149	Lee, Su-Ho	13-3-2704	143
Lee, Seung Won	2-3-0967	46		13-4-2697	150
Lee, Seung-Bok	13-1-3264	136	Lee, SungHo	13-5-1720	152
Lee, Seungchan	13-1-2651	147	Lee, Sung-Ho	13-5-1726	152
Lee, Seungjin	3-2-3762	50	Lee, Sungkoo	3-1-3176	55
Lee, SeungJun	2-4-3403	48	Lee, Sungwoo	4-2-2085	67
	5-3-3409	76	Lee, Sunhwa	6-2-1103	82
Lee, Seungmin	3-4-3640	59	Lee, Sun-Hyoung	3-3-3012	57
	13-4-3666	150	Lee, Sunwoo	13-3-1300	143
	13-4-3739	151	Lee, Suwoong	9-2-2504	103
Lee, Seungwoo	9-2-2303	111	Lee, Suyoun	1-4-1249	37
Lee, Seung-Woo	10-1-1999	114		13-2-1281	139
Lee, Siwon	11-2-1382	123	Lee, Tae Hyung	4-0635	63
Lee, Sol A	7-2047	88		7-2304	89
	13-1-3267	136	Lee, Tae-Gon	9-3-2093	101
Lee, Somin	13-2-2171	140		9-3-3062	101
Lee, Song Eun	3-1-1163	54	Lee, Taegu	12-1-0746	130
	3-1-1167	54	Lee, Taehoon	3-2606	53
	3-1-1602	54		13-2-2619	141

Author	Paper	Page
Lee, Taejun	5-2-3638	74
Lee, Taek Sung	6-2-1836	77
	6-2-1801	82
	6-2-1837	82
Lee, Tae-Woo	3-0391	52
	3-2-2727	56
Lee, Wan-Gyu	13-4-3712	151
Lee, Won Bo	9-1-2995	107
	9-1-3189	108
	11-2-3196	124
Lee, Wonryung	3-1-3759	49
Lee, Woo-Jae	13-2-3524	141
Lee, Woo-Jin	1-2-0553	32
Lee, Woongchan	2-1242	41
	3-2-1461	56
	4-3-1479	68
Lee, Wooyoung	9-1-3014	102
	9-1-3021	102
	9-1-3063	102
	13-6-3017	134
	13-6-3025	134
	13-6-3026	134
	13-6-3056	134
	13-6-3061	134
	13-3-3126	135
	13-3-3850	135
Lee, Yeo Jin	7-2-3216	92
	7-2-3388	92
Lee, Yeoryang	2-3-3372	47
Lee, Yi-Huan	5-3-0838	72
	13-2-1538	133
	13-4-1141	149
	13-5-1071	151

Author	Paper	Page
	13-5-1149	152
Lee, Yong Wook	13-4-0949	137
	13-4-1172	137
	13-4-1431	137
	13-4-1509	137
	13-4-2376	137
	13-4-1174	149
	13-4-1441	149
	13-4-1841	149
	13-4-1940	149
Lee, Yong-Hee	5-2-0419	71
Lee, Yongjin	11-1-0261	118
Lee, Yongjun	2-1-0892	43
Lee, Yongkyu	9-1-2756	107
Lee, Yongsu	1-1-1043	34
	1-1-1146	34
	1-1-1209	34
	1-1-1264	34
	4-2-1594	66
	4-3-1378	68
Lee, Yong-Su	1-2-0415	35
Lee, Young Been	13-5-1490	152
Lee, Young Hee	12-2-0355	129
Lee, Young Hun	7-2-1029	91
	13-5-0667	138
Lee, Young-Gi	8-1-2950	98
Lee, YoungHwan	13-1-1099	146
	13-1-1109	146
Lee, Young-Hwan	13-1-1090	146
Lee, Young-Jae	12-2-2587	131
	12-2-3100	132
Lee, Young-joo	13-5-1955	138
Lee, Youngoh	2-3-3154	47

Author	Paper	Page	Author	Paper	Page
	2-3-3245	47	Lim, Hyunseob	12-2-0429	129
Lee, Youn-Sik	13-5-3675	154	Lim, Jae-Hong	9-1-2655	107
Lee, Youn-Woo	11-2-3196	124		9-1-2812	107
Lee, Yujeong	13-4-2157	150	Lim, Jin Wook	2-2-3461	39
Lee, Yun Seog	6-2-0509	77	Lim, Jin-Hyeon	13-5-2679	154
Lee, Yu-Ping	13-4-1141	149	Lim, Jong-Beom	12-2-3429	132
	13-5-1149	152	Lim, Jong-Se	13-1-1521	147
Lee, Zonghoon	4-1-2114	65	Lim, Joohyun	4-2-1731	61
	4-2-2085	67	Lim, Ju Won	3-2-3802	49
	12-3-0937	128	Lim, Jun Hyung	13-6-1878	144
	12-3-2758	128	Lim, Jung Ah	2-1337	41
Leem, Jae-Young	13-2-2408	140	Lim, Jung-Tae	13-3-1274	135
	13-2-2457	141	Lim, Kipil	8-1-3306	94
Leenakul, Wilaiwan	1-4-3280	37	Lim, Kyoung Gjin	6-2-3175	83
	13-5-3283	154	Lim, Kyoung Jin	6-2-3192	83
Lei, Jin	13-1-2651	147	Lim, Kyoung-Jin	6-2-3162	83
Le-Kim, Trang Huyen	10-1-0662	114	Lim, Sang-Soon	9-1332	105
Lestari, Annisa Dwi	3-4-0775	58	Lim, Se Rin	10-3-3610	116
Li, Dongjun	13-1-1842	147	Lim, Seong-Joo	13-5-2519	153
Li, Hui	6-1-2802	81	Lim, Seong-Sik	13-5-2474	153
Li, Ju	4-3-2465	63		13-5-2519	153
Li, Jun	11-2-3000	120	Lim, Seungyun	2-1-1412	44
Li, Yanguang	7-2-0130	87	Lim, Su Jin	11-3-3072	120
Li, Zhou	9-2-2000	103	Lim, Tak-Hyoung	13-1-3264	136
Liebscher, Christian H.	12-1-0280	127	Lim, Teck Chuan	10-3-0231	113
Lim, Byungkwon	3-2-1413	56	Lim, Weon Cheol	12-2-2066	131
Lim, Donghwan	1-1-3744	30	Lim, Yongtaek	11-3-1427	124
Lim, EunJoo	1-2-2720	37	Lim, Young Jun	8-2-0395	95
Lim, Guh-Hwan	6-3-1422	84	Lim, Young Soo	9-1-2230	106
Lim, Han-Byul	3-3-0646	56	Lin, Chieh-Chuan	13-4-1141	149
Lim, Hunhee	5-3-2928	75		13-5-1149	152
Lim, Hyung-Kyu	4-3-1903	69	Lin, Hao-Wu	3-2-0335	49
	11-2-1751	124	Lin, Jian	6-2-0961	82

Author	Paper	Page
Ling, Ning	7-2-2391	87
Liu, Dongsheng	10-1-0347	112
Liu, Gang	7-1-0343	86
Liu, Guokun	1-2-0578	32
Liu, Hailong	5-2-0223	71
Liu, Kaihui	4-1-0248	60
Liu, Kun	10-1-0438	112
Liu, Ru-Shi	3-3-2968	51
Liu, Xiaoyang	11-2-0338	120
Liu, Yejing	5-2-0223	71
Liu, Yuhang	13-4-1586	137
Lockman, Zainovia	7-1-1116	90
Loh, Kian Ping	4-2-5007	60
Loka, Chadrasekhar	13-2-2796	141
Low, Hong Yee	5-1-0503	70
Lu, Jun	10-1-0438	112
Lu, Zhongyuan	10-1-0438	112
Lule, Zelalem	13-5-1407	152

