



ENGE 2014

International Conference on
Electronic Materials and
Nanotechnology for
Green Environment

Nov. 16-19, 2014 | Ramada Plaza Jeju Hotel, Jeju, Korea

Hosted by



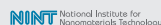
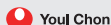
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스물 여덟 글자로 백성의 눈을 뜨게 하겠다는 세종대왕의 혁신적인 생각처럼
수 백년이 지나도 변함없는 위대한 가치들이 있습니다. 포스코는 다 함께,
더 나은 세상을 만들어가기 위해 보다 혁신적인 생각으로 세계 제일의
철강기업을 넘어 사랑받고 존경받는 기업, POSCO the Great를 향해 나아가겠습니다



위대함을 향해 갑니다

posco

Center for Nanomaterials and Chemical Reactions

To resolve energy and environmental issues associated with zeolites



Ryong Ryoo

Director,

Center for Nanomaterials
and Chemical Reactions,
IBS

Distinguished Professor,

Department of Chemistry,
KAIST

Foreseen reduced fossil fuels supplies and the growing environmental concerns provide incentive for developing high yield chemical processes and technologies, while reducing feedstocks and energy consumption and pollutants. Research in the Center for Nanomaterials and Chemical Reactions (CNCR) has been focused on nanoscience and chemical reactions using basic science to find comprehensive solutions for the environmental and energy-related problems that face future generations.

Renewable energy sources result in a significant reduction in both fossil fuel consumption and greenhouse gas emissions. In this context, CNCR has conducted studies on chemical reactions, in which catalysts play a key-role. Being easily separable and reusable, heterogeneous catalysts have played a pivotal role in the conversion of renewable feedstocks. In this regard, nanostructured materials (e.g., nanoparticles and nanoporous material) exhibiting large surface areas have gathered particular attention. In recent years, the field has lived continuous development, and CNCR has been recognized for its many contributions in the domain.

• Contact

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_Homepage.
<http://cnrc.ibs.re.kr>
<http://rryoo.kaist.ac.kr>

In this context, CNCR aims to study the fundamental formation principles through basic chemical research. The research center has developed high-efficient nanoreaction catalysts and pursued solutions to energy-related and environmental problems by understanding and optimizing green chemical reactions. We will continuously strive to deliver world-beating academic achievements and to contribute greatly to science and technology for the benefit of humankind.



Center for Artificial Low Dimensional Electronic Systems



Director : Han Woong Yeom



Physics (Director) Han Woong Yeom

STS

Research Fellow
Tae-Hwan Kim

STM

Research Fellow
Ungdong Ham

MFM

Research Fellow
Jeehoon Kim

ARPES

Research Fellow
Keun Su Kim

Theory

Research Fellow
Sung-Hoon Lee

Materials Physics (Group Leader)

Moon-Ho Jo
Layered Crystals



Materials Chemistry (Group Leader)

Hee Cheul Choi
Molecular Crystals

New
function
and
devices

New low D physics
symmetry + topology

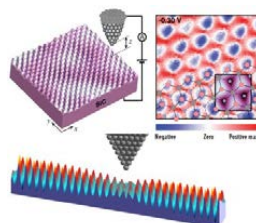
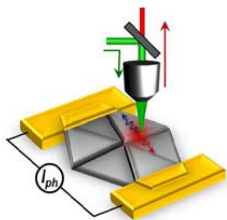
Advanced
probe microscopy

Advanced
Photoelectron spectroscopy

Transport

New hybrid low D materials
Atomic layer + layered crystal + organic crystal

Atomically controlled growth /interface



[Goal of CALDES]



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Welcome Message



“Welcome to ENGE 2014”

On behalf of the committee and everyone involved in preparing for this event, I wish to extend a warm-hearted welcome to all of the participants of the International Conference on Electronic Materials and Nanotechnology for Green Environment 2014 (ENGE 2014).

Renowned plenary, symposiums, and other technical sessions are excellent opportunities to share cutting-edge knowledge, recent research results, and technological advances in broad areas of electronic materials and nanotechnology. Empowering social programs have also been planned to provide great networking opportunities with internationally prominent scholars, specialists, and researchers.

I wish you all a fruitful meeting and I hope that you benefit from our comprehensive scientific programs, strengthen your professional networks among over 1,000 expected attendants, and leave with a refreshed vision for our students and community. I also encourage you to take advantage of our beautiful location and spend time to enjoy our culture and scenery here in the island of Jeju.

Most importantly, I would like to express my deepest gratitude to all of you for attending this 3rd ENGE. I also highly appreciate those who made this conference possible with their consistent dedication.

Once again, welcome to ENGE 2014 and Jeju, Korea.

Sincerely,

A stylized handwritten signature in black ink, appearing to read 'Shin Kyung-Ho'.

Kyung-Ho Shin

Chairman, ENGE 2014

Committee

Steering Committee

Chairman	Kyung-Ho Shin	Korea Institute of Science and Technology
Vice-Chairman	Jong-Lam Lee	Pohang University of Science and Technology
Secretary General	Moon-Ho Jo	Pohang University of Science and Technology
Program	Jinho Ahn	Hanyang University
Publication	Byungwoo Park	Seoul National University
	Sung Gyu Pyo	Chung-Ang University
Global Cooperation	Sang-Im Yoo	Seoul National University
External Affairs	Chul-Jin Choi	Korean Institute of Materials Science
Publicity	Young-Chang Joo	Seoul National University
Treasurer	Jonghwa Eom	Sejong University
Local	Sang Ouk Kim	Korea Advanced Institute of Science and Technology

Advisory Committee

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Member	Ki-Bum Kim	Seoul National University
	Young-Ho Kim	Hanyang University
	Yong-Seog Kim	Hongik University
	Jang-Joo Kim	Seoul National University
	Byungwoo Park	Seoul National University
	Sang-Hee Suh	Korea Institute of Science and Technology
	Dong Hyuk Shin	Hanyang University
	Geun-Young Yeom	Sungkyunkwan University
	Sang-Im Yoo	Seoul National University
	Chan-gyu Lee	Changwon National University
	Hee-Woong Lee	Korea Electrotechnology Research Institute
	Soon Hyung Hong	Korea Advanced Institute of Science and Technology

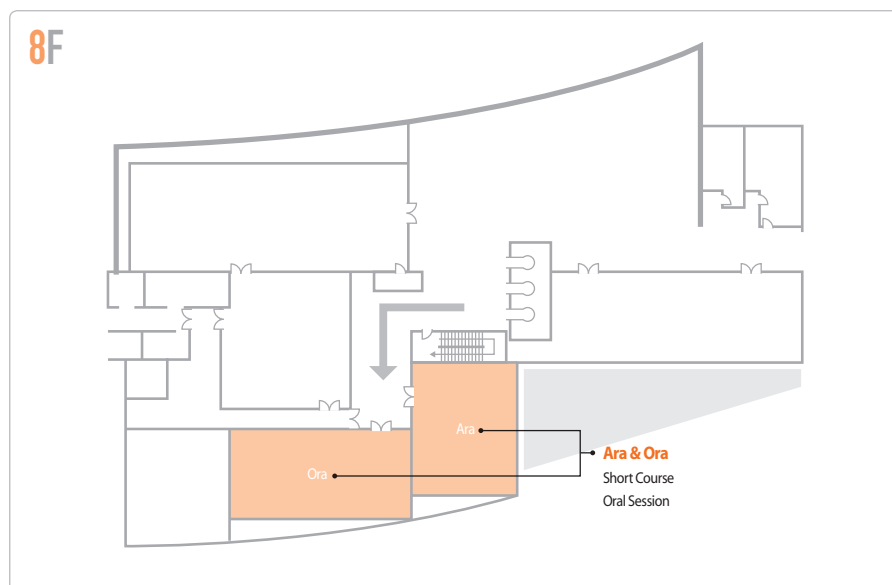
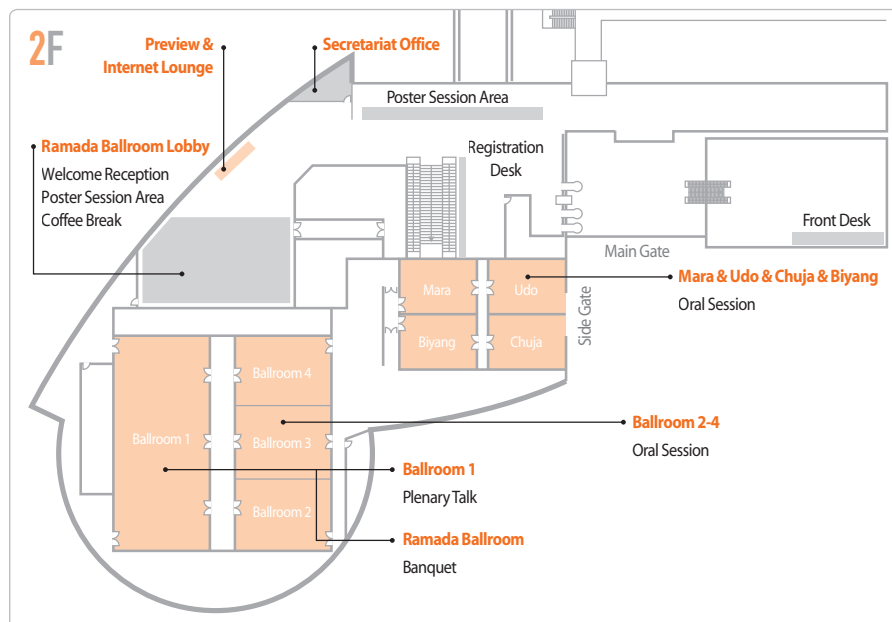
Program Committee

Chairman	Jinho Ahn	Hanyang University
Electronic Materials	Byoung Hun Lee	Gwangju Institute of Science and Technology
Nano	Sang Ouk Kim	Korea Advanced Institute of Science and Technology
Display	Cheolmin Park	Yonsei University
Energy	Kisuk Kang	Seoul National University
Computational Materials Science	Seungwu Han	Seoul National University

Symposium Organizer

Materials for Advanced Electronic Applications	S1	Jiyoung Kim	University of Texas at Dallas
		Pil-Ryung Cha	Kookmin University
	S2	Hyunsang Hwang	Pohang University of Science and Technology
		Moon Goo Jeon	Gwangju Institute of Science and Technology
Nanoscale Materials, Processes and Devices	S3	Sang-Im Yoo	Seoul National University
	S4	Byoung Hun Lee	Gwangju Institute of Science and Technology
		Jungwoo Oh	Yonsei University
	S5	Sungjin Park	Inha University
	S6	Yoon Sung Nam	Korea Advanced Institute of Science and Technology
Materials and Devices for Frontier Display	S7	Jeong Young Park	Korea Advanced Institute of Science and Technology
	S8	Kornelius Nielsch	University of Hamburg
		Hee-Woong Lee	Korea Electrotechnology Research Institute
		Jae Yong Song	Korea Research Institute of Standards and Science
	S9	Min Park	Korea Institute of Science and Technology
Energy Materials and Technology	S10	Jong Kyu Kim	Pohang University of Science and Technology
	S11	Won Gun Koh	Yonsei University
	S12	Unyong Jeong	Yonsei University
	S13	Tae-Woo Lee	Pohang University of Science and Technology
Computational Materials Science	S14	Jihun Oh	Korea Advanced Institute of Science and Technology
	S15	Sang-Woo Kim	Sungkyunkwan University
	S16	Kisuk Kang	Seoul National University
	S17	Jung-Yong Lee	Korea Advanced Institute of Science and Technology
	S18	Jeong Woo Han	University of Seoul
Materials Science	S19	Sang Soo Han	Korea Institute of Science and Technology
	S20	Seungwu Han	Seoul National University
	S21	Seungwu Han	Seoul National University
	S22	Young Keun Kim	Korea University
	S23	Hee-Woong Lee	Korea Electrotechnology Research Institute
	S24	Young-Chang Joo	Seoul National University
		Seung Min J. Han	Korea Advanced Institute of Science and Technology
	S25	Seong In Kim	Cheorwon Plasma Research Institute
	S26	Haein Yim	Sookmyung Women's University
	S27	Young-Chang Joo	Seoul National University
		Seungwu Han	Seoul National University
	S28	Moon-Ho Jo	Pohang University of Science and Technology

Venue Layout



Program at a Glance

	Nov. 16 (Sun.)	Nov. 17 (Mon.)	Nov. 18 (Tue.)	Nov. 19 (Wed.)	
08:00		Poster Session 1 (08:00-09:00)	Poster Session 2 (08:00-09:00)	Poster Session 3 (08:00-10:00)	
09:00		Technical Session (09:00-12:00)	Technical Session (09:00-12:00)		Plenary Talk 3 (10:00-10:45)
10:00				Coffee Break	
11:00				Poster Awards (11:00-11:30)	
12:00				Lunch (11:30-13:00)	
13:00		Lunch (12:00-13:00)	Lunch (12:00-13:00)	Technical Session (13:00-15:00)	
14:00		Plenary Talk 1, 2 (13:00-14:30)	Technical Session (13:00-16:00)		
15:00		Coffee Break			Coffee Break
16:00		Technical Session (14:45-17:45)			Poster Session 2 / Coffee Break (16:00-18:00)
17:00			Welcome Reception (17:00-18:00)		
18:00		Poster Session 1 (17:45-19:00)	Banquet (18:00-20:00)		
19:00	Short Course (19:00-22:00)				
20:00					
21:00					
22:00					

Conference Information

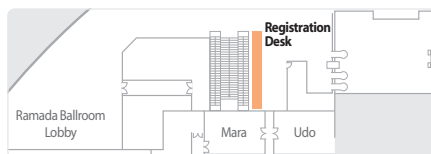
All about Registration

Location: Ramada Ballroom Lobby (2F)

Operating Time

Nov. 16 (Sun.) 15:00-18:00

Nov. 17-19 (Mon.-Wed.) 07:30-18:00



On-site Registration Fee

Registration Fee

Regular USD 650 KRW 715,000

Student USD 350 KRW 385,000

Option (for Student)

Banquet USD 50 KRW 55,000

Regular's Registration Fee Includes

Admission to All Sessions, Abstracts (on USB),
Welcome Reception, Lunch, Banquet

Student's Registration Fee Includes

Admission to All Sessions, Abstracts (on USB),
Welcome Reception, Lunch

Personal Envelope

A personal envelope of registration is provided to each participant at the registration desk. It contains a name badge, coupons for welcome reception beverage, lunches, banquet and a receipt for the registration fee.



Name Badge

Admission to all session
rooms and social
programs



Coupons

Welcome reception
beverage (Nov. 16)
Lunch (Nov. 17-19)
Banquet (Nov. 18)



Receipt

Receipt for the
registration fee

Also, participants will be given a program book and a USB flash drive containing the electronic version of abstracts at the registration desk.



Program Book

Useful information of
ENGE 2014 conference
and every session



USB flash drive for PC & Smart Phone

Containing the electronic
version of abstracts

Certificate of Attendance

A certificate of attendance will be issued upon request at the registration desk after 3 p.m. during the conference.

Catering Facilities

All participants who registered for ENGE 2014 can enjoy lunch & coffee without additional fees (included in the registration fee).



Coffee Break: Ramada Ballroom Lobby (2F)

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

Operating Time	Nov. 17 (Mon.)	14:30-14:45
	Nov. 18 (Tue.)	16:00-16:30
	Nov. 19 (Wed.)	10:45-11:00 / 15:00-15:30



Lunch: Korean Restaurant (1F)

Lunch will be provided to all participants during the conference. Please bring your lunch coupons with your name badge.

Operating Time	Nov. 17-19 (Mon.-Wed.)	11:30-13:00
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General Information



Announcement & Message Board

Announcement and message board will be set up near the registration desk area so that participants can get useful information from the secretariat or other participants.



Internet Lounge

The internet lounge located in the Ramada Ballroom Lobby (2F) may be used by conference participants free of charge to access the web.



Wireless Internet Access

Free WiFi is available in the ENGE 2014 venue as well as hotel room.
ID: RAMADA or RAMADA_PAD



ATM (Automated Teller Machines)

Participants who carry internationally recognized credit cards can get cash advances in Korean Won at the Automated Teller Machines installed in Ramada Plaza Jeju Hotel.

*The nearest ATM from the Ramada Ballroom Lobby is located in the front side of Casino (2F), Ramada Plaza Jeju Hotel.



Mobile Device Charging Service

Mobile device charging is available at the registration desk.

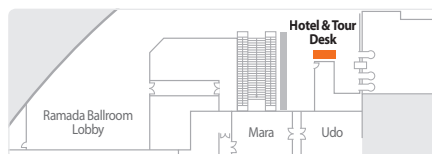
Hotel & Tour

Location: Ramada Ballroom Lobby (2F)

Operating Time

Nov. 16 (Sun.) 15:00-18:00

Nov. 17-19 (Mon.-Wed.) 09:00-18:00



Hotel	Address	Distance from Venue	Tel
Ramada Plaza Jeju Hotel	66 Topdong Ro, Jeju	Venue	+82-64-729-8100
KAL Hotel Jeju	151 Jungang-ro, Jeju City, Jeju	10 minutes by taxi 30 minutes on foot	+82-64-724-2001
Jeju Pacific Hotel	Seosaro 20, Jeju-si, Jeju	5 minutes by taxi 15 minutes on foot	+82-64-758-2511
Jeju Ocean Suites	74 Tapdong Haeon-ro, Jeju	5 minutes on foot	+82-64-720-6000
Jeju Palace Hotel	1192-18, Samdo 2 Dong, Jeju	10 minutes on foot	+82-64-753-8811
Hotel Robero	26 Gwandeok-ro, Jeju City, Jeju	7 minutes by taxi 20 minutes on foot	+82-64-757-7111

Secretariat Office

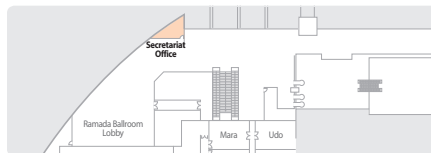
Location: Ramada Ballroom Lobby (2F)

ENGE 2014 participants can use the secretariat office as lost & found and coat room during the conference.