M

M.S.P, Sudhakaran	9-3-2841	109
Ma, Jiyeon	13-4-0855	148
	13-4-1096	148
Ma, Kyung Yeol	4-2-1362	66
Ma, Sunihl	6-1-3629	81
	6-1-3642	81
	6-1-3689	81
	6-1-3697	81
Ma, Yong-Won	5-2-0828	74
Maddaka, Reddeppa	12-2-3429	132
Maeng, Min-Jae	4-3-0585	63
Mahood, Nasir	5-2-3620	74
Mann, Dilpreet Singh	13-1-3914	136

Author	Paper	Page
Manoharan, Sindhuja	8-2-2913	100
Maria Joseph Raj, Nirmal Prashanth	2-3-2813	47
	9-3-2851	109
Maria Joseph, Nirmal Prashanth	9-2-2837	111
Mariappan, Vimal Kumar	13-1-2204	147
Maruyama, Shigeo	11-3-3002	120
Matkivskyi, Vladyslav	6-2-1809	82
Matsuda, Atsunori	5-3-0922	75
	5-3-3656	76
	7-1-1116	90
	8-2-3649	100
	8-2-3670	100
Matsuda, Reiko	8-2-3670	100
Matsusaki, Michiya	10-2-0506	112
Mayrhofer, Karl J.J.	7-3-0216	87
Medabalmi, Veerababu	8-3-3907	93
	8-3-2337	96
Mehmood, Muhammad Qasim	5-2-3620	74
Men, Yong	11-2-0338	120
Mercier, Gabriel	2-2-2134	39
Meyer, Jannik	12-3-0164	128
Min, Bumki	2-2-3826	39
Min, Jungi	5-3-3855	76
Min, Kwan Hong	13-1-3478	148
	13-1-3481	148
Min, Kyeong-Sik	1-3-0443	31
Min, Seong-Ji	12-2-2490	131
	12-2-2587	131
	12-2-2760	131
	12-2-2815	131
	12-2-3100	132
Min, Taewon	9-1-0804	102
Miyakawa, Masashi	3-4-0265	52

Author	Paper	Page
Moffat, Thomas	1-2-0557	32
	1-2-0578	32
Mok, Young Sun	9-3-2841	109
Mokhtari, Omid	1-2-0927	35
Monastreio, Carles	2-2-2134	39
Moon, Ayoung	1-2-0521	33
	1-2-1749	36
	1-2-1935	36
Moon, Byung Moo	7-2-3294	92
Moon, Byungmoo	12-2-3100	132
Moon, Chan Su	6-1-1201	78
Moon, Chang Ki	8-2-2484	99
Moon, Cheon Woo	13-1-3267	136
Moon, Daeyoung	13-4-3666	150
	13-4-3739	151
Moon, Hanul	2-3-3297	40
	3-1-3820	55
Moon, Hongjae	9-1-3063	102
Moon, Hyungsuk	3-3-3136	57
Moon, Jaehyun	2-0599	42
	4-3-0585	63
Moon, Jaeyoung	13-3-0582	143
Moon, Ji Seong	8-3-3221	96
	8-1-3161	99
Moon, Jooho	6-1-3629	81
	6-1-3642	81
	6-1-3689	81
	6-1-3697	81
	7-1-3681	90
	7-1-3686	90
Moon, Joonhee	7-1-0247	86
	7-2-0833	91
Moon, Ki Woong	12-2-1705	131

Author	Paper	Page
Moon, Kyounghoon	13-1-1605	147
Moon, Mingi	6-2-0509	77
Moon, Seung Eon	1-4-3782	37
	13-6-3784	145
Moon, Songyi	7-1-3181	90
Moon, Sungmin	2-3-2475	46
Moony, Na	8-3-2337	96
Mordehai, Dan	11-3-3358	119
Mueller, Stefan	1-4-0527	32
Mun, Hyeona	9-1-2808	107
Mun, Je Do	5-3-2646	75
Muto, Hiroyuki	5-3-0922	75
	5-3-3656	76
	7-1-1116	90
	8-2-3649	100
	8-2-3670	100
Myung, Nosang	9-1-2655	107
N		
Na, Bock Soon	2-0599	42
Na, Han Gil	13-6-2239	144
Na, Hyebin	10-3-0954	115
Na, Kyeonghan	13-2-3647	142
Na, Kyoeong-Han	13-2-3636	141
Na, Seok in	13-1-3914	136
Na, Seok-In	13-1-3921	148
	13-1-3926	148
	13-1-3929	148
Na, Yaena	3-1-1419	54
Nabeya, Shunich	1-2-1532	33
Nagamalleswara Rao, Alluri	2-3-2813	47
Nahm, Sahn	1-4-3866	37
	9-3-3062	101

Author	Paper	Page
	9-1-2733	107
Nakamura, Yuichi	5-3-0922	75
Nakano, Koki	8-2-2989	100
Nakata, Mitsuru	3-4-0265	52
Nakayama, Masanobu	8-1-3030	98
	8-1-3034	99
	8-2-2989	100
	13-6-3007	145
Nam, Dae-Hyun	7-2-2604	87
Nam, Ho-Seok	11-4-1457	122
Nam, Jiyeon	2-2-1105	45
	6-1-1092	80
Nam, Ki Tae	7-2-0844	86
Nam, Sang-Hun	4-1-2147	65
Nam, Tae Won	5-1-1312	73
Nam, Taewook	5-3-3609	76
Nam, Yoon Sung	7-1-0703	90
	7-1-1159	90
	10-1-0660	114
	10-1-0662	114
	10-1-0672	114
	10-1-0737	114
	10-3-0931	115
	10-3-0954	115
	10-3-1082	115
Nam, Young Jin	8-2-2486	100
Nandi, Dip Kumar	8-1-1528	97
Navickaite, Gabriele	2-2-2134	39
Nazarian-Samani, Mahboobeh	8-3-1823	93
	8-1-2010	98
	8-1-2019	98
Nazarian-Samani, Masoud	8-3-1823	93
	8-1-2010	98

Author	Paper	Page
	8-1-2019	98
Neuschitzer, Markus	6-2-0234	77
Ng, Ryan	5-2-0223	71
Nguyen, An Hoang-Thuy	1-1-2747	30
	1-2-2720	37
Nguyen, Dang Thành	4-3-0585	63
Nguyen, Hoang Hai	12-2-3429	132
Nguyen, Manh-Cuong	1-1-2747	30
	1-2-2720	37
Nguyen, Nguyen Thi	13-1-1323	146
Nguyen, Phan Thang	7-2-0624	91
Nguyen, Quoc Hai	8-1-2129	98
Nguyen, Quoc Hanh	8-1-2129	98
Nguyen, Thang Phan	4-0635	63
Nguyen, Thi Ngoc	12-2-3096	132
Nguyen, Van Du	9-1-2569	106
Nicolas, Julien	10-2-0144	113
Nikitskiy, Ivan	2-2-2134	39
Nishikawa, Hiroshi	1-2-0927	35
	2-0786	42
Nishiwaki, Shiro	6-2-0289	77
No, Hyeong-Gap	9-3-0590	108
	9-3-0592	108
Noda, Yusuke	8-1-3030	98
	8-2-2989	100
Noh, Jun Hong	6-1-1201	78
Noh, Kyung-Jong	7-2-2790	92
	11-2-0255	120
Noh, Min Ho	6-2-2271	83
Noh, Myoung-Sub	13-6-1238	135
Noh, Young Wook	6-1-2535	80
Nojima, Hirotugu	13-6-3007	145
Nopparuchikun, Adison	13-2-1892	140

Author	Paper	Page
Novak, Travis	4-3-3352	69
Novoselov, Kostya S.	4-1-0857	60
Nulu, Arunakumari	8-1-3211	94
	8-1-3161	99
Nulu, Venugopal	8-1-3211	94
	8-3-3221	96
	8-1-3161	99