Operating Time

Nov. 16 (Sun.) 15:00-18:00

Nov. 17-19 (Mon.-Wed.) 07:30-18:00



Social Programs

Welcome Reception

Date & Time 17:00-18:00, Nov. 16 (Sun.)

Place Ramada Ballroom Lobby

You will experience a warm welcome from the host of ENGE 2014. All participants are highly welcome. Light refreshments and beverage will be provided for all participants.

Banquet

Date & Time 18:00-20:00, Nov. 18 (Tue.)

Place Ramada Ballroom

The banquet will be a great opportunity to meet and network with colleagues in pleasant surroundings. Enjoy the climax of ENGE 2014 with an excellent dinner.

Best Poster Awards

Date & Time 11:00-11:30, Nov. 19 (Wed.)

Place Ballroom 1

"ENGE 2014 Best Poster Awards" will be given to outstanding contribution to the field of electronic materials and nanotechnology for green environment among posters presented at the conference.

Technical Program

Short Courses



Course 1 Atomic Monolayer Materials for Novel Device Platforms

Ara / 8F

¹**Moon-Ho Jo** (POSTECH-IBS, Korea)

19:00-22:00, Nov. 16 (Sun.)

²**Jong-Hyun Ahn** (Yonsei University, Korea)

Atomic Two-Dimensional Materials as Novel Device Platforms:
Hexagonal Transition Metal Dichalcogenides and Cubic Semiconductors

Course 2 Metamaterials: Introduction to Materials Scientists

Ora / 8F

³**Namkyoo Park** (Seoul National University, Korea)

19:00-22:00, Nov. 16 (Sun.)

Metamaterials for the Extreme Control of Waves:
Principles, Design Methods, Application Examples, and Outlook

Plenary Speakers



Plenary Speaker 1

Ballroom 1 / 2F

Zhong Lin Wang (Georgia Institute of Technology, USA)

13:00-13:45, Nov. 17 (Mon.)

Nanogenerators for Self-powered Systems and Piezotronics for Functional Devices

Plenary Speaker 2

Ballroom 1 / 2F

Rodney S. Ruoff (Ulsan National Institute of Science and Technology, Korea)

13:45-14:30, Nov. 17 (Mon.)

Carbon and Related Materials for the Future

Plenary Speaker 3

Ballroom 1 / 2F

Hideo Hosono (Tokyo Institute of Technology, Japan)

10:00-10:45, Nov. 19 (Wed.)

Elecrdes : Materials, Properties and Application

Topic Abbreviation

Conference Topics	Abbreviation	
	Oral	Poster
General Session		
Materials for Advanced Electronic Applications		
A. Materials and Processes for Logic and Memory Devices	MA	MAP
B. Materials and Process for BEOL and 3D Integration	MB	MBP
C. Computational Design and Analysis of Electronic Materials		MCP
D. Sensors and Oxide Semiconductor	MD	MDP
E. Magnetism and Magnetic Materials	ME	MEP
F. Materials and Process for Neuromorphic / Multivalued Logic Devices	MF	MFP
Nanoscale Materials, Processes and Devices		
A. Carbon Nanomaterials & Other Nanoscale Materials	NA	NAP
B. Soft Nanomaterials and Nanobiomaterials	NB	NBP
C. Top Down & Bottom Up Nanopatterning & Nanofabrication	NC	NCP
D. Nanoscale Devices & Characterization	ND	NDP
Materials and Devices for Frontier Display		
A. Flexible, Stretchable Displays and Printed Electronics	DA	DAP
B. LED Materials and Devices	DB	DBP
C. OLED Materials and Devices	DC	DCP
D. TFT Materials and Devices	DD	DDP
E. Emerging Materials and Devices for Unconventional Displays	DE	DEP
Energy Materials and Technology		
A. Advanced Li-ion Battery Materials	EA	EAP
B. New Energy Storage Systems and Materials beyond LIB	EB	EBP
C. Advances in Fuel Cells and Hydrogen Storage	EC	ECP
D. Water Splitting and Solar Fuel	ED	EDP
E. Photovoltaic Materials and Engineering	EE	EEP
F. Thermoelectric Power Devices and Nanogenerators	EF	EFP
Computational Materials Science		
A. Material Discovery by High-throughput Screening		CAP
B. Simulation of Organic Materials		CBP

C. Catalyst for Energy and Environmental Applications	CCP
D. Simulation of Electronic and Magnetic Devices	CDP
E. Methods for Material Simulation	CEP
F. Organic Materials Modeling	CFP

Symposiums (Invited Talk)

1. Materials for Flexible Electronics	S1
2. Neuromorphic Electronics and Systems	S2
3. Recent Advances in Hard Magnetic Materials	S3
4. Novel Materials and Devices for Logic Applications	S4
5. Progress in Carbon-based Nanomaterials	S5
6. Functional Self-Assembly of Molecules and Materials	S6
7. Nanomaterials for Catalysis and Renewable Energy Conversion	S7
8. German-Korean Thermoelectric Nanostructured Materials	S8
9. Progress in Carbon based Nanodevices	S9
10. Advanced LED Technologies	S10
11. Bio MEMS & Imaging Technologies	S11
12. Challenges for Deformable Displays	S12
13. Flexible/Printed Electronics and Displays	S13
14. Advanced Materials Toward Solar Fuel Production	S14
15. Nanogenerators for Self-Powering Electronics	S15
16. Recent Progress on Advanced Batteries	S16
17. Advanced Materials and Devices for Solar Energy Conversion	S17
18. Catalyst for Energy Applications	S18
19. Organic Materials Modeling	S19
20. Materials Discovery	S20
21. Introduction to Computational Materials Methods and Applications	S21
22. Advances in Magnetic Nanomaterials (organized by KIM)	S22
23. Thermoelectric Technology (organized by KIM)	S23
24. Mechanics in Nano Devices (organized by KIM)	S24
25. Plasma & Nano Technology Commercialization	S25
26. Women in Materials Science	S26
27. 2014 Annual Materials Frontiers Forum	S27
28. Atomic Two-Dimensional Materials and Physics	S28

Session Timetable

Nov. 17 (Mon.)

08:00-09:00 Poster 1	Ramada Ballroom Lobby Electronic Materials MAP (P.63) + MBP-1 (P.64) + MCP (P.66) + MFP (P.66) Nano NBP (P.67) + NCP (P.68) Display DBP-1 (P.70) + DCP (P.72) Energy EAP (P.74) + EEP-1 (P.77) Computational MS CAP (P.82) + CCP (P.83) + CFP (P.84)									
09:00-12:00 Oral	Ballroom 2 S1 (P.17)	Udo MA + MF (P.18)	Ballroom 3 S10 (P.21)	Chuja DC (P.22)	Ballroom 1 S16 (P.24)	Mara EE-1 (P.25)		Ballroom 4 S18 (P.28)	Ara S5 (P.30)	Ora NB + NC (P.32)
12:00-13:00	Lunch (Korean Restaurant 1F)									
13:00-14:30	Plenary Talk 1, 2 (Ballroom 1)									
14:30-14:45	Coffee Break									
14:45-17:45 Oral	Ballroom 2 S2 (P.17)	Udo MB (P.19)	Ballroom 3 S11 (P.22)	Chuja DB (P.23)	Ballroom 1 S15 (P.24)	Mara EE-2 (P.26)	Biyang EA-1 (P.27)	Ballroom 4 S20 (P.29)	Ara S8 (P.31)	Ora NA-1 (P.33)
17:45-19:00 Poster 1	Ramada Ballroom Lobby Electronic Materials MAP (P.63) + MBP-1 (P.64) + MCP (P.66) + MFP (P.66) Nano NBP (P.67) + NCP (P.68) Display DBP-1 (P.70) + DCP (P.72) Energy EAP (P.74) + EEP-1 (P.77) Computational MS CAP (P.82) + CCP (P.83) + CFP (P.84)									

Nov. 18 (Tue.)

08:00-09:00 Poster 2	Ramada Ballroom Lobby Electronic Materials MBP-2 (P.85) + MDP (P.85) Nano NAP (P.89) Display DAP (P.96) + DBP-2 (P.98) Energy EBP (P.100) + EDP (P.102) + EEP-2 (P.103) Computational MS CBP (P.107) + CDP (P.107) + CEP (P.109)									
09:00-12:00 Oral	Ballroom 2 S3 (P.35)	Udo MD (P.36)	Ballroom 3 S12 (P.38)	Chuja DA (P.40)	Ballroom 1 S14 (P.42)	Mara EF (P.43)	Biyang EA-2 + EB (P.45)	Ballroom 4 S21 (P.47)	Ara S7 (P.48)	Ora NA-2 (P.50)
12:00-13:00	Lunch (Korean Restaurant 1F)									
13:00-16:00 Oral	Ballroom 2 S4 (P.35)	Udo ME (P.37)	Ballroom 3 S13 (P.39)	Chuja DD + DE (P.41)	Ballroom 1 S17 (P.42)	Mara EC + ED (P.44)		Ballroom 4 S19 (P.47)	Ara S6 (P.49)	Ora ND (P.51)
16:00-18:00 Poster 2	Ramada Ballroom Lobby Electronic Materials MBP-2 (P.85) + MDP (P.85) Nano NAP (P.89) Display DAP (P.96) + DBP-2 (P.98) Energy EBP (P.100) + EDP (P.102) + EEP-2 (P.103) Computational MS CBP (P.107) + CDP (P.107) + CEP (P.109)									
18:00-20:00	Banquet (Ramada Ballroom)									

Nov. 19 (Wed.)

08:00-10:00 Poster 3	Ramada Ballroom Lobby									
	Electronic Materials MEP (P.111) Nano NDP (P.114) Display DDP (P.118) + DEP (P.121) Energy ECP (P.122) + EFP (P.124)									
10:00-10:45	Plenary Talk 3 (Ballroom 1)									
10:45-11:00	Coffee Break									
11:00-11:30	Poster Awards (Ballroom 1)									
11:30-13:00	Lunch (Korean Restaurant 1F)									
13:00-15:00 Oral	Ballroom 2		Ballroom 3	Chuja	Ballroom 1		Biyang	Ballroom 4	Ara	Ora
	S24-1 (P.53)		S22-1 (P.54)	S26-1 (P.55)	S25-1 (P.56)		S9 (P.58)	S23-1 (P.58)	S27-1 (P.59)	S28-1 (P.61)
15:00-15:30	Coffee Break									
15:30-18:00 Oral	Ballroom 2		Ballroom 3	Chuja	Ballroom 1			Ballroom 4	Ara	Ora
	S24-2 (P.53)		S22-2 (P.55)	S26-2 (P.56)	S25-2 (P.57)			S23-2 (P.59)	S27-2 (P.60)	S28-2 (P.61)

Presentation Guidelines

Oral Presentation

- Length of presentation material should be in accordance with your time assigned as follows;
 - Keynote & Invited Speech: 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.
- Presenters should prepare the presentation file in MS-PowerPoint in English.
- Please bring your PowerPoint presentation file on a CD or USB flash drive and submit it to the operator of each presentation room at least 15 minutes before each session starts.
- Each presenter is also asked to submit his/her own short autobiography to the session chair at least 10 minutes before each session starts.

No Camera & No Record

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

Poster Presentation

- Each poster will be assigned a panel, which has its own paper's number, at the conference.
- Poster presenters are required to prepare their own poster materials in advance.
- Please remove your poster within 1 hour after your session is ended. All remaining posters will be removed.
- The material such as some scissors and tapes will be provided in poster session place.

Presentation Time

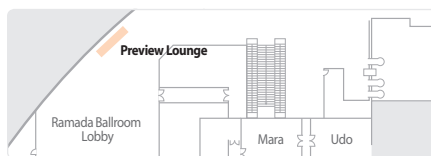
Date	Time	Detail	Available Time for Poster Attachment
Nov. 17 (Mon.)	08:00-09:00	Selection of Winning Poster	Post presentation from 10 PM, the day before presentation date to 30 min. prior the beginning of the Morning Session not to be considered as ABSENCE.
	17:45-19:00	Announcement of Winning Poster	
Nov. 18 (Tue.)	08:00-09:00	Selection of Winning Poster	
	16:00-18:00	Announcement of Winning Poster	
Nov. 19 (Wed.)	08:00-10:00	Selection & Announcement of Winning Poster	
	11:00-11:30	Poster Awards	

Preview Lounge

Location: Ramada Ballroom Lobby (2F)

Operating Time

Nov. 16 (Sun.)	15:00-18:00
Nov. 17-19 (Mon.-Wed.)	07:30-18:00



- Every presenter should visit the preview lounge and check the final version of the presentation file 3 hours before each session begins to ensure the backgrounds, graphics, and linked images appear properly.
- If a presenter has any animation file(s), movie clip(s), DVD or sound in his or her presentation and requires other type(s) of equipment, please let the staff know 6 hours prior to your session.
- Presentation materials should be brought on a CD-ROM or USB flash drive.
- If a presenter brings his or her own laptop, especially MAC, he or she should also let the staff know 6 hours prior to your session.

Oral Presentation

Materials for Flexible Electronics

Nov. 17, 2014 (Mon.)

S1 (Materials for Flexible Electronics)

Ballroom 2

Chairs: Jiyoung Kim (University of Texas at Dallas)
Pil-Ryung Cha (Kookmin University)

09:00-11:30

S1-3264 Flexible Electronics and Self-Assembly

09:00-09:30 Jaegab Lee
Keynote Speech *Kookmin University*

S1-1642 2D Materials and Flexible Electronics

09:30-10:00 Robert Wallace
Keynote Speech *University of Texas at Dallas*

S1-2338 II-VI Materials and Devices for Large Area Radiation Sensors

10:00-10:30 Manuel Quevedo¹, Israel Mejia¹, John Murphy¹, Lindsey Smith¹, David Allee², Bruce Gnade¹
Invited Speech *¹University of Texas at Dallas, ²Arizona State University*

S1-2076 Semiconducting Oxide Material & Device Development for Flexible and Transparent Electronic Platforms

10:30-11:00 Husam Alshareef, Pradipta Nayak, Zhenwei Wang, Alfonso Caraveo
Invited Speech *King Abdullah University for Science & Technology*

S1-1315 Low-temperature Sol-gel Metal Oxide Materials for Transistor Application: Photoactivation, Patterning, Printing, and Beyond

11:00-11:30 Myung-Han Yoon, Sungjun Park, Sujin Sung, Wonjune Lee, Seung-Bok Cha, Dong-Hee Kang
Invited Speech *Gwangju Institute of Science and Technology*

Neuromorphic Electronics and Systems

Nov. 17, 2014 (Mon.)

S2 (Neuromorphic Electronics and Systems)

Ballroom 2

Chair: Hyunsang Hwang (Pohang University of Science and Technology)

14:45-17:15

S2-0291 Emerging Resistive Memory Technology for Neuromorphic Systems and Applications

14:45-15:15 Manan Suri
Invited Speech *Indian Institute of Technology Delhi*

S2-0618 Implementation of Short- and Long-term Memory and Current-Steering Digital-to-Analog Conversion Using Si Based Charge Trap Memory

15:15-15:45 Jong-Ho Lee, Myoung-Sun Lee, Chul-Heung Kim
Invited Speech *Seoul National University*

S2-2986 A Circuit of Random Weight Change Learning for Memristor Bridge Synapse-based Multilayer Neural Networks

15:45-16:15

Invited Speech

Hyongsuk Kim, Changju Yang
Chonbuk National University

S2-1616 Nano-scale Memristor Crossbar Array for Neuromorphic Applications

16:15-16:45

Invited Speech

Truong Ngoc Son, Kyeong-Sik Min
Kookmin University

S2-1033 Inference in Population Representation of Noisy Artificial Neurons

16:45-17:15

Invited Speech

Hyungkwang Lim, Doo Seok Jeong
Korea Institute of Science and Technology

**Materials and Processes for Logic and Memory Devices
Materials and Process for Neuromorphic / Multivalued Logic Devices**

Nov. 17, 2014 (Mon.)

MA (Materials and Processes for Logic and Memory Devices)

MF (Materials and Process for Neuromorphic / Multivalued Logic Devices)

Udo

Chairs: Jungwoo Oh (Yonsei University)

09:00-12:00

Moonho Ham (Gwangju Institute of Science and Technology)

MA-2158 Cost Effective Integration of Contacts for the Vertically Stacked Multi-level Gates and for the Epitaxially Grown Single-crystal Bit Lines in 3D NAND Flash

09:00-09:30

Invited Speech

Wan-Gyu Lee¹, Jeoung Woo Kim¹, Ho-Seung Jeon¹, Ga-Won Lee², Seung-Dong Yang²
¹National NanoFab Center, ²Chungnam National University

MA-2516 Suppression of Void Formation by Optimizing Deposition Conditions of Carbon doped Ge₂Sb₃Te₅ Films for Cyclic Endurance of Phase Change Memory

09:30-09:45

J. H. Park^{1,2}, S. W. Kim¹, J. H. Kim¹, D. H. Ko¹, Z. Wu², J. K. Ahn², S. L. Cho², D. H. Ahn², J. M. Lee², S. U. Nam²
¹Yonsei University, ²Samsung Electronics Co., Ltd.

MA-2041 The Influence of Adhesive Materials on 3D Integrated Graphene-FETs

09:45-10:00

Syed Mohammad Najib Hasan, Sang Kyung Lee, Sangchul Lee, Byoung Hun Lee
Gwangju Institute of Science and Technology

MA-2011 Contact Resistance Modulation using Area to Peripheral Ratio of Graphene Contact Pattern

10:00-10:15

Chunhum Cho, Sang Kyung Lee, Sangchul Lee, Young Gon Lee, Woojin Park, Jinwoo Noh, Hyeon Jun Hwang, Byoung Hun Lee
Gwangju Institute of Science and Technology

- MA-1885** **Formation of Ge-Sb-Te Thin Film by Atomic Layer Deposition of Ge-Sb Thin Films and its Tellurization**
10:15-10:30
Byeol Han¹, Yu-Jin Kim¹, Jae-Min Park¹, Wonyong Koh², Won-Jun Lee¹
¹Sejong University, ²UP Chemical Co., Ltd.
- MA-1394** **Designing Desirable Resistive Random-access-memory by First-principles Approach**
10:30-10:45
Moon Young Yang¹, Katsumasa Kamiya², Blanka Magyari-Köpe³, Yoshio Nishi³, Kenji Shiraishi⁴
¹Korean Advanced Institute of Science and Technology, ²Kanagawa Institute of Technology, ³Stanford University, ⁴Nagoya University
- MA-1267** **Structural Characterization of Ohmic Contact using Cu Outer Layer for AlGaN/GaN High Electron Mobility Transistors**
10:45-11:00
Seonno Yoon, Jangwon Bang, Jungwoo Oh
Yonsei University
- MF-1765** **Develop and Characterise FLY ASH and Polymer Composites for Dielectric Capacitor Applications**
11:00-11:15
Sri Bandyopadhyay, Danyang Wang, Alagu Anbanantha Moorthy
University of New South Wales, Sydney
- MF-1435** **Ion-gel Gated E-nanowire Synaptic Transistors**
11:15-11:30
Wentao Xu, Sung-Yong Min, Tae-Sik Kim, Tae-Woo Lee
Pohang University of Science and Technology
- MF-1285** **Reliability of Neural Information Conveyed by Unreliable Neuristor-based Leaky Integrate-and-fire Neurons**
11:30-11:45
Hyungkwang Lim¹, Jun Yeong Seok¹, Vladimir Kornijcuk², Cheol Seong Hwang¹, Doo Seok Jeong²
¹Seoul National University, ²Korea Institute of Science and Technology
- MF-1193** **Multiprotocol-induced Plasticity of Artificial Synapses**
11:45-12:00
Vladimir Kornijcuk¹, Omid Kavehei², Hyungkwang Lim¹, Jun Yeong Seok³, Seong Keun Kim¹, Inho Kim¹, Byung Joon Choi³, Doo Seok Jeong¹
¹Korea Institute of Science and Technology, ²University of Melbourne, ³Seoul National University of Science and Technology

Materials and Process for BEOL and 3D Integration

Nov. 17, 2014 (Mon.)

MB (Materials and Process for BEOL and 3D Integration)

Udo

Chairs: Changhwan Choi (Hanyang University)

14:45-18:15

Myung-Han Yoon (Gwangju Institute of Science and Technology)

MB-0280 On the Potential of Tungsten as the Next-generation Semiconductor Interconnects

14:45-15:15 Dooho Choi

Invited Speech Korea Railroad Research Institute

- MB-3169** **Electromigration-limited Reliability of Advanced Metallization for Memory Devices**
15:15-15:30 Kyung-Tae Jang, Yong-Jin Park, Min-Woo Jeong, Seung-Min Lim, Han-Wool Yeon, Ju-Young Cho, Young-Chang Joo
Seoul National University
- MB-3048** **A Sludge Formation Mechanism of the Methanesulfonic Acid based Tin-Silver Electrolyte Bath for Flip-chip Packaging**
15:30-15:45 Mi-Seok Park, HyukSang Kwon
Korea Advanced Institute of Science and Technology
- MB-3030** **Properties of Plasma-enhanced Atomic Layer Deposited TiCx Films as a Diffusion Barrier for Cu Metallization**
15:45-16:00 Sang-Kyung Choi, Hangle Kim, So Ik Bae, Taehoon Cheon, Soo-Hyun Kim
Yeungnam University
- MB-3022** **Atomic Layer Deposition of Ru Thin Films using a New Beta-diketonate Ru Precursor and NH3 Plasma as a Reactant and Application to the Seed Layer for Cu Metallization**
16:00-16:15 Jae-Hun Jung¹, Seung-Joon Lee¹, Hyun-Jung Lee¹, Taehoon Cheon¹, So Ik Bae¹, Soo-Hyun Kim¹, Masayuki Saito², Kazuharu Suzuki², Shunichi Nabeya², Jeongyeop Lee³, Sangdeok Kim³, Seungjin Yeom³
¹Yeungnam University, ²TANAKA Kikinzoku Kogyo K.K., ³SK Hynix Semiconductor
- MB-2991** **Direct Bonding of Flexible Polymer Assisted by Plasma Polymerization**
16:15-16:30 Kwang-Ho Jung, Kwang-Seok Kim, Seung-Boo Jung
Sungkyunkwan University
- MB-2933** **Effect of Moisture Absorption on the Warpage of Flexible Polymer Substrates**
16:30-16:45 Jae-Bum Pyo¹, Tae-ik Lee¹, Cheolgyu Kim¹, Min Sung Kim², Taek-Soo Kim¹
¹Korea Advanced Institute of Science and Technology, ²Samsung Electro-Mechanics
- MB-2590** **Mechanical and Electrical Reliabilities of Sn-Bi-Ag/Cu Solder Joints in LED Package with Heat Treatment**
16:45-17:00 Woo-Ram Myung, Yongil Kim, Min-Kwan Ko, Seung-Boo Jung
Sungkyunkwan University
- MB-2322** **Study on Adhesion Change between Metal and Polymer When Exposed to Hot Humid Environment**
17:00-17:15 Key-one Ahn¹, Se-Hoon Park², Young-Ho Kim¹
¹Hanyang University, ²Korea Electronics Technology Institute
- MB-2088** **Effect of Zn Concentration of Cu-Zn Wetting Layers on Interfacial Reaction of Sn-3.0 Ag 0.5 Cu Solder**
17:15-17:30 Jae Yong Park, Young Min Kim, Young-Ho Kim
Hanyang University

- MB-1976** **Adhesion of Electroless-plated Copper to the Polymer Substrate**
17:30-17:45 Sun-Chul Kim¹, Ha-Seob Seong¹, Key-one Ahn¹, Dong Joo Choi¹, Ja-Yeon Lee¹, Young-ju Ko², Suk-beom Yoon², Mi-lim Seo², Young-Ho Kim¹
¹Hanyang University, ²DAEDUCK Electronics co. LTD
- MB-1383** **Fabrication of Low-Temperature Polycrystalline Silicon Waveguide Crystallized by NiSi₂ Seed-Induced Crystallization**
17:45-18:00 Yoon Young Bae¹, Jae Hyo Park², Donghwan Ahn¹
¹Koorn University, ²Seoul National University
- MB-0550** **Fundamental Study of Nucleation and Growth of Cu-Ag Alloy Layers Directly Electrodeposited on W Diffusion Barrier for Microelectronic Device Interconnect**
18:00-18:15 Kang O Kim, Sunjung Kim
University of Ulsan

Advanced LED Technologies

Nov. 17, 2014 (Mon.)

S10 (Advanced LED Technologies)

Ballroom 3

Chair: Jong Kyu Kim (Pohang University of Science and Technology)

09:00-11:30

- S10-0201** **Self-Powered Bio-Integrated Flexible GaN and GaAs LED**
09:00-09:30 Keon Jae Lee
Invited Speech Korea Advanced Institute of Science and Technology
- S10-1542** **Morphology Control of GaN-based Nano-LEDs Grown by Pulsed-mode MOCVD Epitaxy and its Material/Optical Characterization**
09:30-10:00 Si-Young Bae¹, Jun-Yeob Lee², Byung Oh Jung¹, Jung-Hong Min², Dong-Seon Lee², Yoshihiro Kato³, Masataka Imura⁴, Yoshio Honda¹, Hiroshi Amano¹
Invited Speech ¹Nagoya University, ²Gwangju Institute of Science and Technology, ³Tokyo Electron Ltd, ⁴National Institute for Materials Science
- S10-3189** **Enhanced Optical and Electrical Properties of AlGaIn-based Deep-Ultraviolet Light-Emitting Diodes by Selective-Area-Grown GaN Microstructures**
10:00-10:30 Jong Kyu Kim
Invited Speech Pohang University of Science and Technology
- S10-2420** **Alumina Cavity Pattern on Substrate for Improved GaN Epitaxy and Enhanced LED Performance**
10:30-11:00 Daeyoung Moon¹, Jeonghwan Jang¹, Bumho Kim², Kisu Joo¹, Duk-Kyu Bae², Yongjo Park², Euijoon Yoon¹
Invited Speech ¹Seoul National University, ²Advanced Institute of Convergence Technology

- S10-1549 Nitride Semiconductor Nanostructures for Solid State Lighting and Beyond**
11:00-11:30 Yong-Hoon Cho
Invited Speech *Korea Advanced Institute of Science and Technology*

Bio MEMS & Imaging Technologies

Nov. 17, 2014 (Mon.)

S11 (Bio MEMS & Imaging Technologies)

Ballroom 3

Chair: Won Gun Koh (Yonsei University)

14:45-17:45

- S11-3104 Microfluidic Devices with Integrated Biosensors for Cell Analysis**
14:45-15:15 Alexander Revzin
Invited Speech *University of California, Davis*

- S11-3064 Bioanalytical Devices for Real Time Diagnosis for Disease, Environment, and Human Emotion**
15:15-15:45 Hyo-Il Jung
Invited Speech *Yonsei University*

- S11-3262 On-Chip Lipid Microfluidics: Controlled Self-Assembly to Form Biomembranes**
15:45-16:15 Nam-Joon Cho
Invited Speech *Nanyang Technological University*

- S11-3066 Polymeric Biomaterials for Gene, Drug and Nitric Oxide Delivery**
16:15-16:45 Won Jong Kim
Invited Speech *Pohang University of Science and Technology*

- S11-0362 Development of In Situ Biocompatible Hydrogel for Targeted Anti-cancer Therapy**
16:45-17:15 Saji Uthaman, Sunghoon Cho, Sung Jun Park, Jong-Oh Park, Sukho Park, In-Kyu Park
Invited Speech *Chonnam National University*

- S11-0240 Microfluidic Encapsulation and Controlled Release**
17:15-17:45 Shin-Hyun Kim
Invited Speech *Korea Advanced Institute of Science and Technology*

OLED Materials and Devices

Nov. 17, 2014 (Mon.)

DC (OLED Materials and Devices)

Chuja

Chair: Pooi See Lee (Nanyang Technological University)

09:00-10:30

- DC-3156 New Purification Technology of HTL Materials using Ionic Liquids in Vacuum**
09:00-09:15 T.W. Kim, J.C. Park, M.J. Kang, A.R. Lee
Korea Institute of Industrial Technology

- DC-2929** **Polyelectrolyte/Graphene Oxide Barrier Film for Flexible OLED**
09:15-09:30 Seung-Yeol Yang, Hwa-Yong Lee, Yong-Seog Kim
Hongik University
- DC-2135** **Ultra-thin Metal/Dielectric Transparent Film for Optoelectronic Devices**
09:30-09:45 Ilhwan Lee, Sungjun Kim, Jong-Lam Lee
Pohang University of Science and Technology
- DC-0484** **OLED Encapsulation using a Double Line Structure of Polymer and Low Melting Point Alloy**
09:45-10:00 Cheol-Hee Moon
Hoseo University
- DC-0352** **Fine-tuning Transition Metal Oxides Thickness in Blue Organic Light-emitting Diode**
10:00-10:15 Tien-Lung Chiu, Ya-Ting Chuang
Yuan Ze University
- DC-0824** **High Quality Inductively Coupled Plasma Chemical Vapor Deposited SiOxNy Gas Barrier Films for OLED Display**
10:15-10:30 Sunghwan Bang, Jae Ho Suk, Taejoon Choi, Kunsu Kim, Nongmoon Hwang
Seoul National University

LED Materials and Devices

Nov. 17, 2014 (Mon.)

DB (LED Materials and Devices)

Chuja

Chairs: Yongjo Park (Seoul National University)
Kihyon Hong (Korea Institute of Materials Science)

14:45-15:45

- DB-2800** **Fabrication of Copper Nanocomposite Paste for High-Power LED Package**
14:45-15:00 Kwang-Seok Kim, Bum-Geun Park, Seung-Boo Jung
Sungkyunkwan University
- DB-2576** **Design and Growth of High Efficiency Deep Ultraviolet Light Emitting Diodes with Optimized Active Layer**
15:00-15:15 Jinwan Kim, Kyungjae Lee, Minhwan Jeon, Daeyong Eom, Jaedo Pyun, Cheon Heo, Okhyun Nam
Korea Polytechnic University
- DB-2518** **Elastic Softening of Sapphire by Si Diffusion for Dislocation-free GaN**
15:15-15:30 Sung Bo Lee¹, In-Sung Park¹, Young-Min Kim², Seung Jo Yoo², Jin-Gyu Kim², Heung Nam Han¹, Dong Nyung Lee¹
¹Seoul National University, ²Korea Basic Science Institute

DB-2235
15:30-15:45

Computational Analysis of ZnO/MgO Hierarchical Nano Branched Structure on V-LED with Finite-difference Time-domain Method

Jae Yong Park¹, Byeong Uk Ye², Buem Joon Kim¹, Jeong Min Baik², Jong-Lam Lee¹

¹Pohang University of Science and Technology, ²Ulsan National Institute of Science and Technology

Recent Progress on Advanced Batteries

Nov. 17, 2014 (Mon.)

S16 (Recent Progress on Advanced Batteries)

Ballroom 1

Chair: Kisuk Kang (Seoul National University)

09:00-11:30

S16-0729

Comparative Studies of Li vs. Na Systems: Phase Diagram and New Polyanion Cathodes

09:00-09:30

Atsuo Yamada

Invited Speech

The University of Tokyo

S16-2483

Bio-inspired Electrode Materials for Li Rechargeable Batteries

09:30-10:00

Kisuk Kang

Invited Speech

Seoul National University

S16-2347

First Principles Design of Lithium Superionic Conductor Electrolytes for Lithium-Ion Rechargeable Batteries

10:00-10:30

Invited Speech

Shyue Ping Ong¹, Yifei Mo², William D Richards³, Lincoln Miara⁴, Hyosug Lee⁴, Gerbrand Ceder³

¹University of California, San Diego, ²University of Maryland, College Park, ³Massachusetts Institute of Technology, ⁴Samsung Advanced Institute of Technology

S16-0547

Recent Progress on Anode Materials for Room-temperature Stationary Sodium-ion Batteries

10:30-11:00

Invited Speech

Yong-Sheng Hu

Institute of Physics, Chinese Academy of Sciences

S16-1653

A Study on the Extra Capacity in Metal Oxide Electrode Materials for Li Rechargeable Batteries

11:00-11:30

Invited Speech

Hyunchul Kim, Yunok Kim, Won-Sub Yoon

Sungkyunkwan University

Nanogenerators for Self-Powering Electronics

Nov. 17, 2014 (Mon.)

S15 (Nanogenerators for Self-Powering Electronics)

Ballroom 1

Chairs: Jeong Min Baik (Ulsan National Institute of Science and Technology)

Sang-Woo Kim (Sungkyunkwan University)

14:45-18:15

S15-2517

Nanoscale Energy Harvesting: Why and How?

14:45-15:15

Christian Falconi

Invited Speech

University of Rome Tor Vergata

- S15-3044** **Electrospun Fibrous Piezoelectric Nanogenerators for Self-powered Flexible Electronics**
15:15-15:45 Jung Ho Kim
Invited Speech *University of Wollongong*
- S15-3358** **Transparent Flexible Nanogenerators for Self-Powering Wearable/Portable Electronics**
15:45-16:15 Sang-Woo Kim
Invited Speech *Sungkyunkwan University*
- S15-0682** **A Flexible Piezo-triboelectric Hybrid Generator for Mechanical Energy Harvesting**
16:15-16:45 Chong-Yun Kang, Woo Suk Jung, Seok-Jin Yoon
Invited Speech *Korea Institute of Science and Technology*
- S15-1288** **Ordered Nanostructured Platforms for High-Power Generation and Self-Powered Sensors**
16:45-17:15 Jeong Min Baik
Invited Speech *Ulsan National Institute of Science and Technology*
- S15-1084** **Robust, Large-area Piezoelectric Nanogenerator based on Aluminum Foil and its Applications**
17:15-17:45 Sangmin Lee
Invited Speech *Chung-Ang University*
- S15-0155** **Self-Powered Flexible Electronic Systems**
17:45-18:15 Keon Jae Lee
 Korea Advanced Institute of Science and Technology

Photovoltaic Materials and Engineering

Nov. 17, 2014 (Mon.)