O

Ogasawara, Yoshiyuki	8-1-3034	99
Oh, Dae Yang	8-2-2486	100
Oh, Dong Ju	3-4-3844	59
Oh, Hyunchul	13-1-0849	136
Oh, Hyunwoo	13-5-1393	152
Oh, Jehong	3-4-3640	59
	13-4-3739	151
	13-4-3745	151
Oh, Ji Seon	8-1-3452	99
Oh, Jihun	6-2-0831	77
Oh, Jiwoo	13-4-0855	148
Oh, Jong-Min	12-2-2490	131
	12-2-2587	131
	12-2-2760	131
	12-2-2815	131
	13-6-2855	134
	13-2-2865	141
	13-6-2858	144
	13-5-3118	154
	13-5-3273	154
Oh, Joon Hak	2-1-0284	38
Oh, Min Suk	3-3-2198	57
	3-3-3484	58
Oh, Min-Wook	9-1-2914	107

Author	Paper	Page
Oh, Nuri	3-3-2908	51
Oh, Sang Ho	12-1-0257	126
	12-1-0280	127
	12-1-2086	127
	12-1-2179	130
	12-1-2766	130
Oh, Seong Moon	13-5-1198	152
Oh, Seongkeun	3-3-2198	57
	3-3-3295	57
Oh, SeonHwa	7-2-1293	91
	7-2-1327	91
Oh, Seungjae	4-2-2079	67
Oh, Seungjoo	8-1-3452	99
Oh, Se-Young	13-6-3735	145
Oh, Solbin	13-2-1514	139
Oh, SoongJu	12-1-2289	130
Oh, Taeseob	13-5-1393	152
Oh, Teresa	10-3-3480	116
Oh, Wonje	6-2-0961	82
Oh, Young Min	10-3-1616	115
Oh, Yunjung	7-1-3681	90
	7-1-3686	90
Ohara, Kazuhiro	5-3-0922	75
Ohmagari, Shinya	13-2-1892	140
Ohta, Hiromichi	9-1-0122	102
	9-1-0804	102
On, Nuri	3-3207	53
Ong, Yong Siang	10-3-0231	113
Ono, Kanta	11-1-1581	122
	12-2-2159	128
Orgiu, Emanuele	4-1-0228	60
Oshima, Masaharu	12-2-0275	128
Otake, Masanari	8-2-2989	100

Author	Paper	Page
Ou, Yi-Chen	13-2-1538	133
Oum, Wansik	13-6-2239	144
Oura, Kentaro	5-3-3656	76
OuYang, Liang-Yueh	1-2-0578	32
Pak, Soyoung	3-1-1163	54
	3-1-1602	54
Pandit, Bhishma	4-3-2087	69
Pankaew, Piyapong	10-3-1771	115
	10-3-3830	117
Park, A-Ram	8-1-3390	94
Park, Bumsu	12-1-2086	127
	12-1-2179	130
	12-1-2766	130
Park, Byung Hoon	8-1-1233	97
	8-1-1250	97
Park, Byung Jun	5-3-3533	76
Park, Byung-Guon	12-2-3429	132
Park, ByungHoon	8-1-1253	97
Park, Byunghun	8-1-1213	97
Park, Byungwoo	6-1-2909	78
Park, Chan Beum	10-3-3556	116
	10-3-3625	116
Park, Chan Hee	9-3-1803	109
	10-2-1177	114
	10-2-1580	115
	10-3-1616	115
	10-3-1797	115
Park, Chanho	9-2-1671	110
Park, Cheolmin	2-3-0967	46
	2-3-1406	46
	9-2-1671	110

P

Author	Paper	Page
Park, Choon-Su	9-3-2093	101
	9-3-2459	101
Park, Dabin	9-1-1134	106
Park, Dong-Cheol	13-2-3647	142
Park, Eun Young	6-1-1445	78
Park, Gyu-Tae	1-2-1423	36
Park, Haeli	4-1998	62
	4-3-1529	68
Park, Han Wool	2-3-2530	46
Park, Hea-Lim	3-1-2383	54
Park, Heetaek	8-2-2291	95
	8-2-2551	95
Park, Hee-Young	12-1-2531	130
Park, Helen Hejin	6-1-1201	78
Park, Hong-Gyu	4-2013	62
Park, Hwanyeol	7-2-2604	87
Park, Hyanjoo	7-2-1293	91
	7-2-1327	91
Park, Hyun	1-2-0553	32
Park, Hyung-Ho	9-1332	105
	9-1626	105
Park, Hyun-Joon	13-5-2835	138
Park, Inkyu	2-3-3504	39
Park, In-Sung	3-2606	53
	13-2-2619	141
Park, Jae Chan	4-2-1629	61
Park, Jae Cheol	7-2399	89
Park, Jae Chul	10-3-0954	115
	10-3-1082	115
Park, Jae Hoon	9-2-2303	111
Park, Jae Hyun	7-2-2961	92
Park, Jae Hyung	10-3-0483	113
Park, Jae Yong	2-2-3450	39

Author	Paper	Page	Author	Paper	Page
	2-2-3461	39	Park, Ji-Won	3-4-1649	58
	2-2-3476	45	Park, Jiwoo	1-1-3124	35
Park, Jae-Cheol	7-2417	89	Park, Jong Hyeok	8-1-0993	97
Park, Jaehyun	4-1-2098	65	Park, Jong Hyun	3-2-3762	50
	4-2-2079	67	Park, Jong Keuk	6-2-1836	77
Park, Jaemin	7-1-3681	90		6-2-1801	82
	7-1-3686	90		6-2-1809	82
Park, Jae-Ryang	8-1-3876	99		6-2-1837	82
	13-2-3107	141	Park, Jonghwa	2-3-3154	47
	13-2-3869	142		2-3-3245	47
	13-2-3871	142	Park, Jong-keuk	1-1-1543	34
	13-2-3873	142	Park, Jongnam	3-3807	52
	13-2-3877	142	Park, Joon Hui	10-3-3610	116
	13-2-3881	142	Park, Joon-Hoon	11-3-2573	125
	13-2-3885	142	Park, Juhyung	9-1-3425	108
Park, Jaeseong	13-2-2099	140	Park, Jun Han	5-2-0828	74
Park, Jaesoon	10-3-2877	116	Park, Jun Sang	9-3-3513	110
Park, Jaewoo	13-1-0849	136	Park, Jung Hoon	13-1-2382	136
Park, Jang-Ung	2-3-2031	46		13-1-2497	147
Park, Jeongin	13-2-1786	140	Park, Jung Hwan	3-0826	53
Park, Jeongmin	13-5-0812	151		5-1-3691	74
Park, Jeongyoung	7-1-3181	90	Park, Jungjin	8-1-3306	94
Park, Jewook	4-1-2098	65	Park, Jungmin	13-5-2104	153
Park, Ji-Hun	13-3-1274	135	Park, Jungwon	12-1-2502	126
Park, Jin Choel	9-2673	104	Park, Jun-Hyoung	12-2-2547	131
Park, Jinho	3-1-1163	54	Park, Jun-Seob	13-4-1131	149
Park, Jinhong	10-3-2877	116	Park, Kern Ho	8-2-2484	99
Park, Jinhyoung	9-2-0652	110		8-2-2486	100
Park, Jinhyuk	10-1-3354	112	Park, Ki Tae	6-2-0509	77
Park, Jinjoo	6-2-1103	82	Park, Kimoon	1-2-1390	33
Park, Jin-Seong	3-4-3344	52		1-2-1544	33
Park, Jin-Woo	12-3-2370	128		1-2-1558	33
Park, Jisu	6-2-0961	82		1-2-1610	36

Author	Paper	Page
	13-6-1603	143
Park, Kwang Hyun	4-2-2137	67
Park, Kwang Sang	13-5-1198	152
Park, Kwan-Ho	9-1-1027	106
Park, Kyung Jin	9-2-2303	111
Park, Kyung-Soo	8-1-3876	99
	13-2-3107	141
	13-2-3869	142
	13-2-3871	142
	13-2-3873	142
	13-2-3877	142
	13-2-3881	142
	13-2-3885	142
Park, Min Sik	11-1-0221	118
Park, Min-Chul	12-2-0770	131
Park, Min-Jae	13-6-3121	145
Park, Minjeong	13-6-1636	135
	13-2-1669	139
	13-2-1672	139
	13-6-1670	144
	13-6-3225	145
	13-6-3231	145
Park, Minju	7-2-2665	92
Park, Minsoo	9-1-1901	106
Park, Minsu	4-3-3352	69
Park, Minsun	13-6-3061	134
Park, Minyoung	9-3-1289	108
	13-4-1316	149
Park, Myungjin	4-3-1529	68
Park, Nam-Gyu	6-1-5010	78
Park, Narae	13-2-2099	140
Park, Sae-Heum	12-1-1193	130
	12-1-2744	130