EE-1 (Photovoltaic Materials and Engineering 1)

Mara

Chairs: Tien-Lung Chiu (Yuan Ze University)

09:00-10:45

Seok Joon Kwon (Korea Institute of Science and Technology)

- EE-1-3165** **CIGS Thin Films Grown by One-step Sputtering Method Employing Selenium-contained Single Target**
09:00-09:15 Seung-Hyoun Lee, Jae-Chul Park, A-Ri Lee, Guk-Jong Song, Tae-Won Kim
 Korea Institute of Industrial Technology
- EE-1-3161** **Large Grain Growth of One-step Sputtered CIGS Thin Films by using CuSe Precursor Layer**
09:15-09:30 Jae-Cheol Park, Seung-Hyoun Lee, Tae-Won Kim
 Korea Institute of Industrial Technology

- EE-1-2380** **Mesoporous Titania Single Nanocrystals for Efficient Dye-Sensitized Solar Cells**
09:30-09:45
Jianjian Lin¹, Jung Ho Kim¹, Andrew Nattestad¹, Lianzhou Wang², Yoon-Uk Heo³, Yusuke Yamauchi⁴, Shixue Dou¹
¹University of Wollongong, ²The University of Queensland, ³Pohang University of Science and Technology, ⁴World Premier International Research Center for Materials Nanoarchitectonics
- EE-1-2305** **Impact of Surface Texturing by Pulsed Nd: YAG Laser on Monocrystalline Silicon Solar Cell**
09:45-10:00
Nurul Huda Abdul Razak¹, Nowshad Amin¹, Zeid A Allothman²
¹Universiti Kebangsaan Malaysia, ²King Saud University
- EE-1-2184** **Laser Irradiation for Controlling the Stoichiometry of MoO₃ Hole Transport Layer in Flexible Organic Solar Cells**
10:00-10:15
Wan Jae Dong, Jong-Lam Lee
Pohang University of Science and Technology
- EE-1-1354** **Knit Coir Mat Structured Cu₂-xS Counter Electrode for Quantum Dot Sensitized Solar Cells**
10:15-10:30
Dennyson Saviriraj, Hee-Je Kim, Prabakar Kandasamy
Pusan National University
- EE-1-1891** **Metal Oxide Semiconductor Nanostructure and its Composite for Application in Dye-sensitized Solar Cell and Visible Photocatalysis**
10:30-10:45
Jhasaketan Nayak¹, Heje Kim²
¹Indian School of Mines Dhanbad India, ²Pusan National University

Nov. 17, 2014 (Mon.)

EE-2 (Photovoltaic Materials and Engineering 2)

Mara

Chairs: Byungha Shin (Korea Advanced Institute of Science and Technology)
Barry (C) Thompson (University of Southern California)

14:45-16:45

- EE-2-0347** **Stable Efficiency of Organic Solar Cell with Etching Buffer Layer**
14:45-15:15
Invited Speech Tien-Lung Chiu, Mi Zhang, Shun-Po Yang
Yuan Ze University
- EE-2-1759** **Organic-Acid Texturing of Transparent Electrodes Toward Broadband Light Trapping in Thin-Film Solar Cells**
15:15-15:30
Woojin Lee¹, Taehyun Hwang¹, Seung-Yoon Lee¹, Joonhyeon Kang¹, Taeho Moon², Byungwoo Park¹
¹Seoul National University, ²Dankook University
- EE-2-1641** **Oriented Hierarchical TiO₂ Nanotubes on Ti Substrate: Evolution of Nanostructures for Dye-Sensitized Solar Cells**
15:30-15:45
Byungho Lee, Jae Ik Kim, Sangheon Lee, Taehyun Hwang, Seunghoon Nam, Kunsu Kim, Jaewon Kim, Byungwoo Park
Seoul National University

EE-2-1588 Structural and Optical Properties of Pseudoternary $\text{Cd}_x\text{Zn}_{1-x}\text{Se}_{1-y}$ Nanowires: Experimental and Computational Studies

15:45-16:00

Seok Joon Kwon, Jae-Gwan Park
Korea Institute of Science and Technology

EE-2-1155 Effect of NaOH Treatment on Photocatalysis of AgO/TiO_2 Film processed by Plasma Electrolytic Oxidation

16:00-16:15

Yeon Sung Kim¹, Kang Min Lee¹, Ki Ryong Shin¹, Young Gun Ko², Dong Hyuk Shin¹
¹*Hanyang University*, ²*Yeungnam University*

EE-2-0899 Optimized Electronic Structure of $\text{Cu}(\text{In,Ga})\text{Se}_2$ Solar Cell with Atomic Layer Deposited $\text{Zn}(\text{O,S})$ Buffer Layer for the High Power Conversion Efficiency

16:15-16:30

Kiryung Eom, Shankara Kalanur, Hyungtak Seo
Ajou University

EE-2-3257 Preparation of Ag Doped CuS Nanoparticles as an Efficient Counter Electrode for Quantum Dot Sensitized Solar Cell

16:30-16:45

Dennyson Savariraj, Soo Kyoung Kim, Hee-Je Kim, Prabakar Kandasamy
Pusan National University

Advanced Li-ion Battery Materials

Nov. 17, 2014 (Mon.)

EA-1 (Advanced Li-ion Battery Materials 1)

Biyang

Chairs: Shyue Ping Ong (University of California, San Diego)

14:45-17:15

Yong-Sheng Hu (Institute of Physics, Chinese Academy of Sciences)

EA-1-1457 Polymeric Fullerene Coating for Durable Silicon Anodes of Lithium Ion Batteries

14:45-15:15

Minwoong Joe¹, Young-Kyu Han¹, Kwang-Ryeol Lee², Hiroshi Mizuseki², Seungchul Kim²

Invited Speech ¹*Dongguk University*, ²*Korea Institute of Science and Technology*

EA-1-3042 Electrochemically Tunable Thermal Conductivity of Lithium Cobalt Oxide

15:15-15:30

Jiung Cho¹, Paul Braun², David Cahill²

¹*Korea Basic Science Institute*, ²*University of Illinois at Urbana-Champaign*

EA-1-2874 Si/C Nanocomposite Prepared by High Energy Mechanical Milling as Battery Electrode

15:30-15:45

Umer Farooq¹, Jeong-Hee Choi², Syed Atif Pervez¹, Chil-Hoon Doh¹

¹*University of Science and Technology*, ²*Korea Electrotechnology Research Institute*

EA-1-2734 Codeposited Si - Al Thin Film Anode for Lithium Ion Batteries

15:45-16:00

Vaishali Arun Patil¹, Arun Patil², Seok-Jin Yoon¹, Ji-Won Choi¹

¹*Korea Institute of Science and Technology*, ²*Vishwakarma College of Arts Commerce and Science*

- EA-1-2698** **Computational Studies on Graphite Intercalation Compounds for Graphene Exfoliation**
16:00-16:15 Gabin Yoon, Kisuk Kang
Seoul National University
- EA-1-2634** **Inter-connected MoO₂ Nanoparticles Self-assembled via Graphene-Encapsulation for High Performance Lithium Ion Batteries**
16:15-16:30 Kowsalya Palanisamy, Yunok Kim, Jeongbae Yoon, Hyejin Lee, Jaeseung Yoo, Woong Oh, Jaesang Yoon, Won-Sub Yoon
Sungkyunkwan University
- EA-1-2618** **Anti-site Recombination in LiFePO₄ Cathode for LIB: Combined DFT and Experimental Study**
16:30-16:45 Inchul Park, Kyu-Young Park, Kisuk Kang
Seoul National University
- EA-1-1950** **Synthesis of Porous Silicon Using Self-assembly Technique of Gold as an Anode for Lithium Secondary Battery**
16:45-17:00 Martin Halim¹, Jung Sub Kim², Joong Kee Lee¹
¹Korea University of Science and Technology, ²Korea University
- EA-1-1947** **Polymer-templated C₆₀/SnO₂:F Anode Material for 3D Lithium Ion Batteries**
17:00-17:15 Chairul Hudaya¹, Martin Halim¹, Kyuha Lee¹, Bup Ju Jeon², Joong Kee Lee¹
¹Korea Institute of Science and Technology, ²Shinhan University

Catalyst for Energy Applications

Nov. 17, 2014 (Mon.)

S18 (Catalyst for Energy Applications)

Ballroom 4

Chairs: Jeong Woo Han (University of Seoul)

09:00-12:00

Kristin Persson (Lawrence Berkeley National Laboratory)

- S18-0299** **Quantum Chemical Analysis and Virtual Screening for Homogeneous Catalysts**
09:30-09:30 H. Shaun Kwak, Alexander Goldberg, Jacob Gavartin, David J. Giesen, Thomas F. Hughes,
Invited Speech Yixiang Cao, Woody Sherman, Mathew D. Halls
Schrodinger, Inc.
- S18-0799** **Interplay of Ligand and Strain Effects in Determining the HCOOH Decomposition on the Bimetallic Pd/M Catalysts**
09:30-10:00 Hyung Chul Ham, Sangheon Lee, Jinwon Cho
Invited Speech *Korea Institute of Science and Technology*
- S18-0432** **DFT Modeling of Water Oxidation: from Molecular Catalysts to Surface Oxides**
10:00-10:30 Simone Piccinin
Invited Speech *CNR-IOM (National Research Council - Institute of Materials)*

- S18-0328 Re-visiting the O/Cu System – When Metastable Surface Oxides Could Become an Issue!**
10:30-11:00 Norina Richter, Chang-Eun Kim, Aloysius Soon
Invited Speech *Yonsei University*
- S18-0526 Silicene for Green Energy Battery Technology, Sensors and Electronic Devices**
11:00-11:30 Michelle J.S. Spencer
Invited Speech *RMIT University*
- S18-0636 Reaction Mechanisms of Self-regenerative Catalysts: Case Study of Pd-BaCeO₃**
11:30-12:00 Chan-Woo Lee
Invited Speech *Korea Institute of Energy Research*

Materials Discovery

Nov. 17, 2014 (Mon.)

S20 (Materials Discovery)

Ballroom 4

Chairs: Aloysius Soon (Yonsei University)

14:45-18:15

Simone Piccinin (National Research Council - Institute of Materials)

- S20-0329 Accelerated Discovery of Materials for Energy Applications based on Systematic Density-functional Calculations**
14:45-15:15 Isao Tanaka
Keynote Speech *Kyoto University*
- S20-2540 Combining Information Technology with First-Principles Modeling towards Materials Design for Energy Applications**
15:15-15:45 Kristin Persson
Keynote Speech *Lawrence Berkeley National Laboratory*
- S20-0169 High-throughput Quantum Chemistry and Virtual Screening for Materials Discovery**
15:45-16:15 Mathew D Halls, David J Giesen, Thomas F Hughes, Alexander Goldberg, Yixiang Cao, H Shaun Kwak, Jacob Gavartin
Invited Speech *Schrödinger Inc.*
- S20-0206 Materials Discovery via CALYPSO Methodology**
16:15-16:45 Yanming Ma
Invited Speech *Jilin University*
- S20-2522 High-Throughput Simulation Platform**
16:45-17:15 Jiho Yoo
Invited Speech *Samsung Advanced Institute of Technology*
- S20-0359 Efficient Exploration of Fast Li ion Conductors by using Density Functional Theory with Informatics**
17:15-17:45 Masanobu Nakayama^{1,2,3}, Randy Jalem²
Invited Speech ¹Nagoya Institute of Technology, ²Kyoto University, ³JST-PRESTO

S20-1593

17:45-18:00

Searching for Functional Oxides using High-throughput ab Initio Screening

Kanghoon Yim, Joohee Lee, Kyuhyun Lee, Ho-Hyun Nahm, Yong Youn, Seungwu Han
Seoul National University

S20-0300

18:00-18:15

Virtual Screening of Organic Semiconductor Materials using Quantitative Structure-property Relationships with Topological Descriptors

H. Shaun Kwak, Alexander Goldberg, David J. Giesen, Thomas F. Hughes, Yixiang Cao, Woody Sherman, Mathew D. Halls
Schrodinger, Inc.

Progress in Carbon-based Nanomaterials

Nov. 17, 2014 (Mon.)

S5 (Progress in Carbon-based Nanomaterials)

Ara

Chairs: Sungjin Park (Inha University)

09:00-12:00

Ilkwon Oh (Korea Advanced Institute of Science and Technology)

S5-1470

09:00-09:30

Functionalized, Heterogenous Carbons: From Fundamentals to Applications

Christopher W. Bielawski

Keynote Speech *Ulsan National Institute of Science and Technology*

S5-0409

09:30-10:00

Molecular Assembly & Substitutional Doping of Graphitic Carbons

Sang Ouk Kim

Invited Speech *Korea Advanced Institute of Science and Technology*

S5-1608

10:00-10:30

Graphene for Electrochemical Biosensing

Martin Pumera

Invited Speech *Nanyang Technological University*

S5-1745

10:30-11:00

Printable, Spinnable Conducting Pastes based on Nanocarbon Materials

Geon-Woong Lee

Invited Speech *Korea Electrotechnology Research Institute*

S5-2475

11:00-11:30

Flexible Supercapacitor Devices Using Functionalized Graphenes

Ho Seok Park

Invited Speech *Sungkyunkwan University*

S5-2527

11:30-12:00

Graphene-based 3D Nanostructures for Energy Storage and Actuating Systems

Ilkwon Oh

Invited Speech *Korea Advanced Institute of Science and Technology*

German-Korean Thermoelectric Nanostructured Materials

Nov. 17, 2014 (Mon.)

S8 (German-Korean Thermoelectric Nanostructured Materials)

Ara

Chairs: Cornelius Nielsch (University of Hamburg)

14:45-18:15

Jae Yong Song (Korea Research Institute of Standards and Science)

S8-2972 **A MEMS-based Thermoelectric Nanowire Characterization Platform (TNCP): Concept, Fabrication and Application**

14:45-15:15

Keynote Speech

Peter Woias¹, Zhi Wang¹, Danny Kojda², Michael Kroener¹, Hoda Moosavi¹, Cornelius Nielsch³, Oliver Eible⁴, Ruediger Mitdank², Saskia Fischer²

¹Albert-Ludwig-University Freiburg, ²Humboldt-University Berlin, ³University Hamburg, ⁴Eberhard-Karls-University Tuebingen

S8-1097 **Thermoelectrics from Group IV Semiconductor Nanoparticles**

15:15-15:45

Invited Speech

Hartmut Wiggers, Gabi Schierner

University of Duisburg-Essen

S8-3111 **A Nano Scale Meta-domains on Thermoelectric Property in Telluride Compound System**

15:45-16:15

Invited Speech

Sudong Park¹, Jaekee Rhy¹, Jongho Park¹, Jihee Son¹, Byungki Ryu¹, Minwook Oh¹, Bongseo Kim¹, Kijeong Kong²

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

S8-1577 **Lattice Thermodynamics and Phonon Properties in Nanostructured Thermoelectrics**

16:15-16:45

Invited Speech

Raphael P Hermann

Forschungszentrum Juelich GmbH

S8-0391 **Thermoelectric Properties of Intrinsic Low-dimensional System**

16:45-17:15

Invited Speech

Jong-Soo Rhyee

Kyung Hee University

S8-0555 **Combined Structural and Full-Thermoelectric Characterization of Individual Nanowires**

17:15-17:45

Invited Speech

Saskia F. Fischer¹, Danny Kojda¹, Rüdiger Mitdank¹, Anna Mogilatenko², William Töllner³, Zhi Wang⁴, Michael Kröner⁴, Peter Woias⁴, Cornelius Nielsch³

¹Humboldt Universität zu Berlin, ²Ferdinand-Braund Institut für Höchstfrequenztechnik, ³Universität Hamburg, ⁴Universität Freiburg

S8-2225 **Thermoelectric Properties of MIC processed SiGe Thin Films**

17:45-18:15

Invited Speech

Marc Lindorf¹, Hartmut Rohrmann², Manfred Albrecht¹

¹University of Augsburg, ²Oerlikon Advanced Technologies AG

Soft Nanomaterials and Nanobiomaterials Top Down & Bottom Up Nanopatterning & Nanofabrication

Nov. 17, 2014 (Mon.)

NB (Soft Nanomaterials and Nanobiomaterials)

NC (Top Down & Bottom Up Nanopatterning & Nanofabrication)

Ora

Chairs: Anderson Ho Cheung Shum (University of Hong Kong)

09:00-11:30

Jonghwa Eom (Sejong University)

NB-2410 Planar and Curved Polyimide Membranes Fabricated using ZnO Nanowire Array Templates

09:00-09:15

Hyun Ah Cho, Boo Hyun An, Woong Kim, Young Keun Kim
Korea University

NB-1790 Effect of Chelating Agents on the Stability of Nano TiO₂ Sol Particles for Sol-gel Coating

09:15-09:30

Wan-Young Maeng¹, Mi Yoo²
¹*Korea Atomic Energy Research Institute*, ²*Chungnam National University*

NC-2735 Self-assembled Growth of Catalyst-free Inclined (10-13) GaN Nanowire on Nanoimprinted M-sapphire by Metal-organic Vapour Phase Epitaxy

09:30-09:45

Kyuseung Lee, Sooryong Chae, Jongjin Jang, Daehong Min, Jaehwan Kim, Okhyun Nam
Korea Polytechnic University

NC-2609 Nanofabrication Using a Micro/Macro Scale Electric Field Assembler System "Synergy of Top-Down and Bottom-Up Technologies"

09:45-10:00

Youngjun Song, Michael J. Heller
University of California, San Diego

NC-2170 Highly Reliable Nanotransfer Printing with Sub-10-nm Resolution via Solvent-vapor-assisted Adhesion Control

10:00-10:15

Jae Won Jeong, Se Ryeun Yang, Yoon Hyung Hur, Gwang-min Baek, Soonmin Yim, Yeon Sik Jung
Korea Advanced Institute of Science and Technology

NC-2143 Formation of Sub-20 nm Line/Space Patterns with a High Aspect Ratio using High- χ Block Copolymer and Thick Brush Layers

10:15-10:30

Jung Hye Lee, Se Ryeun Yang, Jong Min Kim, Yeon Sik Jung
Korea Advanced Institute of Science and Technology

NC-2070 Improvement of Stochastic Imaging Performance in Contact Hole Pattern by using Attenuated Phase-shift Mask for EUVL

10:30-10:45

Jung Sik Kim, Seongchul Hong, Jae Uk Lee, Seung Min Lee, Jung Hwan Kim, Hyun Min Song, Jinho Ahn
Hanyang University

- NC-2006** **Rapid Formation of Straight Line Patterns through Warm Solvent Annealing of Extremely High- χ Block Copolymers**
10:45-11:00
Jong Min Kim, Yoon Hyung Hur, Yeon Sik Jung
Korea Advanced Institute of Science and Engineering
- NC-1850** **Host-guest Positioning of Au Nanoparticles in HPL Structure of Self-assembled Block Copolymer**
11:00-11:15
Tae Won Nam, Yeon Sik Jung, Yong Joo Kim, Jae Won Jeong, Min Jae Choi
Korea Advanced Institute of Science and Technology
- NC-1344** **Metal Assisted Chemical Etch of Si for Three-Dimensional Information and Energy Devices**
11:15-11:30
Keorock Choi, Yunwon Song, Jungwoo Oh
Yonsei University

Carbon Nanomaterials & Other Nanoscale Materials

Nov. 17, 2014 (Mon.)

NA-1 (Carbon Nanomaterials & Other Nanoscale Materials 1)

Ora

Chairs: Christopher Bielawski (Ulsan National Institute of Science and Technology) 14:45-17:00
Ilkwon Oh (Korea Advanced Institute of Science and Technology)

- NA-1-3129** **Ultra-high Stretchable and Wearable Strain Sensor for Monitoring Human Motion by Aligned Carbon Nanotube Fiber**
14:45-15:00
Seongwoo Ryu
Massachusetts Institute of Technology
- NA-1-2444** **Porous Carbon Nanoparticle Networks with Tunable Absorbability**
15:00-15:15
Do-Hyun Kim, Myoung-Woon Moon
Korea Institute of Science and Technology
- NA-1-2357** **Influence of O₂ Plasma Treatment on Top Gate Graphene Field-effect Transistors**
15:15-15:30
Yun Ji Kim, Sang Kyung Lee, Young Gon Lee, Byoung Hun Lee
Gwangju Institute of Science and Technology
- NA-1-2101** **Charge Carrier Transport through the Interface between Hybrid Electrodes and Organic Materials in Flexible Organic Light Emitting Diodes (f-OLED)**
15:30-15:45
Huanyu Zhou, Hahn-Gil Cheong, Jin-Woo Park
Yonsei University
- NA-1-2089** **Foldable Transparent Film Heaters based on Silver Nanowires and Metal Oxides**
15:45-16:00
Hahn-Gil Cheong, Jin-Hoon Kim, Jin-Woo Park
Yonsei University

NA-1-2032 Fabrication and Characterization of CNTs/graphene-based Nanostructure Gas Sensors for CO₂

16:00-16:15

Jinhwan Kim, Hyonkwang Choi, Yunjae Park, Minjeong Park, Minhyon Jeon
Inje University

NA-1-2009 Polyaniline-coated Carbon Papers for Supercapacitor Electrodes

16:15-16:30

Dong Joo Choi¹, Alberto Boscá², Jorge Pedrós³, Javier Martínez², Violeta Barranco⁴, José María Rojo⁴,
Fernando Calle³, Young-Ho Kim¹

¹*Hanyang University*, ²*Universidad Politécnica de Madrid*, ³*Universidad Politécnica de Madrid*,

⁴*Consejo Superior de Investigaciones Científicas*

NA-1-1963 Encapsulation of Ionic Polymer-graphene Composite Actuator with Dielectric Elastomer using Gel Dip Coating

16:30-16:45

Yunjae Park, Hyonkwang Choi, Minjeong Park, Jaewon Han, Minhyon Jeon
Inje University

NA-1-1806 Crack-free Hybrid(TBOT-MAPTS) Coating Synthesis via Sol-gel Method

16:45-17:00

Wan-Young Maeng¹, Jung-Jung Noh²

¹*Korea Atomic Energy Research Institute*, ²*Korea University of Technology and Education*

Recent Advances in Hard Magnetic Materials

Nov. 18, 2014 (Tue.)

S3 (Recent Advances in Hard Magnetic Materials)

Ballroom 2

Chair: Sang-Im Yoo (Seoul National University)

09:00-12:00

S3-0197

Practical Aspects of Modern and Future Permanent Magnets

09:00-09:30 R William McCallum¹, Laura H Lewis², Ralph Skomski³, Matthew J Kramer¹, Iver E Anderson¹

Keynote Speech ¹Iowa State University, ²Northeastern University, ³University of Nebraska

S3-1676

Grain Boundary Restructuring of Sintered NdFeB Magnets

09:30-10:00 Mi Yan

Invited Speech Zhejiang University

S3-3250

Magnetic Property of Nd-Fe-B-type Powder prepared by Hydrogen Treatment

10:00-10:30 Hae-Woong Kwon¹, Jung-Goo Lee², Ji-Hoon Yu²

Invited Speech ¹Pukyong National University, ²Korea Institute of Materials Science

S3-1697

Rare-earth Free Permanent Magnets

10:30-11:00 Yang-Ki Hong, Jihoon Park

Invited Speech The University of Alabama

S3-3204

High Performance Nanocrystalline Nd-Fe-B Magnets Prepared by Hot Deformation

11:00-11:30 Zhaohui Guo, Xiao Du, Zheng Jing, Minggang Zhu, Wei Li

Invited Speech Central Iron & Steel Research Institute

S3-2430

Fabrication of Mn-Al based Magnetic Powder and Reduction-Diffusion Route for Permanent Magnet

11:30-12:00

Invited Speech Chul-Jin Choi, Jung-Goo Lee, Dong-Soo Kim

Korea Institute of Materials Science

Novel Materials and Devices for Logic Applications

Nov. 18, 2014 (Tue.)

S4 (Novel Materials and Devices for Logic Applications)

Ballroom 2

Chairs: Byoung Hun Lee (Gwangju Institute of Science and Technology)

13:00-16:30

Jungwoo Oh (Yonsei University)

S4-0167

Logic Devices with Graphene p-n Junctions

13:00-13:30 Ji Ung Lee

Invited Speech University of Albany

S4-0246

Logic Operations of InSb Diodes with Magnetic Field Induced from Integrated Nanomagnets

13:30-14:00 Joonyeon Chang¹, Jinki Hong², Jin Dong Song¹, Mark Johnson³

Invited Speech ¹Korea Institute of Science and Technology, ²Korea University, ³US Naval Research Lab.

S4-1674

14:00-14:30

Invited Speech

Nano-Electronic Emerging Devices for Tera-Level Applications

Kyung Rok Kim, Sunhae Shin, Min Woo Ryu, Jong Yul Park, Sung-Ho Kim
Ulsan National Institute of Science and Technology

S4-3252

14:30-15:00

Invited Speech

GaN-Based Devices in Green Energy Applications

H. Rusty Harris, Derek W. Johnson, Jung Hwan Woo, Pradhyumna Ravikirithi, Michael Babb,
Pranav Sharma, Iman R. Gatabi
Texas A&M University

S4-1629

15:00-15:30

Invited Speech

Recent Trends in Silicon Nanophotonic Architectures

Jung Ho Ahn, Sukhan Lee, Yujin Park
Seoul National University

S4-1659

15:30-16:00

Invited Speech

Copper/Graphene Stacks for Advanced Interconnect Technology

Moon-Ho Ham
Gwangju Institute of Science and Technology

S4-1692

16:00-16:30

Invited Speech

Molecular- and Polymer-based Electronic Devices on Rigid and Flexible Substrates

Takhee Lee
Seoul National University

Sensors and Oxide Semiconductor

Nov. 18, 2014 (Tue.)

MD (Sensors and Oxide Semiconductor)

Udo

Chairs: Takhee Lee (Seoul National University)
Sungkyu Park (Chung-Ang University)

09:00-11:15

MD-2942

09:00-09:15

Effect of Rare-earth Gd Incorporation on the Characteristics of ZnO Thin Film

Siti Nooraya Mohd Tawil¹, Norhidayah Che Ani², Nurulnadia Sarip², Sharul Ashikin Kamaruddin²,
Nurul Fadzilah Ab Rasid¹, Azizi Miskon¹, Mohd Zainizan Sahdan²
¹National Defence University of Malaysia, ²Universiti Tun Hussein Onn Malaysia

MD-2692

09:15-09:30

Fe-doped ZnO Nanowire Arrays for Formaldehyde Gas Detection

Hyo Won Seo, Su Hyo Kim, Yoo Sang Jeon, Jun Hua Wu, Young Keun Kim
Korea University

MD-2042

09:30-09:45

The Shear Effect Induced Enhancement of Piezoelectric Property of PVDF-TrFE Thin Films

Jin Ho Yang, Hyeon Jun Hwang, Han Na Choi, Byoung Hun Lee
Gwangju Institute of Science and Technology

MD-1206

09:45-10:00

Electrical Properties of High Mobility Ultrathin Amorphous Indium Zinc Oxide Deposited by Atomic Layer Deposition

Yeong-Ho Cho¹, Do-Joong Lee², Seong-Yong Cho¹, Hyun-Mi Kim¹, Ki-Bum Kim¹
¹Seoul National University, ²Brown University

- MD-0501** **Energetics and Kinetics of Bulk Reconstruction of O-O Bond in ZnO**
10:00-10:15 Youngho Kang, Dongheon Lee, Seungwu Han
Seoul National University
- MD-0319** **Polymer-assisted Solution Deposition of Titanium Doped Indium Oxide Transparent Electrodes**
10:15-10:30 Sujaya Kumar Vishwanath, Chaelhy Yu, Chanho Yang, Seok-Cheol Ko, Jihoon Kim
Kongju National University
- MD-2722** **Electrical and Optical Properties of Asymmetric Dielectric/Metal/Dielectric (DMD) Electrodes Prepared by Radio-Frequency Sputtering**
10:30-10:45 Rina Pandey^{1,2}, Chang Hwan Wie², Do Kyung Hwang², Won Kook Choi²
¹Korean University of Science and Technology, ²Korea Institute of Science and Technology
- MD-2358** **Fast Response Schottky Barrier ZnO Photodetector by Optimized Surface State using Hydrothermal Growth**
10:45-11:00 Cheolmin Park¹, Jihye Lee², Hye-Mi So², Seung-Mo Lee², Won Seok Chang²
¹University of Science and Technology, ²Korea Institute of Machinery & Materials
- MD-3366** **Effect of the Temperature Gradient at the Solidification Front on THM Growth of CdTe Single Crystals**
11:00-11:15 Sang-Hee Suh, Youngjoon Suh, Jin-Sang Kim
Korea Institute of Science and Technology

Magnetism and Magnetic Materials

Nov. 18, 2014 (Tue.)

ME (Magnetism and Magnetic Materials)

Udo

Chairs: Jongill Hong (Yonsei University) 13:00-15:15
Chul-Jin Choi (Korea Institute of Materials Science)

- ME-2629** **Chirality Switching Dynamics Induced by Dynamic Dipole Coupling in Dual-vortex Nanopillars**
13:00-13:30 Joseph Kolthammer¹, Yang-Ki Hong², Haitian Xu¹, John Rudge¹, Byoung-Chul Choi¹
¹University of Victoria, ²University of Alabama
- ME-1078** **Modification of Spin-orbit Coupling in the Co/Pd Multilayers**
13:30-14:00 Sanghoon Kim, Jehyun Kim, Soogil Lee, Jongill Hong
Yonsei University
- ME-2082** **CoFeAu Hybrid Nanoparticles from Polymer-based Nanoemulsion: Preparation and Multifunctional Properties**
14:00-14:15 HongLing Liu¹, HongQin Shao¹, XiaoYan Zhang¹, WenZheng Cheng¹, XianHong Wang¹, JunHua Wu²
¹Henan University, ²South University of Science and Technology of China

- ME-1567** **Structural and Magnetic Properties of Nano Grain Sized Zn Ferrite/Hydroxyapatite Bioceramics Fabricated by Solid State Reaction Method**
14:15-14:30
Klumdoung Pattarinee¹, Pankaew Piyapong²
¹Rajamangala University of Technology Krungthep, ²Rajamangala University of Technology Phra Nakhon
- ME-1095** **Magnetic Anisotropy in Iron-doped Lithium Nitride - 3d Stronger than 4f!?**
14:30-14:45
R. William McCallum, Anton Jesche, Srinivasa Thimmaiah, Jenee L. Jacobs, Valentin Taufour, Andreas Kreyssig, Robert S. Houk, Sergey L. Budko, Paul C. Canfield
Iowa State University
- ME-0836** **Influence of Columnar Grain Structure on the Perpendicular Magnetic Domain Structure of Epitaxial L10 FePt Thin Film**
14:45-15:00
W. H. Lee¹, J. H. Yoo², J. M. Yang², J. K. Park¹
¹Korea Advanced Institute of Science and Technology, ²National Nanofab Center
- ME-0342** **Enhanced Magnetic Performance of CoFe2O4/(Bi0.5Na0.5)TiO3 Magnetoelectric Composites**
15:00-15:15
Narumon Lertcumfu¹, Pharatree Jaita¹, Parkpoom Jarupoom²
¹Chiang Mai University, ²Rajamangala University of Technology Lanna

Challenges for Deformable Displays

Nov. 18, 2014 (Tue.)

S12 (Challenges for Deformable Displays)

Ballroom 3

Chair: Unyong Jeong (Yonsei University)

09:00-12:00

- S12-2415** **Intrinsically Stretchable Polymer OLEDs and Displays**
09:00-09:30
Qibing Pei
Invited Speech *University of California, Los Angeles*
- S12-3108** **Inkjet-Printed Conductors for Stretchable Electronics Applications**
09:30-10:00
Yongtaek Hong, Sangwoo Kim, Taehoon Kim, Junghwan Byun, Seongdae Choi, Seungjun Chung,
Invited Speech Jaemyeon Lee
Seoul National University
- S12-3123** **Si Nanomembrane for Flexible and Stretchable Electronics**
10:00-10:30
Jong-Hyun Ahn
Invited Speech *Yonsei University*
- S12-0454** **Hybrid Transparent Conductors for Deformable Displays**
10:30-11:00
Pooi See Lee, Jiangxin Wang, Wenbin Kang, Kenji Chee
Invited Speech *Nanyang Technological University*

S12-0970 **Stretchable, Transparent Electrodes using One-dimensional and Two-dimensional Nanomaterials**
11:00-11:30
Invited Speech Jang-Ung Park
 Ulsan National Institute of Science and Technology

S12-0557 **Deformable Light Emitting Devices by Electrochemical Luminescence**
11:30-12:00
Invited Speech Minkwan Shin, Unyong Jeong
 Yonsei University

Flexible/Printed Electronics and Displays

Nov. 18, 2014 (Tue.)

S13 (Flexible/Printed Electronics and Displays) Ballroom 3

Chair: Tae-Woo Lee (Pohang University of Science and Technology) 13:00-16:00

S13-3362 **Molecular Assembly of Organic Semiconductors for High-Performance Flexible Electronics**
13:00-13:30
Keynote Speech Kilwon Cho
 Pohang University of Science & Technology

S13-2551 **Ultraflexible Organic Electronic Systems for Imperceptible Bio-medical Sensors**
13:30-14:00
Invited Speech Tsuyoshi Sekitani
 Osaka University

S13-1804 **Stretchable TFTs and Interconnections for Display Application**
14:00-14:30
Invited Speech Jae Bon Koo
 Electronics and Telecommunication Research Institute

S13-3103 **Natural Dielectrics in Flexible Organic Field-effect Transistors**
14:30-15:00
Invited Speech Tzung-Fang Guo, Chun-Ting Yeh, Tzung-Da Tsai, I-Tsung Chen, Ten-Chin Wen
 National Cheng Kung University

S13-2394 **Flexible and Printed Organic and Metal-oxide Thin-film-devices for Next Generation Electronics**
15:00-15:30
Invited Speech Sungkyu Park
 Chung-Ang University

S13-0573 **New Blue Emitting Materials in White OLED using Hybrid Process Based on Solution and Vacuum Methods**
15:30-16:00
Invited Speech Jongwook Park, Jaehyun Lee, Seungho Kim, Hwangyu Shin, Hayoon Lee
 Catholic University of Korea

Flexible, Stretchable Displays and Printed Electronics

Nov. 18, 2014 (Tue.)