Author	Paper	Page
Park, Sang Hyun	3-0826	53
Park, Sang Joon	6-3-2775	85
	8-1-1659	98
	10-3-2024	116
Park, Sang-Hee Ko	1-2-2226	36
Park, Sanghyun	6-3-2622	85
Park, Sangyong	13-5-0814	151
	13-5-0816	151
Park, Se-Hoon	1-1-2327	35
	1-2-1258	36
	2-1-0930	43
Park, SeongJun	13-2-1669	139
Park, Seoung-Hwan	3-4-3640	59
Park, Seung-Iel	2-2-3517	46
Park, Seungryol	13-6-3056	134
Park, So-Jung	10-1-2597	114
	10-1-2620	114
Park, Soobin	1-2-1390	33
	1-2-1558	33
	1-2-1610	36
	13-6-1603	143
	13-6-1869	144
	13-1-1605	147
Park, Steve	2-1-2021	38
Park, Sungeun	13-1-3478	148
	13-1-3481	148
Park, Sung-Won	2-2923	42
	2-4-0908	48
Park, Sung-Woo	13-5-1555	152
Park, Sun-Gyu	4-2-2137	67
Park, Tae Joo	1-1-1450	34
	4-2-1629	61
	5-3-1646	75

Author	Paper	Page	Author	Paper	Page
	7-1415	88		13-1-2204	147
	8-1-1428	97		13-1-2261	147
	13-2-0424	133	Peng, Xiaowen	1-1-2163	30
	13-4-1586	137	Pengpat, Kamonpan	13-5-3283	154
Park, Tae Jung	4-0635	63	Pérez-Rodríguez, Alejandro	6-2-0234	77
	7-2-0624	91	Pesquera, Amaia	2-2-2134	39
Park, Taehyun	2-3-1406	46	Phạm, Duy Phong	6-2-1103	82
	8-1-2129	98	Phuc, Nguyen Huu Huy	8-2-3649	100
Park, Won Il	8-1-2543	94		8-2-3670	100
Park, Wonil	4-3-1529	68	Phung, Viet Duc	13-6-3583	145
Park, Woon Ik	5-2-0179	71	Pi, Jae-Eun	2-0599	42
Park, Yong Ju	2-1-0896	43	Placidi, Marcel	6-2-0234	77
Park, Yong Seob	6-3-1970	84	Polat, Emre Ozan	2-2-2134	39
	7-1-1961	90	Prabakar, Kandasamy	7-2-2723	87
	13-2-1786	140		7-2-2718	92
Park, Yongjo	3-4-3640	59	Prayoonphokkharat, Poom	12-2-0733	131
	13-4-3666	150	Priimagi, Arri	6-1-3134	81
	13-4-3739	151	Priya, Shashank	9-3-1030	101
	13-4-3745	151	Promros, Nathaporn	13-2-1892	140
Park, Yongsup	4-3-0585	63		13-2-1894	140
Park, Yoonsuk	13-5-2440	153		13-2-3756	142
Park, Young-Bae	1-2-1104	35	Puma, Eric	2-2-2134	39
	1-2-1423	36	Purusothaman, Yuvasree	9-3-2869	109
	2-1-1156	43		9-3-2879	110
Park, Youngsin	4-1-2248	65	Putri, Maryane Anugerah	3-4-0775	58
Park, Youngtae	11-2-1718	123	Pyo, SeongJi	8-1-3576	99
Park, Yunji	13-6-3056	134	Pyo, Seong-Ji	8-1-1310	97
	13-6-3061	134	Pyo, Sung Gyu	2-2556	41
Pascal, Tod	11-4-1908	118		3-1-1377	54
Paul, Caroline E.	10-3-3556	116		13-5-1387	152
Pazhamalai, Parthiban	4-3-2139	69	Pyun, Jungeun	1-2-0521	33
	8-2-2913	100			
	13-1-2140	147			

Author	Paper	Page
Q		
Qian, HuiDong	13-3-1274	135
Qiao, Shizhang	7-2-5011	86
Quan, Li Na	3-2-3802	49
Quy, Hoang Van	6-1-1861	80
	13-2-1302	139
R		
Ra, Hyun-Soo	4-2-1359	61
Rahman, Md Mahabubur	13-1-2651	147
Rajan Unnithan, Afeesh	9-3-1803	109
	10-3-1797	115
Rajendiran, Rajmohan	7-2638	89
Rakibuddin, Md	4-1111	62
Ramachandra Kurup Sasikala,	9-3-1803	109
Arathyrarn	10-3-1797	115
Ramasamy, Parthiban	3-3-0766	56
Ramasse, Quentin	12-3-0292	127
Ramesh, Rahul	7-2-1536	91
Rana, Kuldeep	8-1-0993	97
Rappe, Andrew Marshall	3-2-0541	50
	11-4-0545	119
Reed, Evan	4-1-0763	60
Rehn, Daniel	4-1-0763	60
Rha, Jongjoo	2-2-2328	39
Rho, Junsuk	5-1-0320	70
	5-2-3620	74
	5-2-3638	74
	5-3-3585	76
	13-2-3652	142
Rho, Myoung-Hoon	1-2-0927	35
Rho, Soon Ho	5-3-2646	75
Rho, Yoorim	13-2-3053	141

Author	Paper	Page
	13-5-3241	154
Richter, Lee	1-2-0578	32
Rim, Hyun Jun	9-1-3014	102
	9-1-3021	102
Rim, You Seung	3-4-0532	52
	10-3-3610	116
Roh, Changhyun	5-3-3077	75
Roh, Ha-Kyung	8-3-1823	93
	8-1-1213	97
	8-1-1233	97
Roh, Jong Wook	9-1-1494	106
	12-3-2370	128
	13-3-3126	135
Romanyuk, Yaroslav	6-2-0289	77
Roy, Biswajit	5-2-0322	71
Rui, He	6-1-1861	80
	13-2-1302	139
	13-1-1323	146
Ruoko, Tero-Petri	6-1-3134	81
Rwei, Syang-Peng	13-5-1071	151
Ryu, Chul Hee	7-2-3103	92
Ryu, ChulHee	9-3-3262	110
Ryu, Hanjun	9-2-0754	103
Ryu, Hojun	13-4-2151	150
Ryu, Huije	4-3-1083	63
	4-3-0821	64
Ryu, Hyodong	1-2-1423	36
Ryu, Ji Heon	8-3-3465	96
	8-3-3467	96
	8-1-3452	99
Ryu, Ji Ho	11-2-3196	124
Ryu, Jin	8-1-1499	97
	8-1-1549	98

Author	Paper	Page
	8-1-1615	98
Ryu, Jong-In	1-1-1820	34
	1-1-2327	35
Ryu, Jungel	3-4-3640	59
	13-4-3745	151
Ryu, Jungki	8-3-2107	93
Ryu, Ki Yeon	3-4-3844	59
Ryu, Sangwoo	5-3-3855	76
Ryu, Seunghwa	11-3-3064	120
	11-3-3072	120
	11-3-3228	120
	11-3-3209	125
	12-1-0746	130
Ryu, Sung Yeon	1-3-3248	31
Ryu, Taewook	13-1-2633	147
	13-1-2651	147
Ryu, Won-Hee	7-2-1151	91
	8-3-2107	93
	8-1-0454	94
	8-3-0985	96
	8-1-1310	97
	8-1-3576	99
S		
S, Abisegapriyan K	2-3-2813	47
Sahn, Nahm	9-3-2093	101
	13-2-2063	133
Sahoo, Suman Kalyan	11-2-2786	124
Sahoo, Surjit	4-3-2139	69
	13-1-2261	147
Sajedian, Iman	5-3-3585	76
Sakuda, Atsushi	8-2-3247	95
Samorì, Paolo	4-1-0228	60