DA (Flexible, Stretchable Displays and Printed Electronics)

Chuja

Chairs: Hongdoo Kim (Kyung Hee University)
Hyungtak Seo (Ajou University)

09:00-11:30

DA-0187

09:00-09:30

Invited Speech

Aerosol Jet Printed, Complementary Circuits Constructed from p- and n-Type Electrolyte Gated Transistors

Kihyon Hong¹, Se Hyun Kim², Yong Hyun Kim³, C. Daniel Frisbie⁴

¹Korea Institute of Materials Science, ²Yeungnam University, ³Pukyong National University,

⁴University of Minnesota

DA-3007

09:30-09:45

Mechanism of Metal Nanowire Formation via Polyol Process

Hwa-Yong Lee, Young-Soo Chae, Yongwoo Kwon, Yong-Seog Kim

Hongik University

DA-2978

09:45-10:00

Flexural Modulus Measurement and Warpage Analysis of Multilayers on Polymer Composite Substrates for Flexible Electronics

Tae-ik Lee¹, Cheolgyu Kim¹, Min Sung Kim², Taek-Soo Kim¹

¹Korea Advanced Institute of Science and Technology, ²Samsung Electro-Mechanics

DA-2672

10:00-10:15

An Inorganic Emissive Structure with Excellent Mechanical Compliance for Stretchable Light-emitting Devices

Jiangxin Wang, Pooi See Lee

Nanyang Technological University

DA-2668

10:15-10:30

Rationally Designed Topographic Configuration of Elastomeric System for Inkjet Printed Stretchable Electronics

Byeongmoon Lee, Junghwan Byun, Yongtaek Hong

Seoul National University

DA-2659

10:30-10:45

Guided Crack Formation and Stress Localization of Metallic Thin Film by using Inkjet-printed Embedded Polymeric Micro-islands for Stretchable Electronic Applications

Junghwan Byun, Byeongmoon Lee, Sangwoo Kim, Yongtaek Hong

Seoul National University

DA-2652

10:45-11:00

In Situ Fabrication of all-inkjet-printed Carbon Nanotube Thin-Film Transistors Directly Onto Stretchable Substrate

Jewook Ha, Taehoon Kim, Narkhyeon Seong, Hyeonggyu Kim, Yongtaek Hong

Seoul National University

DA-2278

11:00-11:15

Fabrication of Embedded Silver Circuit for Flexible Electronics

Bum-Geun Park, Kwang-Seok Kim, Seung-Boo Jung

Sungkyunkwan University

DA-2079 Electronic Properties of Transparent Nano-Composite Electrodes for the Application in Flexible Electronics

11:15-11:30

Ross E. Triambulo, Jin-Woo Park
Yonsei University

**TFT Materials and Devices
Emerging Materials and Devices for Unconventional Displays**

Nov. 18, 2014 (Tue.)

DD (TFT Materials and Devices)

DE (Emerging Materials and Devices for Unconventional Displays)

Chuja

Chairs: Gwan-Hyoung Lee (Yonsei University)
Unyong Jeong (Yonsei University)

13:00-15:30

DD-1161 Study of Low Temperature Solution-Processed Oxide Dielectric with ZnO-TFTs

13:00-13:30

Jaeun Hwang, Kyungmin Lee, Hongdoo Kim

Invited Speech Kyung Hee University

DD-0462 Significant Mobility Enhancement in Dual-Active-Layers a-IGZO TFT via Homogeneous Conductive Layer Formation by Photochemical Surface H-doping

13:30-14:00

Invited Speech Hyungtak Seo¹, Myeong-Ho Kim², Young-Ahn Lee¹, Sang-Youn Lee¹, Duck-Kyun Choi²
¹Ajou University, ²Hanyang University

DD-2140 Improved Random Networks of Solution-processed Single-walled Carbon Nanotube with Reduced Deposition Time by using Nitric Acid

14:00-14:15

Taecheon Kim¹, Narkhyeon Seong¹, Hyeonggyu Kim¹, Tae-Jun Ha², Yongtaek Hong¹
¹Seoul National University, ²Kwangwoon University

DD-2110 Tunable Threshold Voltage in Solution-processed Single-walled Carbon Nanotube Thin-film Transistors

14:15-14:30

Narkhyeon Seong¹, Taecheon Kim¹, Hyeonggyu Kim¹, Tae-Jun Ha², Yongtaek Hong¹
¹Seoul National University, ²Kwangwoon University

DD-1125 Tunneling Effect of Thin Film Transistors for Flexible Display

14:30-14:45

Teresa Oh
Cheongju University

DE-3144 Two-Dimensional Layered Materials for Displays and Optical Applications

14:45-15:15

Invited Speech Gwan-Hyoung Lee
Yonsei University

DE-0917 Optimization of the Surface Light Source with Multi-color LEDs for Plant Factory

15:15-15:30

Taek-Sung Lee¹, Seok-Joo Byun², Hyoung Seok Kim³, Chu Won Nho³
¹Korea Institute of Science and Technology, ²Insideoptics Co. LTD, ³Korea Institute of Science and Technology Gangneung Institute

Advanced Materials Toward Solar Fuel Production

Nov. 18, 2014 (Tue.)

S14 (Advanced Materials Toward Solar Fuel Production)

Ballroom 1

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

09:00-12:00

S14-1139 **Titania-hybridized with Reduced Graphene Oxides for Enhanced Solar Photocatalysis**

09:00-09:30 Wonyong Choi, Hyoungh-il Kim, Gun-hee Moon

Invited Speech Pohang University of Science and Technology

S14-0565 **Semiconductor Photocatalysts for Water Splitting and CO₂ Fixation**

09:30-10:00 Kazuhiko Maeda

Invited Speech Tokyo Institute of Technology

S14-0366 **Mn based Water Oxidation Catalysts that Mimic Mn Cubane Structure in Photosystem II**

10:00-10:30 Ki Tae Nam, Kyongsuk Jin, Sung Eun Jerng, Donghyuk Jeong

Invited Speech Seoul National University

S14-0479 **High Efficiency One-Step Solar-to-Hydrogen Conversion on Metal-Nitride Nanowires**

10:30-11:00 Zetian Mi, Md Golam Kibria

Invited Speech McGill University

S14-0196 **Solar Water Oxidation and CO₂ Conversion using Semiconductor Electrodes**

11:00-11:30 Sung Kyu Choi, Unseock Kang, Hye Won Jeong, Hyunwoong Park

Invited Speech Kyungpook National University

S14-0223 **Improving Charge Transfer in Photoelectrodes for Visible Light Water Splitting**

11:30-12:00 Yixin Zhao

Invited Speech Shanghai Jiao Tong University

Advanced Materials and Devices for Solar Energy Conversion

Nov. 18, 2014 (Tue.)

S17 (Advanced Materials and Devices for Solar Energy Conversion)

Ballroom 1

Chairs: Jung-Yong Lee (Korea Advanced Institute of Science and Technology)

13:00-16:30

Bumjoon Kim (Korea Advanced Institute of Science and Technology)

S17-1590 **Materials and Approaches for Efficient Inorganic-organic Hybrid Solar Cells**

13:00-13:30 Sang Il Seok

Invited Speech Korea Research Institute of Chemical Technology

S17-3102 **Lead Chalcogenides Nanocrystal Quantum Dots for Photovoltaic Applications: Enhanced Ambient Stability of Materials and Devices**

13:30-14:00

Invited Speech Sohee Jeong

Korea Institute of Machinery and Materials

- S17-2307 Perspectives of Earth-abundant Cu₂ZnSnS₄ Solar Cells**
14:00-14:30 Byungha Shin
Invited Speech *Korea Advanced Institute of Science and Technology*
- S17-3356 Photovoltaic Cells Incorporating Tailored Organic and Inorganic Nanostructures**
14:30-15:00 Jiangeng Xue
Invited Speech *University of Florida*
- S17-1133 Engineering Energy Transfer in Organic Photovoltaic Cells for Efficient Exciton Harvesting**
15:00-15:30 Russell J. Holmes
Invited Speech *University of Minnesota*
- S17-0266 Improving Spectral Response in Polymer-fullerene Bulk Heterojunction Solar Cells**
15:30-16:00 Barry (C) Thompson
Invited Speech *University of Southern California*
- S17-0781 Design of Electroactive Materials for Improving Mechanical and Thermal Stabilities in Efficient Polymer Solar Cells**
16:00-16:30 Bumjoon Kim
Invited Speech *Korea Advanced Institute of Science and Technology*

Thermoelectric Power Devices and Nanogenerators

Nov. 18, 2014 (Tue.)

EF (Thermoelectric Power Devices and Nanogenerators)

Mara

Chairs: Chong-Yun Kang (Korea Institute of Science and Technology)

09:00-11:00

Jeong Min Baik (Ulsan National Institute of Science and Technology)

- EF-2730 Structural Variation and Piezoelectric Energy Harvesting of the KNbO₃ Nanowires**
09:00-09:30 Mi-Ri Joung¹, Haibo Xu¹, In-Tae Seo¹, Mir Im¹, Sahn Nahm¹, Seok-Jin Yoon², Chong-Yun Kang²,
Invited Speech Hyun-Min Park³
¹Korea University, ²Korea Institute of Science and Technology, ³Korea Research Institute of Standards and Science
- EF-1498 Effects of Composition on Thermoelectric Properties of Co-Sb Thin Films Prepared by RF Co-Sputtering**
09:30-09:45 Aziz Ahmed¹, Seungwoo Han²
¹University of Science and Technology, ²Korea Institute of Machinery and Materials
- EF-0862 Deposition of n-type Bi₂Te₃ Thin Films on Polyimide by using RF Co-sputtering Method**
09:45-10:00 Sung-Jae Joo, Bong-Seo Kim, Bok-Ki Min, Min-Wook Oh, Ji-Eun Lee, Byung-Ki Ryu, Su-Dong Park,
Hee-Woong Lee
Korea Electrotechnology Research Institute

EF-0788 **A Study on Thermoelectric Device Aspects: Microstructure Evolution and Contact Resistance**

10:00-10:15

Ho Yong¹, Seong-jae Jeon², Sekwon Na¹, Seungmin Hyun², Hoo-Jeong Lee¹
¹Sungkyunkwan University, ²Korea Institute of Machinery & Materials

EF-0493 **The Development of Controlling Method of Spontaneously Generated Electrical Charge of a Droplet Dispensed from a Pipette Tip**

10:15-10:30

Dongwhi Choi, Dong Sung Kim
Pohang University of Science and Technology

EF-0413 **High Temperature Transport Properties of Sb-doped GeTe Thermoelectric Compounds**

10:30-10:45

Bong-Seo Kim, Chang-Woo Cho, Byung-Ki Ryu, Ji-Eun Lee, Sung-Jae Joo, Bok-Ki Min, Min-Wook Oh, Su-Dong Park, Hee-Woong Lee
Korea Electrotechnology Research Institute

EF-0384 **Electrical and Thermal Properties of Bismuth Sodium Titanate doped Calcium Lanthanum Manganese Oxide**

10:45-11:00

Preeyakarn Eaksuwanchai, Sukanda Jiansirisomboon, Anucha Watcharapasorn
Chiangmai University

**Advances in Fuel Cells and Hydrogen Storage
Water Splitting and Solar Fuel**

Nov. 18, 2014 (Tue.)

EC (Advances in Fuel Cells and Hydrogen Storage)

ED (Water Splitting and Solar Fuel)

Mara

Chairs: Simone Piccinin (National Research Council - Institute of Materials)

13:00-15:45

WooChul Jung (Korea Advanced Institute of Science and Technology)

EC-1284 **Robust Metal-Ceramic Convergence Nanostructures with Exceptionally High Electrochemical Reaction Activity for High Temperature Fuel Cell Electrodes**

13:00-13:30

Invited Speech
Yoonseok Choi, Siwon Lee, WooChul Jung
Korea Advanced Institute of Science and Technology

EC-2916 **Effect of Co Electroplating on the Cr Vaporization and Oxidation Behavior of High Cr Ferritic Stainless Steel Interconnects for SOFC Application**

13:30-13:45

Byung Kyu Kim¹, Suk-Chul Kwak¹, Dong-Ik Kim¹, Young Whan Cho¹, Kyung-Woo Yi²
¹Korea Institute of Science and Technology, ²Seoul National University

EC-2836 **Metallic Membranes for Hydrogen Separation: Vanadium-based and Amorphous Membranes**

13:45-14:00

Jin-Yoo Suh¹, Young-Su Lee¹, Jae-Hyeok Shim¹, Yong Jeong Kim², Young Whan Cho¹
¹Korea Institute of Science and Technology, ²Nara Cell Tech Corporation

- EC-1937** **First Principle Studies of Catalytically Active Metal-phospide Systems**
14:00-14:15 Kapil Gupta¹, Satadeep Bhattacharjee¹, Seung-Cheol Lee², U. V. Waghmare³
¹Indo-Korea Science and Technology Centre, ²Korea Institute of Science and Technology, ³Jawaharlal Nehru Centre for Advanced Scientific Research Centre
- EC-1888** **Role of Electron Transfer in the Site Specific Adsorption of NH₃ on CoPt Alloys**
14:15-14:30 Satadeep Bhattacharjee¹, Kapil Gupta¹, Umesh V Waghmare², Seung Cheol Lee¹
¹Indo-Korea Science and Technology Center, ²Jawaharlal Nehru Centre for Advanced Scientific Research
- ED-3033** **New Pyrophosphate based Li-battery Material (Li₂MnP₂O₇) with Tunable Mn Valency as a Water Oxidation Catalyst**
14:30-14:45 Hyunah Kim¹, Jimin Park², Kitae Nam¹, Kisuk Kang¹
¹Seoul National University, ²Korea Institute of Science and Technology
- ED-2256** **Cu₂O Photocathodes Coated with Protective and Anti-reflective TiO₂ Layer for Photoelectrochemical Hydrogen Evolution**
14:45-15:00 Jaesuk Choi, Jihun Oh, Yeon Sik Jung
Korea Advanced Institute of Science and Technology
- ED-1794** **3D Printed Hierarchical Catalyst Structures of nZVI Particles for Groundwater Remediation**
15:00-15:15 Wonjin Jo, Seunghak Lee, Jaewon Jang, Seockheon Lee, Heon Ju Lee
Korea Institute of Science and Technology
- ED-1663** **Solar Light Driven Photocatalytic Activity of Pt-Mesoporous Oxides and Pt-Hierarchical N doped TiO₂ Nanostructures**
15:15-15:30 Brundabana Naik, Song Yi Moon, Chan-Ho Jung, Jeong Young Park
Korea Advanced Institute of Science and Technology
- ED-1502** **Effects of Seed Layer on Hydrothermally Grown Rutile TiO₂ Nanorod Arrays on FTO Glass for Photocatalytic Hydrogen Generation**
15:30-15:45 Hyun Kim, Bee Lyong Yang
Kumoh National Institute of Technology

**Advanced Li-ion Battery Materials
New Energy Storage Systems and Materials beyond LIB**

Nov. 18, 2014 (Tue.)