Author	Paper	Page
Sanger, Amit	13-6-3601	134
Sankar, S	8-1-2028	98
Sargent, Edward	3-2-3802	49
Saucedo, Edgardo	6-2-0234	77
Scheu, Christina	4-2-1731	61
Schift, Helmut	5-1-0759	70
Sekitani, Tsuyoshi	2-1-3809	38
Selvaraj, Aravindha Raja	7-2-2718	92
Seo, Bumjoon	11-2-3196	124
Seo, Dong-Jun	4-3-1491	68
Seo, Han Byeol	2-2-0463	44
	3-4-0466	58
Seo, Hoyoung	9-1-0804	102
Seo, Hyeon Jin	4-1-2147	65
Seo, Hyeon-Sik	6-2-1836	77
Seo, Hyungtak	1-1-2421	30
Seo, Jangwon	6-1-1201	78
	6-1-1445	78
	6-1-1606	80
Seo, Ji-Ho	12-2-2490	131
	12-2-3100	132
Seo, Ji-Hun	10-1-0192	112
Seo, Jinsol	12-1-2086	127
	12-1-2766	130
Seo, Jong-Hyun	12-1-2768	127
Seo, Ki-Won	6-3-0133	83
Seo, Minhye	3-1-3176	55
Seo, Moo-Hyun	13-2-3636	141
Seo, Seung-Young	4-1-2098	65
	4-2-2079	67
Seo, Tae Hoon	4-1-0251	60
	4-1-0933	65
Seo, Won-Seon	9-1-2230	106

Author	Paper	Page
	9-1-2569	106
Seok, Tae Jun	4-2-1629	61
	13-4-1586	137
Seong, Sejong	3-2606	53
	13-2-2619	141
Seong, Tae-Yeon	3-3-1247	57
	13-6-2847	134
Sharma, Abhishek	3-4-1754	59
Sheeraz, Muhammad	13-6-0955	143
Shen, Teng-Lam	3-2-0552	50
Shi, Jianwu	4-0649	62
Shibuya, Keisuke	1-3-0200	31
Shih, Chun-Hua	3-2-0552	50
Shim, Cheol-Hwee	12-1-2738	126
Shim, Hyung Cheoul	5-3-3855	76
	12-2-2547	131
Shim, Hyun-Woo	13-2-3869	142
Shim, Jae Won	6-3-1590	84
Shim, Jaeho	3-2-1413	56
Shim, Jaehyung	10-3-3688	116
Shim, Jaesool	4-3-2126	69
Shim, Jihye	1-2-1295	36
Shim, Joon Hyung	13-1-2382	136
Shim, Wooyoung	5-3-3499	71
	9-3-2040	109
	12-3-3751	132
Shim, Young-Seok	13-6-0887	133
Shin, Bo Sung	5-2-0828	74
Shin, Byungha	6-2-3172	77
	6-1-3134	81
	7-3184	88
	7-1-3181	90
	9-1-3150	107

Author	Paper	Page
Shin, Changhwan	1-1-0211	30
Shin, Chang-Yun	8-2-3568	100
Shin, Dong Heon	4-1-3699	66
Shin, Dong Ok	8-1-2950	98
Shin, Dong Yup	11-4-1744	123
Shin, Dong-Jin	9-3-0149	108
Shin, Dongyoon	8-1-3876	99
	13-2-3107	141
	13-2-3869	142
	13-2-3871	142
	13-2-3873	142
	13-2-3877	142
	13-2-3881	142
	13-2-3885	142
Shin, Heechang	2-1-1405	44
Shin, Hyeon Suk	4-1-0857	60
	4-2-1362	66
	4-3-1491	68
Shin, Hyo Soon	9-1-2733	107
	13-6-2523	144
	13-5-2570	153
	13-5-2628	153
Shin, Hyo-Soon	13-5-2679	154
Shin, Hyun-Gyoo	13-2-3647	142
Shin, Hyun-Joon	12-2-2108	129
Shin, Hyunjun	13-3-0582	143
Shin, Jae Hyeok	8-1-2543	94
Shin, Jae-Soo	6-3-3613	85
Shin, Jin-Wook	4-3-0585	63
Shin, Jisoo	3-3-3839	58
Shin, Ji-Woong	8-1-1499	97
	8-1-1549	98
	8-1-1615	98

Author	Paper	Page	Author	Paper	Page
Shin, Jongmoon	2-2-2328	39		7-2-1873	91
Shin, JooHee	9-1-3425	108	Sim, Yelyn	7-2-0833	91
Shin, Jung Ho	3-0826	53		7-2-1873	91
Shin, Kwang Ho	13-3-0996	135	Sim, Yeon Hyang	6-3-0881	79
Shin, Mingue	6-1-3134	81		7-0883	89
Shin, Myoungsun	13-2-3085	141	Sim, Yeoseon	4-1-2114	65
Shin, Seong Gwan	6-1-1861	80		4-3-2112	69
	6-1-2751	80	Sinaga, Septy	6-3-3300	85
Shin, Seong Sik	6-1-1201	78		6-3-3309	85
	6-1-1606	80	Singh, Jitendra Pal	12-2-2065	129
Shin, Seungjae	11-4-0962	122		12-2-2066	131
Shin, Weon Ho	9-1-2230	106		12-2-2071	131
	9-1-2569	106	Singh, Son	2-1-1011	43
Shin, Won Suk	6-2-3175	83		6-2-0444	82
	6-2-3192	83		13-4-0959	137
Shin, Won-Suk	6-2-3162	83	Siva, Vantari	2-2-2470	45
Shin, Yeonbae	6-2-2257	82	Smit, Berend	11-1-0261	118
Shin, Yong Chang	9-3-2459	101	So, Seungyoung	11-3-1427	124
Shin, Young-Chul	13-5-2474	153		13-2-1930	140
	13-5-2519	153	Sohn, Byeong-Hyeok	4-1-0857	60
Shin, Young-Eun	2-3-3154	47	Sohn, Dong Kee	13-4-2862	150
Shin, Youn-Hwan	9-3-0328	101	Sohn, Hyunchul	1-1-3124	35
	9-0999	104		1-1-3131	35
Shiomi, Junichiro	11-3-3002	120		1-1-3212	35
Shisheng, Cai	2-3-3353	47		1-4-3109	37
Shtein, Max	3-1-3792	49	Sohn, Keun Yong	8-1-3211	94
Shu, Jun Min	13-6-0887	133		8-3-3221	96
Shuli, Xing	11-3-0972	124		8-1-3161	99
Shyamal, Roy	11-3-3358	119	Sokolov, Andrey	1-3-2366	31
Si, Ping-Zhan	13-3-1274	135	Sokolov, Andrey S.	1-1-3744	30
Sim, Han Ul	13-3-2333	135	Someya, Takao	3-1-3759	49
Sim, Seong-ju	8-1-0899	96	Son, Byeong Cheol	10-2-1177	114
Sim, Uk	7-2-0833	91	Son, Dong Ick	3-2-1413	56

Author	Paper	Page
	4-1-0251	60
	6-3-1422	84
Son, Geonsik	9-1-2592	107
Son, Gi-Cheol	4-2346	62
Son, HyeonTaek	13-5-1720	152
Son, Hyeon-Taek	13-5-1726	152
Son, Hyeon-Taek Son	13-5-0668	151
Son, Hyeon-Woo	13-5-1555	152
Son, Hyung Jin	6-3-2317	84
Son, Jae Sung	9-1-0351	102
Son, Jangbae	1-2-1295	36
Son, Jangyup	4-0790	62
Son, Ji-Won	13-1-2250	136
	13-1-2382	136
	13-1-2044	147
	13-1-2497	147
Son, JongTae	13-1-1099	146
	13-1-1109	146
Son, Jong-Tae	8-1-1499	97
	8-1-1549	98
	8-1-1615	98
	13-1-1090	146
Son, Junwoo	13-2-2099	140
	13-4-2157	150
Son, Kirak	1-2-1104	35
	1-2-1423	36
Son, Myungwoo	9-3-2363	109
Son, Seungwoo	12-3-0937	128
Son, Wooyoung	12-2-3100	132
Son, Woo-young	12-2-2760	131
Son, Youngin	9-2-2298	111
Song, Chul Kyu	2-2-3517	46
Song, Da-Hee	13-6-3735	145