EA-2 (Advanced Li-ion Battery Materials 2)

EB (New Energy Storage Systems and Materials beyond LIB)

Biyang

Chair: Kisuk Kang (Seoul National University)

09:00-11:30

EA-2-0937 **Inhomogeneous Reaction in Lithium Ion Batteries**

09:00-09:30 Yoshio Ukyo

Invited Speech Kyoto University

- EA-2-1651** **Reduced Graphene Oxide/Carbon Double-Coated 3-D Porous $\text{LiMn}_{0.8}\text{Fe}_{0.2}\text{PO}_4$ Aggregates as High-Rate Cathode Materials for Li-Ion Battery**
09:30-09:45
Sungun Wi, Seunghoon Nam, Joonhyeon Kang, Jaewon Kim, Hyungsub Woo, Byungwoo Park
Seoul National University
- EA-2-0622** **Extremely High-Performance of $\text{LiMn}_{0.8}\text{Fe}_{0.2}\text{PO}_4$ with Hybrid Conductive Additives Based on Etched and Functionalized Multi-walled Carbon Nanotubes**
09:45-10:00
Hyung Cheoul Shim¹, Taehwan Yu², Seungmin Hyun¹
¹Korea Institute of Machinery and Materials, ²Samsung Fine Chemicals
- EA-2-0553** **Application of Porous Cu-Sn Alloy Current Collector Formed by Electrochemical Deposition to Li-ion Batteries**
10:00-10:15
Bora Ye, Sunjung Kim
University of Ulsan
- EA-2-0498** **A Study on the Structural and Electrochemical Properties of $\text{LiNi}_0.5\text{Mn}_1.5\text{O}_4$ for Lithium Ion Batteries: Effect of Ru Doping and $\text{Li}_2\text{O}-2\text{B}_2\text{O}_3$ Coating**
10:15-10:30
Ji Su Chae¹, Sun-Min Park¹, Won-Sub Yoon², Kwang Chul Roh¹
¹Korea Institute of Ceramic Engineering & Technology, ²Sungkyunkwan University
- EA-2-1912** **Behavior Solid Electrolyte for All-solid-state Batteries in High-Intensity Radiation Environments**
10:30-10:45
Seung Hyun Jee¹, You Na Lee¹, In Yea Kim¹, Kang Soo Lee², Sung Pil Woo², Young Soo Yoon¹
¹Gachon University, ²Yonsei University
- EB-2890** **Superior Rechargeability and Efficiency of Lithium–Oxygen Batteries: Hierarchical Air Electrode Architecture Combined with a Soluble Catalyst**
10:45-11:00
Jinsoo Kim, Hee-Dae Lim, Hyelynn Song, Yong Hyup Kim, Kisuk Kang
Seoul National University
- EB-2689** **First Principles Study of the Oxygen Evolution Reaction Mechanism in Metal-oxygen Batteries**
11:00-11:15
Byungju Lee, Dong-Hwa Seo, Hee-Dae Lim, Inchul Park, Kyu-Young Park, Jinsoo Kim, Kisuk Kang
Seoul National University
- EB-0333** **Improving Filtering Characteristics of Systems with Energy Storing Elements Utilizing the Zero Locations of System Function**
11:15-11:30
Keehong Um
Hansei University

Introduction to Computational Materials Methods and Applications

Nov. 18, 2014 (Tue.)

S21 (Introduction to Computational Materials Methods and Applications)

Ballroom 4

Chairs: Seungwu Han (Seoul National University)

09:00-12:00

De-en Jiang (University of California, Riverside)

S21-1731 Simulation of Scanning Seebeck Microscopy Images

09:00-09:30 Yong-Hyun Kim

Invited Speech *Korea Advanced Institute of Science and Technology*

S21-0251 Drastic Change of the Poisson's Ratios in Metal Nanoplates

09:30-10:00 Duc Tam Ho, Soon-Dong Park, Sung Youb Kim

Invited Speech *Ulsan National Institute of Science and Technology*

S21-0699 Kinetic Monte Carlo Simulations for Defect Diffusion and Evolution Behaviors in Materials

10:00-10:30 Takuji Oda

Invited Speech *Seoul National University*

S21-1586 Computational Study on Assembly of Colloidal Nanoparticles Using Kinetic Monte Carlo Simulation

10:30-11:00 Seok Joon Kwon, Jae-Gwan Park

Invited Speech *Korea Institute of Science and Technology*

S21-1487 Polymer Modeling Using Mean Field Theory: Comparison between Gaussian Chain Model and Short Chain Model

11:00-11:30 Jaeup Kim

Ulsan National Institute of Science and Technology

S21-3233 Meso-scale Simulation of the Micromechanical Deformation and Failure Behaviors in Multi-phase Steels using the Microstructure based Crystal Plasticity FEM

11:30-12:00 Shi-Hoon Choi, Eun-Young Kim, ChanUk Jeong

Sunchon National University

Organic Materials Modeling

Nov. 18, 2014 (Tue.)

S19 (Organic Materials Modeling)

Ballroom 4

Chairs: Sang Soo Han (Korea Institute of Science and Technology)

13:00-16:30

Denis Andrienko (Max Planck Institute for Polymer Research)

S19-0241 Modeling Porous Organic Materials and Ionic Liquids for Carbon Capture

13:00-13:30 De-en Jiang

Invited Speech *University of California, Riverside*

- S19-0808** **Pressure-induced Semiconductor to Metal Transition in MoS₂: Prediction to Reality**
13:30-14:00 Abhishek Kumar Singh, Swastibrata Bhattacharyya, Tribhuwan Pandey
Invited Speech *Materials Research Centre, Indian Institute of Science*
- S19-1431** **Multi-scale Molecular Modeling of Organic Materials for Electronic and Photovoltaic Applications**
14:00-14:30 Yun Hee Jang
Invited Speech *Gwangju Institute of Science and Technology*
- S19-2945** **Molecular Doping of Organic Semiconductors**
14:30-15:00 Eung-Gun Kim
Invited Speech *Dankook University*
- S19-3305** **New Two Dimensional Compounds: beyond Graphene**
15:00-15:30 Sebastien Lebegue
Invited Speech *Université de Lorraine*
- S19-0761** **Rapid Dye Regeneration Mechanism of Dye-Sensitized Solar Cells**
15:30-16:00 Jiwon Jeon, Hyungjun Kim
Invited Speech *Korea Advanced Institute of Science and Technology*
- S19-0180** **Combinatorial Study of Theory, Synthesis, and Electron Tomography for 3D Networked Binary Metal Nanoparticle -Triblock Terpolymer Superstructure Formation**
16:00-16:30 Kahyun Hur
Invited Speech *Korea Institute of Science and Technology*

Nanomaterials for Catalysis and Renewable Energy Conversion

Nov. 18, 2014 (Tue.)

S7 (Nanomaterials for Catalysis and Renewable Energy Conversion)

Ara

Chairs: Jeong Young Park (Korea Advanced Institute of Science and Technology)
Sang Hoon Joo (Ulsan National Institute of Science and Technology)

09:00-12:00

- S7-0695** **Morphology-dependent Nanocatalysis on Rod-shaped Metal Oxides**
09:00-09:30 Wenjie Shen
Invited Speech *Dalian Institute of Chemical Physics, Chinese Academy of Sciences*
- S7-0216** **Nanostructured Carbon-based, Non-Precious Metal Electrocatalysts for the Oxygen Reduction Reaction**
09:30-10:00 Sang Hoon Joo, Jae Yeong Cheon, Young Jin Sa, Bora Seo
Invited Speech *Ulsan National Institute of Science and Technology*
- S7-0231** **Highly Coke-Resistant Ni Catalysts for Dry Reforming of Methane**
10:00-10:30 Hyunjoon Lee¹, Jeong W. Han², Junsung Park²
Invited Speech *¹Korea Advanced Institute of Science and Technology, ²Yonsei University*

S7-0903 Towards Realistic Models of Oxide-supported Metal Catalysts

10:30-11:00 Martin Sterrer
Invited Speech *Fritz-Haber-Institut der Max-Planck-Gesellschaft*

S7-1451 Design and Application of Functionalized Gold Plasmonic Photocatalysts

11:00-11:30 Hiroshi Kominami¹, Atsuhiko Tanaka²
Invited Speech *¹Kinki University, ²Kyoto University*

S7-1703 Effect of Hot Electron and Surface Plasmon on the Catalytic Activity of Metal-semiconductor Nanocatalysts

11:30-12:00 Jeong Young Park, Sun Mi Kim
Invited Speech *Korea Advanced Institute of Science and Technology*

Functional Self-Assembly of Molecules and Materials

Nov. 18, 2014 (Tue.)

S6 (Functional Self-Assembly of Molecules and Materials)

Ara

Chairs: Yoon Sung Nam (Korea Advanced Institute of Science and Technology) 13:00-16:30
Yong-beom Lim (Yonsei University)

S6-1598 Supramolecular Assembly with Switching Motion

13:00-13:30 Myongsoo Lee
Keynote Speech *Jilin University*

S6-0811 Bioinspired and Adaptable Bionanomaterials based on Self-Assembling Biopolymers

13:30-14:00 Yong-beom Lim
Invited Speech *Yonsei University*

S6-1655 Engineering Ultrasmall Metal Nanomolecules for Biomedical Applications

14:00-14:30 Jianping Xie
Invited Speech *National University of Singapore*

S6-0177 Protein Scaffolds for Self-Assembly of Molecules and Nanomaterials

14:30-15:00 Yoon Sung Nam
Invited Speech *Korea Advanced Institute of Science and Technology*

S6-0149 Assembly at All-Aqueous Interfaces

15:00-15:30 Anderson Ho Cheung Shum
Invited Speech *University of Hong Kong*

S6-0870 Fabrication of Novel Colloidal Materials by Drop-based Microfluidics

15:30-16:00 Jin Woong Kim
Invited Speech *Hanyang University*

S6-2774 Cantilever-free Scanning Probe Nanoprinting

16:00-16:30 Wooyoung Shim
Invited Speech *Yonsei University*

Carbon Nanomaterials & Other Nanoscale Materials

Nov. 18, 2014 (Tue.)

NA-2 (Carbon Nanomaterials & Other Nanoscale Materials 2)

Ora

Chairs: Sang Ouk Kim (Korea Advanced Institute of Science and Technology)

09:00-11:00

Byungha Shin (Korea Advanced Institute of Science and Technology)

NA-2-1175 **Observation of Diamond Nanoparticles Generated in the Gas Phase under the Synthesis Condition of Diamond Films by Hot Wire Chemical Vapor Deposition**

09:00-09:15

Jin-Woo Park, Kun-Su Kim, Nong-moon Hwang
Seoul National University

NA-2-0966 **Generation of Charged Nanoparticles during Thermal Evaporation of Silver at Atmospheric Pressure**

09:15-09:30

Daseul Kim¹, Serena Kim¹, Seungmin Yang¹, Woongkyu Youn¹, Chansoo Kim², Nongmoon Hwang¹
¹*Seoul National University*, ²*Korea Institute of Energy Research*

NA-2-0930 **Generation of Charged Nanoparticles and their Contribution to Growth of Silicon in the Thermal Chemical Vapor Deposition Process**

09:30-09:45

Seung-Min Yang, Woong-kyu Youn, Da-Seul Kim, Nong-Moon Hwang
Seoul National University

NA-2-0778 **Direct Graphene Growth on SiO₂/Si Substrate by using Carbon Diffusion Barrier**

09:45-10:00

Ki-Ju Kim, Seong-Yong Cho, Hyun-Mi Kim, Ki-Bum Kim
Seoul National University

NA-2-0438 **Study on Mesoepitaxy: Graphene Growth on Liquid Cu**

10:00-10:15

Seong-Yong Cho¹, Ki-Ju Kim¹, Hyun-Mi Kim¹, Do-Joong Lee², Min-Hyun Lee³, Ki-Bum Kim¹
¹*Seoul National University*, ²*Brown University*, ³*Samsung Advanced Institute of Technology*

NA-2-0315 **Optoelectronic Devices with Transition Metal Disulfide Interlayer**

10:15-10:30

Ki Chang Kwon¹, Cheolmin Kim¹, Quyet Van Le¹, Jong-Myeong Jeon², Jaeho Choi², Kyoung Soon Choi¹, Ho Won Jang², Soo Young Kim¹
¹*Chung-Ang University*, ²*Seoul National University*

NA-2-0257 **Fracture Characteristics of Monolayer CVD-Graphene**

10:30-10:45

Yun Hwangbo¹, Choong-Kwang Lee², Sang-Min Kim³, Jae-Hyun Kim¹, Seung-Mo Lee¹
¹*Korea Institute of Machinery & Materials*, ²*Chonbuk National University*, ³*Korea Advanced Institute of Science and Technology*

NA-2-0252 **Fracture- and Wear-Resistance Effects of Graphene on Ceramic Matrix**

10:45-11:00

Jong-Young Kim¹, Hyo Jin Kim², Dae Ho Yoon², Changgu Lee², Young-Hwan Yang¹, Sung-Min Lee¹, Yoon-Suk Oh¹, Rodney S. Ruoff³
¹*Korea Institute of Ceramic Engineering and Technology*, ²*Sungkyunkwan University*, ³*The University of Texas at Austin*

Nanoscale Devices & Characterization

Nov. 18, 2014 (Tue.)

ND (Nanoscale Devices & Characterization)

Ora

Chairs: Sang-Woo Kim (Sungkyunkwan University)

13:00-16:30

Sang Ouk Kim (Korea Advanced Institute of Science and Technology)

ND-2988 Nano-scale Fabrication and Observation of Nano-structured Materials by Ultra-thin Membrane Technology

13:00-13:15

Chi Won Ahn

National Nanofab Center

ND-2953 High-resolution 2-D Strain Analysis of SiGe/Si Epitaxial Layer Systems

13:15-13:30

Bumsu Park, Kyung Song, Sang Ho Oh

Pohang University of Science and Technology

ND-2917 Fabrication and Characterization of ZnO Nanorods on Multiple Substrates

13:30-13:45

Abu ul Hassan Sarwar Rana, Kyul Ko, Sejun Hong, Jun-Woo Heo, Hyun-Seok Kim

Dongguk University

ND-2686 Protein Translocation Analysis by using Solid-state Nanopore

13:45-14:00

Hongsik Chae¹, Dong-Kyu Kwak², Hyun-Mi Kim¹, Kyeong-Beom Park¹, Jung-Mo Yeo¹, Hyung-Jun Kim¹, Jae-Suk Yu¹, Ki-Dan Lee¹, Ki-Bum Kim¹, Seung-Wook Chi²

¹Seoul National University, ²Korea Research Institute of Bioscience and Biotechnology

ND-2620 Enhancing DNA Base Pair Resolution of Solid-State Nanopore by Modification of Device Structure

14:00-14:15

Kidan Lee, Hyun-Mi Kim, Ki-Bum Kim

Seoul National University

ND-2109 Suggestion of Composite EUVL Pellicle Materials

14:15-14:30

Jinho Ahn¹, Jung Hwan Kim¹, Seong Chul Hong¹, Jae Uk Lee¹, Seung Min Lee¹, Jung Sik Kim¹, Hyun Min Song¹, Deuk Yeon Lee², Seong In Kim²

¹Hanyang University, ²Cheorwon Plasma Research Institute

ND-1810 Novel Method to Extract the Defect Levels of Charge Traps at Top Gate Graphene FETs

14:30-14:45

Ukjin Jung, Yonghun Kim, Sangchul Lee, Byoung Hun Lee

Gwangju Institute of Science and Technology

ND-1702 Thickness-dependent Mechanical Behavior of Single-crystalline Au Thin-film Investigated by In-situ Nano-tensile Testing

14:45-15:00

Young-Cheon Kim, Ju-Young Kim

Ulsan National Institute of Science and Technology

ND-1424 CeO₂ Nanocrystal-embedded Catalytic Cordierite Disc Filters for Selective Catalytic Reduction of NO_x Gases

15:00-15:15

Young Keun Kim¹, Su Hyo Kim¹, Bum Chul Park¹, Yoo Sang Jeon¹, Min Chul Shin², Jin Sun Cha²

¹Korea University, ²Korea Testing Laboratory

- ND-1362** **Noise Reduction Treated Boron Nitride Nanopore for High Signal to Noise Ratio**
15:15-15:30 Kyeong Beom Park, Hyungjun Kim, Jeong-Mo Yeo, Ashvani Kumar, Hyun-Mi Kim, Ki-Bum Kim
Seoul National University
- ND-1338** **The Detection of SNP(Single Nucleotide Polymorphism) using Low-Noise Solid-state Nanopore**
15:30-15:45 Jae-Seok Yu¹, Min-Cheol Lim², Young-Rok Kim², Ki-Bum Kim¹
¹Seoul National University, ²Kyung Hee University
- ND-1219** **Light Induced Ionic Noise in Si and Quartz based Solid-state Nanopore Device**
15:45-16:00 Hyungjun Kim¹, Pitchford William², Kyeongbeom Park¹, Hyunmi Kim¹, Joshua B. Edel², Ki-Bum Kim¹
¹Seoul National University, ²Imperial College London
- ND-0943** **Thermal Spreading in Transparent Carbon Nanofilms**
16:00-16:15 Duckjong Kim, Da Bin Kim
Korea Institute of Machinery and Materials
- ND-0392** **Room Temperature Precipitation of Flower-like Zn₄SO₄(OH)₆·5H₂O Nanostructures Composed of Ultrathin Nanosheets and their Calcination to S-doped ZnO**
16:15-16:30 Feng Yang
Southwest Jiaotong University

Mechanics in Nano Devices (organized by KIM)

Nov. 19, 2014 (Wed.)

S24-1 (Mechanics in Nano Devices 1)

Ballroom 2

Chair: Ju-Young Kim (Ulsan National Institute of Science and Technology)

13:00-15:00

S24-1-2673 Structural Analysis of 3D Cellular Materials: Experiments and Simulations

13:00-13:20 Heung Nam Han¹, Hoon-Hwe Cho¹, Yigil Cho², Keunho Lee¹, Ki Tae Nam¹

Invited Speech ¹Seoul National University, ²University of Pennsylvania

S24-1-2839 3-Dimensional Hollow Ceramic Nano-Architectures: Fabrication and Deformation

13:20-13:40 Dongchan Jang

Invited Speech Korea Advanced Institute of Science and Technology

S24-1-3152 Ionic Skin

13:40-14:00 Jeong-Yun Sun

Invited Speech Seoul National University

S24-1-2562 Effect of Loading Mode in Graphene Strength Measurements

14:00-14:20 Jihoon Han, Seunghwa Ryu

Invited Speech Korea Advanced Institute of Science and Technology

S24-1-2397 Interfacial Adhesion and Reliability Issues in Printed Metal Interconnects

14:20-14:40 Young-Bae Park

Invited Speech Andong National University

S24-1-2867 Mechanical Reliability of Advanced Thin Films

14:40-15:00 Taek-Soo Kim

Invited Speech Korea Advanced Institute of Science and Technology

Nov. 19, 2014 (Wed.)