Author	Paper	Page
Song, Gyeong Ju	9-3-2479	109
Song, Han Sung	2-2-2470	45
Song, Hee-eun	13-1-3478	148
	13-1-3481	148
Song, Hyeon-Yong	7-2399	89
	7-2417	89
Song, Hyun-Cheol	9-3-1030	101
	9-0999	104
Song, Jaeyong	9-1-3150	107
Song, Jinouk	3-1-0603	49
Song, Jinwon	2-2-3461	39
Song, Joseph	12-1-2289	130
	12-2-2919	132
Song, Ju Hee	13-4-2151	150
Song, Jun-Kyul	2-1242	41
	3-2-1461	56
	4-3-1479	68
Song, Junseong	4-2-2707	61
Song, Kyeongmin	5-1-3253	73
Song, Kyung	12-1-2895	127
	12-1-2915	127
Song, Minyoung	13-2-3714	142
Song, Myoung Hoon	3-2-3762	50
Song, Myungkwan	2-2-2328	39
Song, Rak-Hyun	13-1-3264	136
Song, Sang Hun	13-2-0361	139
Song, Seung Won	5-3-1015	75
Song, Seunguk	4-1-2114	65
Song, Subeom	4-1-3590	66
Song, Tae-Hyeob	13-2-3647	142
Song, Young Geun	13-6-0887	133
	13-6-0905	134
Song, Young Hyun	3-2-1000	55

Author	Paper	Page
	3-2-1098	55
	3-2-1120	55
	3-2-1318	56
Song, Young Min	2-2-2410	39
	2-2-2265	45
	2-2-2470	45
Soo, Choi Dong	13-2-2063	133
Stoliar, Pablo	1-3-0200	31
Sug, J. Y.	13-4-2697	150
Sug, J.Y.	13-3-2704	143
Suh, Jinyoo	12-1-2289	130
Suh, Jun Min	2-2061	41
	4-3-2025	64
	13-1-3267	136
Suh, Wonjeong	2-3-2494	46
Sun, Jeong-Yun	2-3-0156	40
Sun, Qijun	2-3-3514	47
	9-2-1741	103
	9-2-3537	111
Sun, Wei-Yen	5-3-0838	72
Sun, Ziqi	8-1-0332	94
Sundararajan, Mahesh	8-3-3907	93
Sung, Dongchul	4-3-1326	63
Sung, Hsing-Wen	10-3-0500	113
Sung, Hyeong Seok	13-4-3466	150
Sung, Tae Hyun	2-1-2509	44
	7-2-3103	92
	9-3-2359	109
	9-3-2479	109
	9-3-2505	109
	9-3-2696	109
Sung, Tae-hyun	9-3-3262	110
Susi, Toma	12-3-0164	128

Author	Paper	Page
Sutradhar, Sabuj Chandra	13-1-2633	147
	13-1-2651	147
Suzuki, Teiichi	13-6-3007	145
Suzuki, Yuta	11-1-1581	122
T		
Tak, Jang-Yeul	9-1-2230	106
Takeda, Hayami	8-2-2989	100
Takei, Tatsuya	3-4-0265	52
Tan, Jeiwan	7-1-3681	90
	7-1-3686	90
Tan, Wai Kian	5-3-0922	75
	5-3-3656	76
	7-1-1116	90
Tanibata, Naoto	8-1-3030	98
	8-1-3034	99
	8-2-2989	100
	13-6-3007	145
Tatsumisago, Masahiro	8-2-3247	95
Tekalgne, Mahider	4-0635	63
	4-3-0872	68
Thieu, Cam-Anh	13-1-2044	147
Thilawala, Kondasinghe Gayantha Nishan	4-1-2206	65
Thogiti, Suresh	6-3-1745	84
Tiwari, Ayodhya	6-2-0289	77
Tiwari, Devendra	6-2-2516	77
Toney, Michael F.	8-1-3306	94
Toriumi, Akira	1-4-5001	32
Tran, Quang Nhat	6-3-2775	85
	8-1-1659	98
Tripathi, Mukesh	12-3-0164	128
Truyen, Dang Hai	6-1-1861	80

Author	Paper	Page
	13-2-1302	139
Tsuji, Hiroshi	3-4-0265	52

U

Uk, Sim	7-2-1872	91
Ullah, Aman	13-6-0955	143
Umar, Muhammad	5-2-0322	71
Usman, Mushtaq	13-1-3264	136

V

Vattikuti, S.V.Prabhakar	4-3-2126	69
Venkateswaran, Vivekananthan	9-2793	104
	9-3-2869	109
	9-3-2879	110
Veizian, Stephane	5-1-3902	70
Vincent, Premkumar	6-3-1590	84

W

Walker, Marlon	1-2-0578	32
Walsh, Aron	6-1-3134	81
Wang, Dong Hwan	6-1-3272	81
	6-1-3275	81
	6-1-3437	81
Wang, Dunwei	7-1-0385	86
Wang, Fengle	2-4-3412	48
Wang, Gunuk	4-2013	62
Wang, Hao	11-2-0338	120
Wang, Hee Seung	9-0835	104
Wang, Hsin-Ta	13-2-1538	133
Wang, Jianpu	3-2-3799	50
Wang, Jinguo	11-2-0338	120
Wang, Quan	7-2-3103	92
	9-3-3262	110

Author	Paper	Page
Wang, Sungrok	10-2-3246	115
Wang, Zhen	12-1-2086	127
	12-1-2179	130
Wang, Zhong Lin	9-2-2303	111
Watcharapasorn, Anucha	12-2-0733	131
Way, Tun-Fun	13-5-1071	151
Weon, Byung Mook	11-3-3072	120
	12-1-3546	126
Whang, Dongmok	4-3-3408	63
Whang, Woo-Sik	13-5-1288	152
Wheeler, Daniel	1-2-0578	32
Wibowo, Febrian Tri Adhi	6-3-3309	85
Wimalananda, Maddumage Don Sandeepa Lakshad	2-1-2152	44
Wolverton, Chris	11-1-5004	118
Won, Sung Ok	12-2-2066	131
Won, Sung-Ok	13-2-1796	133
Wong, Ken-Tsung	3-1-0457	49
Woo, Hee Chul	3-3-3838	58
	3-3-3839	58
Woo, Jeongkyu	3-1-1167	54
Woo, Jong Seok	13-5-1198	152
Woo, Jungwook	11-4-1049	119
Woo, NamSub	4-2-0848	66
Woo, Nam-Sub	13-1-1521	147
Woo, Sang Bum	7-2-3103	92
	9-3-2359	109
Woo, Sang-Bum	9-3-3262	110
Woo, Seung	8-2-2920	95
Wu, Chaoxing	9-2244	104
	9-2-2223	111
Wu, Panpan	11-2-2874	121
Wu, Sangwook	10-3-3722	117

Author	Paper	Page
Wu, Tianjing	8-1-3529	94
Wu, Wenzhuo	9-3-0302	101
X		
Xing, Yao Long	12-1-2086	127
Y		
Yabuuchi, Naoaki	8-1-3030	98
Yamaguchi, Kazuhiro	5-3-0922	75
	5-3-3656	76
Yamamoto, Tokoharu	8-2-3649	100
Yang, Beelyong	7-3-1804	92
Yang, Bo	11-2-2874	121
Yang, Dong Won	8-1-2543	94
Yang, Duyoung	13-4-3745	151
Yang, Heejun	7-2-2391	87
	12-2-0355	129
Yang, Heesun	3-3-0646	56
	3-3-0648	56
	3-3-3012	57
	3-3-3484	58
Yang, Hyemi	8-2-2484	99
Yang, Hyunha	6-1-3629	81
	6-1-3642	81
	6-1-3689	81
	6-1-3697	81
Yang, Jin Wook	7-1-3587	90
Yang, Joel	5-2-0223	71
Yang, Jong-Heon	2-0599	42
Yang, Junjae	4-1-3516	65
Yang, Kee-Jeong	6-2-2307	83
Yang, Kyung Min	8-1-2543	94
Yang, Liu	5-1-3552	74

Author	Paper	Page
Yang, Moon Young	10-3-0931	115
Yang, Seung Hoon	4-1998	62
Yang, Seung Min	10-3-3688	116
Yang, Seunghoon	4-3-2060	69
Yang, Seunghwa	11-3-1950	119
Yang, Seung-Yeol	2-1739	41
Yang, Su Won	13-3-2333	135
Yang, Sungchil	2-2923	42
	2-4-0908	48
Yang, Sunggu	2-2923	42
	2-4-0908	48
Yang, Sungmin	13-6-1670	144
Yang, Su-won	13-3-2489	136
Yang, Tae-Youl	6-1-1201	78
	6-1-1445	78
Yang, Woorchul	4-2-2892	67
	12-2-3429	132
Yang, Wooseok	7-1-3681	90
	7-1-3686	90
Yang, Ya	9-2-0473	103
Ye, Bora	4-2-1478	66
Yeo, Byung Chul	11-1-0820	118
	11-1-2193	122
Yeo, Dong Hun	9-1-2733	107
	13-6-2523	144
	13-5-2570	153
	13-5-2628	153
	13-5-2679	154
Yeom, Ahram	3-1-2826	54
Yeon, Changbong	4-1-3516	65
Yeon, JeongMi	13-2-3085	141
Yi, Hyunjung	2-1-1075	43
Yi, Junsin	6-2-1103	82

Author	Paper	Page
Yi, Min Ji	6-1-3272	81
	6-1-3437	81
Yi, Seung Yeop	13-6-0905	134
Yim, Haein	13-3-0614	143
Yim, Haena	5-2-2255	74
Yin, Qixun	1-1-2160	30
Yin, You	5-1-0236	70
Yoo, Bongyoung	1-2-1390	33
	1-2-1544	33
	1-2-1558	33
	1-2-1610	36
	13-6-1603	143
	13-6-1869	144
	13-1-1605	147
Yoo, Chang Min	13-5-2570	153
Yoo, Chul Jong	2-2-3461	39
Yoo, Dongsun	11-1-0301	118
	11-1-1442	122
Yoo, Geonwook	13-4-0855	148
	13-4-1096	148
Yoo, Hong-suk	1-2-1258	36
Yoo, HyoSang	13-5-1720	152
Yoo, Hyo-Sang	13-5-0668	151
	13-5-1726	152
Yoo, Jung Hyeon	3-2-1000	55
	3-2-1098	55
	3-2-1120	55
	3-2-1318	56
Yoo, Jung-Keon	5-1-1467	73
Yoo, Mi	11-2-1370	123
	11-2-1382	123
Yoo, Ran	13-6-3025	134
	13-6-3056	134

Author	Paper	Page
	13-6-3061	134
Yoo, Sanghyuk	11-3-1283	119
	11-3-3090	120
Yoo, Sanghyun	13-2-1669	139
Yoo, Sang-Im	3-4-1754	59
	13-3-1215	143
	13-3-1300	143
Yoo, Seokju	13-6-1670	144
	13-6-3225	145
	13-6-3231	145
Yoo, Seong Tae	8-1-3452	99
Yoo, Seunghyup	2-3-3297	40
	3-1-0603	49
	3-1-3321	55
	3-1-3820	55
Yoo, Sung Jong	12-1-2531	130
	13-5-3335	154
Yoo, Tae Jin	1-1-1146	34
	1-1-1209	34
	1-1-1264	34
	4-2-1594	66
	4-3-1378	68
Yoo, Yongseok	6-1-2782	80
	6-1-2794	81
	6-1-2802	81
Yoo, Young Jin	2-2-2410	39
	2-2-2470	45
Yoo, Young Taek	3-3-0704	56
Yoo, Young-Taek	2-2-0839	45
Yook, Seung Ho	13-5-3335	154
	13-5-3339	154
Yoon, Dae Ho	3-2-1000	55
	3-2-1098	55

Author	Paper	Page	Author	Paper	Page
	3-2-1120	55		13-4-3477	137
	3-2-1318	56	Yoon, Sam S.	8-1-0993	97
	7-2-1029	91	Yoon, Sangho	4-1-3615	66
	13-5-0667	138	Yoon, Sanghyun	13-1-0944	146
Yoon, Daseob	13-4-2157	150	Yoon, Seong In	4-2-1362	66
Yoon, Euijoon	3-4-3640	59		4-3-1491	68
	4-2-2085	67	Yoon, Seongcheol	6-1-3697	81
	13-4-3666	150	Yoon, Seung Soo	3-1-1163	54
	13-4-3739	151		3-1-1167	54
	13-4-3745	151		3-1-1602	54
Yoon, Heonjun	9-3-2459	101	Yoon, Sinmyung	11-2-3906	124
Yoon, Ho Gyu	13-5-2628	153	Yoon, Sujin	13-1-2633	147
Yoon, Hong Joon	9-0677	104		13-1-2651	147
Yoon, Hong-Joon	9-2-0876	103	Yoon, Young Joon	3-4-1034	58
Yoon, Hong-Min	1-2-2461	36		4-2-1035	66
Yoon, Hyewon	4-3-3352	69		4-2-1039	66
Yoon, Hyojin	1-2-1295	36	Yoshiomoto, Yuta	11-3-3002	120
Yoon, Jeong-Won	1-2-2390	36	Yoshitake, Tsuyoshi	13-2-1892	140
	13-2-2269	140		13-2-1894	140
Yoon, Ji Hui	10-3-1888	115		13-2-3756	142
Yoon, Ji Won	13-4-3466	150	You, Jingbi	3-2-0867	50
Yoon, Jin-Ho	13-2-3881	142	Youn, Byeng D.	9-3-2459	101
Yoon, Jinwoo	11-3-1179	124	Yu, Hak Ki	2-2-3476	45
Yoon, Ki Ro	7-2-3328	87	Yu, Hayoung	4-1-2710	65
	7-2-3216	92	Yu, Ho Sung	12-2-0355	129
	7-2-3388	92	Yu, Jae-Seok	10-3-3722	117
	13-5-3330	154	Yu, Ji Hoon	13-3-0996	135
	13-5-3335	154	Yu, Ji-Sang	8-2-0834	99
	13-5-3339	154	Yu, Joon Hwi	13-5-1089	152
Yoon, Kyung Joong	13-1-2250	136	Yu, Jung-Hoon	4-1-2147	65
	13-1-2497	147	Yu, Ki Jun	2-4-3205	48
Yoon, Kyung-Joong	13-1-2044	147		2-4-3224	48
Yoon, Myung-Han	10-2-3246	115		2-4-3362	48

Author	Paper	Page
	2-4-3733	48
Yu, Kijun	2-4-3206	48
Yu, KyoungMoon	1-2-2720	37
Yu, Kyoung-Moon	1-1-2747	30
Yu, Taekyung	12-2-2919	132
Yun, Alan Jiwan	6-1-2909	78
Yun, Dan Hee	5-2-0828	74
Yun, Eui-Jung	2-2-0463	44
	3-4-0466	58
Yyun, Jae-ho	13-3-2489	136
Yun, Jun Su	10-1-0662	114
Yun, Jungheum	2-2-2328	39
	2-2428	41
Yun, Ju-Young	6-3-3613	85
Yun, Kayoung	11-4-1457	122
Yun, Min Ju	6-3-0881	79
	7-0883	89
Yun, Seong-Cheol	6-1-3689	81
Yun, Sowan	5-1-2792	73
Yun, Sun Jin	4-2-3727	67
	4-2-3749	68
Yun, Sunjin	4-1-3516	65

Z

Zang, Yu-Qiao	9-1-0804	102
Zhang, Guangyu	2-3-3514	47
Zhang, Qiang	8-3-0368	93
Zhang, Rui	8-3-0368	93
Zhang, Xue-Qiang	8-3-0368	93
Zhang, Yi	6-2-0961	82
Zhang, Yingchao	2-4-3473	48
Zhao, Chen-Zi	8-3-0368	93
Zhao, Guoqing	2-2428	41

Author	Paper	Page
Zhao, Hongbo	8-1-3306	94
Zhao, Jing	2-3-3514	47
	9-3-0604	108
Zhong, Haizheng	3-2-3891	50
Zhong, Miao	7-1-0434	86
Zhou, Shiqi	2-0786	42
Zhou, Wu	12-3-1007	128
Zhu, Rong	2-3-0163	40
Zhuang, Yan-Nian	13-5-1071	151
Zo, SunMi	10-3-3900	117
Zou, Shouzhong	1-2-0578	32
Zurutuza, Amaia	2-2-2134	39

AMOGREENTECH

Global Leader
for Automotive · IT · Energy · Environment fields
based on Advanced Materials

IT/Nano

- Thermal Total Solution
- Graphite Injection Molding
- Vent
- COF/ Thin-film PCB
- Nano Ink/ Paste

Energy

- Amorphous/ Nano-Crystalline Magnetic Components
- Flexible Battery
- ESS(UPS)

Environment

- Water Treatment System
- Vent Cleaner
- SCR(De-NOx system)
- Hydrogen Reformer

Smart Tex

- Silver Wire
- Nano Fiber for Functional Textile

대한민국 No.1 반도체 소재기업

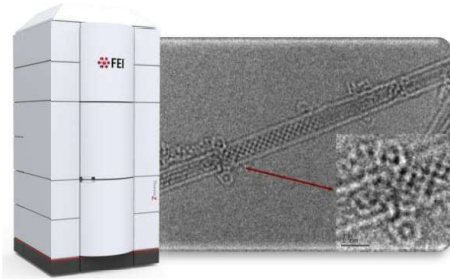
SK실트론은 세계 최고를 향한
끊임없는 도전과 혁신으로
대한민국 반도체 실리콘 웨이퍼의
역사가 되겠습니다.

SK실트론은 반도체의 핵심원료인 실리콘 웨이퍼 (Silicon Wafer)를
생산하여 삼성전자, SK하이닉스, 도시바, 인텔, TSMC 등
세계 유수의 반도체 회사에 제공하고 있습니다.



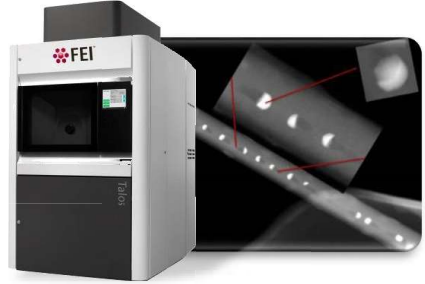
Change Your World With ThermoScientific Electron Microscope Solutions

Themis Z™ TEM



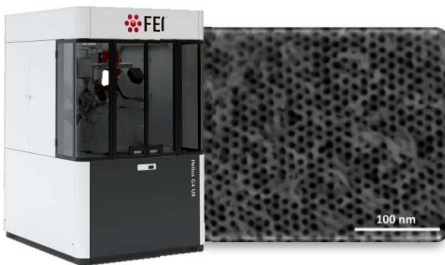
- The Ultimate in optical performance, reproducibility and flexibility
- Low damage, high sensitivity imaging and analysis of materials in 2D, 3D and 4D
- Best atomic characterization
- Best environmental stability and in situ dynamic research
- Widest range of materials science research covered in one tool

Talos F200™ TEM



- High resolution and high throughput STEM imaging
- Fast, precise and quantitative 3D EDS analysis
- Dynamic and high resolution TEM imaging with fast navigation
- Remote control with environmental immunity

Helios G4™ DualBeam



- Fastest and easiest preparation of highest quality samples for HR S/TEM and APT
- Extreme high resolution imaging with the most precise contrast
- Access highest resolution, multi-scale and multi-modal subsurface and 3D information
- Fast, accurate, and precise milling and deposition of complex structures with critical dimensions of less than 10nm

Apreo™ SEM



- Unique compound final lens delivers an exceptional resolution of 0.8nm at 1kV
- Best resolution on tilted or topographic samples
- Best performance on sensitive, insulating sample
- The widest range of charge mitigation strategies
- Easiest sample handling and navigation

Automated High-Speed Spectroscopic Ellipsometer

»UNECS-3000A«

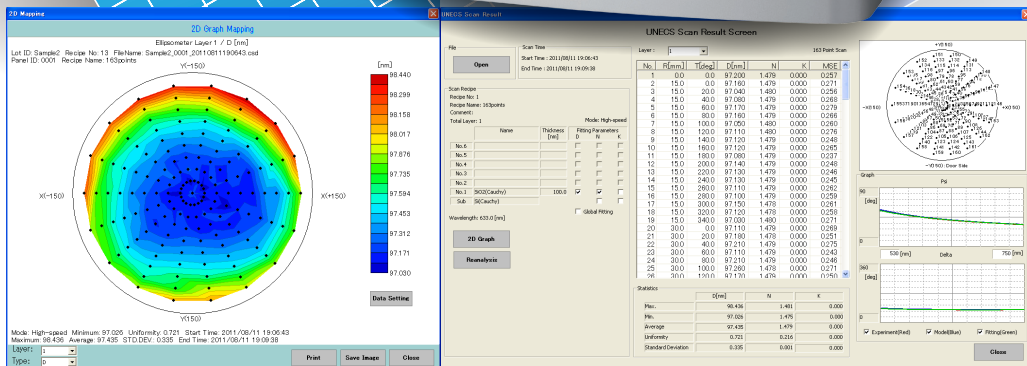
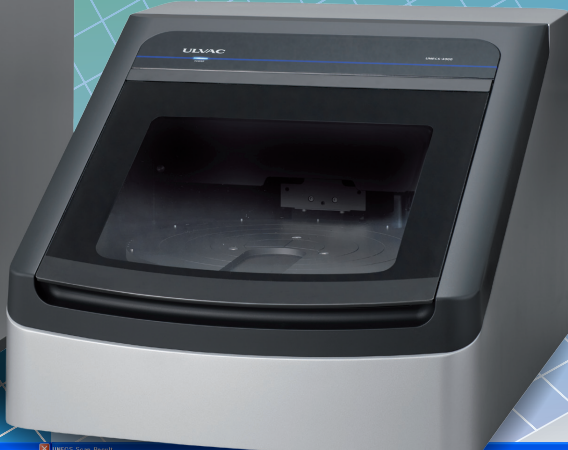
Ø 300 mm Auto-mapping Model

FEATURES

- ▶ **Automated Mapping Function**
Measure and provide the film thickness distribution of a maximum Ø 300 mm substrate automatically with programmable R-θ stage.
- ▶ **High-speed Measurement**
The snapshot measurement is realized by the spectroscopic ellipsometry with the high-order retarders.
The fastest data acquisition time is 20 ms per measurement (for 100 nm SiO₂ single layer).
- ▶ **Customized Material Tables**
Users can easily edit and add material table files by themselves.
- ▶ **Multilayer Measurement**
It's possible to measure the multi-layer film thickness up to 6 layers.

UNECS SERIES

- ▶ Ø 200 mm motorized Model, UNECS-2000, is also available.





자동차 차체용 알루미늄 VS 포스코 기가스틸

세상에 없던 초고강도스틸 포스코 기가스틸의 시대가 열립니다

철도 이제 기가의 시대로 달려갑니다
자동차 차체용 알루미늄보다
3배 더 강한 포스코 기가스틸!
운전자가 더 안전해지는 기가스틸로
포스코가 철의 새 시대를 열어갑니다



알루미늄은 따라올 수 없는 미래 소재, POSCO GIGA STEEL

• 안전을 위한 강도의 혁신 : 1㎡당 10톤의 하중을 견디는 10%급 강도

• 연비를 위한 무게의 혁신 : 기존 차체 대비 26.4% 경량화

posco

ENGE 2018

The 5th International Conference on Electronic Materials
and Nanotechnology for Green Environment