S24-2 (Mechanics in Nano Devices 2)

Ballroom 2

Chairs: Sang Ho Oh (Pohang University of Science and Technology)

15:30-17:50

Dongchan Jang (Korea Advanced Institute of Science and Technology)

S24-2-2574 Mechanical Reliability of Nanostuctured Metal Electrode for Flexible Devices

15:30-15:50 Byoung-Joon Kim

Invited Speech Korea Institute of Materials Science

S24-2-2627 Flexible and Stretchable Electrode for Energy Storage Devices

15:50-16:10 Seungmin Hyun

Invited Speech Korea Institute of Machinery and Materials

S24-2-2504 In-situ Lithiation Study of Si Nanostructures for Li Ion Battery towards Flexible Batteries

16:10-16:30 In-Suk Choi

Invited Speech *Korea Institute of Science and Technology*

S24-2-2434 Toughening in Nanotwinned Hierarchical Materials: a Lesson from Nature

16:30-16:50 Sang Ho Oh

Invited Speech *Pohang University of Science and Technology*

S24-2-2425 An in-situ Transmission Electron Microscopy Study of TiNi-(Hf) Alloys with Precipitates

16:50-17:10 Seong-Woong Kim¹, Jong-Taek Yeom¹, Hyun-Gyu Kim²

Invited Speech ¹*Korea Institute of Materials Science*, ²*Seoul National University of Science and Technology*

S24-2-2443 Surface Treatment of Nanoporous Gold for Enhancing Mechanical Properties

17:10-17:30 Young-Cheon Kim, Na-Ri Kang, Ju-Young Kim

Invited Speech *Ulsan National Institute of Science and Technology*

S24-2-2748 Mechanical Properties of Metal Nanowires and Application in Flexible Transparent Electrode

17:30-17:50 Seung Min Han, Byungil Hwang

Invited Speech *Korea Advanced Institute of Science and Technology*

Advances in Magnetic Nanomaterials (organized by KIM)

Nov. 19, 2014 (Wed.)

S22-1 (Advances in Magnetic Nanomaterials 1)

Ballroom 3

Chair: Young Keun Kim (Korea University)

13:00-15:00

S22-1-3059 Manipulation of Magnetic Anisotropy in Co-based Electrodeposited Nanowires

13:00-13:30 Alexander Samardak¹, Alexey Ognev¹, Ekaterina Sukovatitsina¹, Liudmila Chebotkevich¹,

Invited Speech Sergey Komogortsev², Majid Peighambari³, Masoum Nadi³, Farzad Nasirpour³

¹*Far Eastern Federal University*, ²*L.V. Kirensky Institute of Physics*, ³*Sahand University of Technology*

S22-1-3060 Asymmetric Bilayer Nanomagnets with Stable Spin Configurations for Ternary Logic and Magnetoresistive Memory

13:30-14:00

Invited Speech Maxim Steblyy, Alexander Kolesnikov, Ludmila Chebotkevich, Alexey Ognev, Alexander Samardak

Far Eastern Federal University

S22-1-2675 Duffing Oscillation Induced Magnetic Vortex Core Reversal

14:00-14:30 Chanyong Hwang

Invited Speech *Korea Research Institute of Standards and Science*

S22-1-0510 Shape Induced Magnetism in 2 Dimensional Nanoplates

14:30-15:00 Jung-Il Hong

Invited Speech *Daegu Gyeongbuk Institute of Science & Technology*

Nov. 19, 2014 (Wed.)

S22-2 (Advances in Magnetic Nanomaterials 2)

Ballroom 3

Chair: Jung-Il Hong (Daegu Gyungbuk Institute of Science and Technology)

15:30-18:00

S22-2-2854 Biocompatibly-surfaced Magneto-photoluminescent Nanostructures: Facile Nanoemulsion Growth and Multifunctional Properties

15:30-16:00

Invited Speech

JunHua Wu¹, HongLing Liu², Ji Hyun Min³, Young Keun Kim³

¹South University of Science and Technology of China, ²Henan University, ³Korea University

S22-2-2714 Analysis of Photonic Activation Properties of Magnetic Nanoclusters in Cells

16:00-16:30

Invited Speech

Yu Jin Kim, Bum Chul Park, Young Soo Choi, Young Keun Kim

Korea University

S22-2-1652 Metallic Glasses: Overview for Structural and Functional Applications

16:30-17:00

Invited Speech

Haein Yim

Sookmyung Women's University

S22-2-1679 Flexible Magnetoelectronics

17:00-17:30

Invited Speech

Ramulu Torati, CheolGi Kim

Daegu Gyungbuk Institute of Science and Technology

S22-2-1594 Domain Wall Dynamics of the In-plane and Perpendicular Magnetic Anisotropy Nanowires with Perpendicular Magnetic Field Pulses

17:30-18:00

Invited Speech

Chun-Yeol You¹, June-Seol Kim², Jungbum Yoon¹, Mathias Klau³

¹Inha University, ²Eindhoven University of Technology, ³Johannes Gutenberg-Universitat Mainz

Women in Materials Science

Nov. 19, 2014 (Wed.)

S26-1 (Women in Materials Science 1)

Chuja

Chairs: Haein Yim (Sookmyung Women's University)

13:00-15:00

Hyunjung Lee (Kookmin University)

S26-1-2464 Metal Nanowires for Printed Electronics

13:00-13:30

Invited Speech

Haekyoung Kim

Yenungnam University

S26-1-2057 Foldable Inorganic Electrode Materials for Application in Flexible Electronics

13:30-14:00

Invited Speech

Jin-Woo Park

Yonsei University

S26-1-3124 Solution Processed Flexible Electronics

14:00-14:30

Invited Speech

Mijung Lee

Kookmin University

S26-1-2500 Free Standing Reduced Graphene Oxide Film Cathodes for Lithium Ion Batteries

14:30-15:00 Sung Hoon Ha, Yo Sub Jeong, Yun Jung Lee

Invited Speech *Hanyang University*

Nov. 19, 2014 (Wed.)

S26-2 (Women in Materials Science 2)

Chuja

Chairs: Haekyoung Kim (Yeungnam University)

15:30-18:00

Mijung Lee (Kookmin University)

S26-2-2563 Thermoelectric Properties of Carbon Based Hybrid Composites

15:30-16:00 Hyunjung Lee

Invited Speech *Kookmin University*

S26-2-2343 Multi-scale-architected Thin-film-based Solid Oxide Fuels Cells

16:00-16:30 Ji-Won Son

Invited Speech *Korea Institute of Science and Technology*

S26-2-2638 Atomic Scale Analysis of Interface of Oxide Heterostructure using Cs-corrected STEM

16:30-17:00 Hye Jung Chang¹, Jong Kwon Choi²

Invited Speech *¹Korea Institute of Science and Technology, ²LG Display*

S26-2-2680 Energy Harvesting Technology for Wearable and Implantable Applications

17:00-17:30 Miso Kim

Invited Speech *Korea Research Institute of Standards and Science*

S26-2-1821 Self-assembled Network Structures in Al/C60 Composites

17:30-18:00 Hyunjoon Choi

Invited Speech *Kookmin University*

Plasma & Nano Technology Commercialization

Nov. 19, 2014 (Wed.)

S25-1 (Plasma & Nano Technology Commercialization 1)

Ballroom 1

Chair: Seong In Kim (Cheorwon Plasma Research Institute)

13:00-15:00

S25-1-3182 Functionalization Study of Nano-powder by Plasma Treatment and the Plasma System Development

13:00-13:30 Yong-Hwan Kim¹, Seok-Kyun Song², Jung Chul Shin², Man Ki Jung², Deuk Yeon Lee², Seong In Kim²

Invited Speech *¹INFOVION Inc., ²Cheorwon Plasma Research Institute*

S25-1-3207 Application of Nano Sized Composite Zero-valent Iron in Agriculture

13:30-14:00 Mi-Ri Park¹, Joong Il Kim¹, Youn Su Lee², Charles Lee³, Byung-Koo Son¹, Seong In Kim¹

Invited Speech *¹Cheorwon Plasma Research Institute, ²Kangwon National University, ³GL Materials Inc.*

S25-1-3210 Magnetic and Magneto-transport Properties of Amorphous CoSiB/Pt Multilayers

14:00-14:30 Taewan Kim¹, Yongduk Kim², Byungyeon Kim², Seong In Kim²

Invited Speech ¹Sejong University, ²Cheorwon Plasma Research Institute

S25-1-3223 Thermal Plasma System and Technology for Synthesis of Nano-particle

14:30-15:00 Byungkoo Son, Byunghoon Kim, Moonwon Lee, Sanggeun Han, Kyungsuk An

Invited Speech *Cheorwon Plasma Research Institute*

Nov. 19, 2014 (Wed.)

S25-2 (Plasma & Nano Technology Commercialization 2)

Ballroom 1

Chair: Seong In Kim (Cheorwon Plasma Research Institute)

15:30-18:00

S25-2-3248 Development of Electromagnetic Shielding Sheet using Nano-Thin Exfoliated Graphite

15:30-16:00 Kyu-Hang Lee¹, Myoung-Sun Shin¹, Jung-Gil Kim¹, Yoon-Hyun Kim², Sung-Yong Park², Sun-Yong Choi¹, Seong-In Kim¹

Invited Speech ¹Cheorwon Plasma Research Institute, ²Chang Sung Corporation

S25-2-3238 Low Power Wireless Control of Visual Information for Sports Event and Sports Information Management Applications

16:00-16:30 Brian Lee¹, James Seol¹, Young-wook Ko², Seong-in Kim²

Invited Speech ¹Senaya Co.LTD, ²Cheorwon Plasma Research Institute

S25-2-3239 Synthesis of Novel Carbon-metal Nano Materials using Plasma Processing and Its Challenging Applications

16:30-17:00 Yong Sul Song¹, Won Young Lee², Yong Ju Jung², Won Seok Choi²

Invited Speech ¹Amogreentech Co., Ltd, ²Cheorwon Plasma Research Institute

S25-2-3244 Structure Analysis of Nano-Metal/Exfoliated Graphite Hybrid Materials Synthesized by RF Thermal Plasma and its Applications

17:00-17:30 Myoung-Sun Shin¹, Kyu-Hang Lee¹, Jung-Gil Kim¹, Yong-Nam Jo², Min-Sik Park², Sung-Yong Park³, Yun-Hyun Kim³, Sun-Yong Choi⁴, Sung-Man Lee⁵, Seong-In Kim⁴

Invited Speech ¹Kwangwoon University, ²Korea Electronics Technology Institute, ³Chang Sung Corporation, ⁴Cheorwon Plasma Research Institute, ⁵Kangwon National University

S25-2-3228 Mussel-inspired EUV Pellicle Surface Functionalization

17:30-18:00 Haeshin Lee

Invited Speech *Korea Advanced Institute of Science and Technology*

Progress in Carbon based Nanodevices

Nov. 19, 2014 (Wed.)

S9 (Progress in Carbon based Nanodevices)

Biyang

Chairs: Min Park (Korea Institute of Science and Technology)
Dong Ick Son (Korea Institute of Science and Technology)

13:00-15:30

S9-1580 Synthesis and Applications of ZnO-nanocarbons Hybrid Quantum Dots

13:00-13:30 Won-Kook Choi

Keynote Speech Korea Institute of Science and Technology

S9-3323 Transfer Process and Interface Engineering for High Performance Graphene Electronics

13:30-14:00 Sung-Yool Choi

Invited Speech Korea Advanced Institute of Science and Technology

S9-3345 Nanocarbon-based Flexible Electrode Technology for Flexible Devices

14:00-14:30 Joong Tark Han

Invited Speech Korea Electrotechnology Research Institute

S9-0208 Carbon Nanostructures as Novel Mode-locking Devices in Ultrafast Lasers

14:30-15:00 Fabian Rotermund

Invited Speech Ajou University

S9-3355 Flexible and Twistable All Organic Non-Volatile Memory Cell Array with One Diode-One Resistor Architecture

15:00-15:30

Invited Speech Tae-Wook Kim

Korea Institute of Science and Technology

Thermoelectric Technology (organized by KIM)

Nov. 19, 2014 (Wed.)

S23-1 (Thermoelectric Technology 1)

Ballroom 4

Chair: Kyu Hyoun Lee (Kangwon National University)

13:00-15:00

S23-1-3336 Simulation of Topological Insulators with Impurities and Defects

13:00-13:30 Hyoun Joon Choi

Invited Speech Yonsei University

S23-1-3331 Thermoelectric Properties of GeTe/Bi₂Te₃ Mixed Layer Compounds

13:30-14:00 Jae Nyeong Kim, Ji Hoon Shim

Invited Speech Pohang University of Science and Technology

S23-1-3293 Understanding of Physical Properties of Bi₂Te₃-related Compounds and Thereby tuning Thermoelectric Properties

14:00-14:30

Invited Speech Min-Wook Oh, J. H. Son, B. Ryu, J. E. Lee, S. J. Joo, B. S. Kim, B. K. Min, H. W. Lee, S. D. Park
Korea Electrotechnology Research Institute

S23-1-3290 Nanostructuring for Bi₂Te₃-based Thermoelectric Materials: A Review

14:30-15:00 Kyuhyoung Lee

Invited Speech Kangwon National University

Nov. 19, 2014 (Wed.)

S23-2 (Thermoelectric Technology 2)

Ballroom 4

Chair: Su-Dong Park (Korea Electrotechnology Research Institute)

15:30-18:00

S23-2-3286 Thermoelectric Applications of Chemically Synthesized Nanoparticles

15:30-16:00 Jae Sung Son

Invited Speech Ulsan National Institute of Science and Technology

S23-2-3301 Effects of Synthesis Conditions on Thermal and Thermoelectric Properties of Na-doped PbTe

16:00-16:30 Woochul Kim

Invited Speech Yonsei University

S23-2-2684 Doping Induced Microstructure Formation and Thermoelectric Property Control in Bi₂Te₃: DFT Investigations

16:30-17:00 Ki-jeong Kong¹, Hyunju Chang¹, S. D. Park², J. K. Lee²

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

S23-2-1543 Micro Thermoelectric Generator for High-temperature Applications

17:00-17:30 Seungwoo Han¹, Ye Ji Oh²

Invited Speech ¹Korea Institute of Machinery and Materials, ²Jungwon University

S23-2-3298 Development of a Heated and Cooled Cup Holder for a Vehicle using Thermoelectric Element

17:30-18:00 Manju Oh, Jaewoong Kim, Jaewoo Park

Hyundai Motor Company

2014 Annual Materials Frontiers Forum

Nov. 19, 2014 (Wed.)

S27-1 (2014 Annual Materials Frontiers Forum 1)

Ara

Chairs: Young-Chang Joo (Seoul National University)

13:00-15:00

Ki Tae Nam (Seoul National University)

S27-1-3143 Synthesis, Thermoelectric Properties and Mechanism of Titania-Based Nanostructured Materials

13:00-13:30 Lei Miao¹, Chengyan Liu¹, Rong Huang², Craig A. J Fisher³, Sakae Tanemura³

¹Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences, ²East China Normal University, ³Japan Fine Ceramics Center

S27-1-3148 Nanofabrication for Bio-Information Technology

13:30-14:00 Ki-Bum Kim

Invited Speech *Seoul National University*

S27-1-3099 Li-ion Transport in Rocksalts and Demonstration of High Capacity Cathode Materials with Substantial Cation Disorder

14:00-14:30 Gerbrand Ceder, Jinhyuk Lee, Alex Urban

Massachusetts Institute of Technology

S27-1-3185 Mesoscopic Order and Open-circuit Voltage in Organic Solar Cells

14:30-15:00 Carl Poelking¹, Max Tietze², Chris Elschner², Selina Olthof³, Dirk Hertel³, Bjoern Baumeier¹, Frank Würthner⁴, Klaus Meerholz³, Karl Leo², Denis Andrienko¹

¹Max Planck Institute for Polymer Research, ²Institut für Angewandte Photophysik, ³Universität zu Köln, ⁴Universität Würzburg

Nov. 19, 2014 (Wed.)

S27-2 (2014 Annual Materials Frontiers Forum 2)

Ara

Chairs: Seungwu Han (Seoul National University)

15:30-18:00

Kisuk Kang (Seoul National University)

S27-2-3184 Luminescent Organic Semiconductors

15:30-16:00 Soo Young Park

Invited Speech *Seoul National University*

S27-2-3193 What is the Ultimate Efficiency of OLEDs?

16:00-16:30 Jang-Joo Kim

Invited Speech *Seoul National University*

S27-2-3134 Ferroelectricity in HfO₂-based Thin Films

16:30-17:00 Cheol Seong Hwang

Invited Speech *Seoul National University*

S27-2-3369 Bioinspired Catalysts for CO₂ Utilization and Solar Fuel

17:00-17:30 Ki Dong Yang, Ki Tae Nam

Invited Speech *Seoul National University*

S27-2-3194 Phase Stability and Electrical Properties of Amorphous Materials for Electronic Devices Investigated by Mechanical Stress Analysis

17:30-18:00 Young-Chang Joo

Invited Speech *Seoul National University*

Atomic Two-Dimensional Materials and Physics

Nov. 19, 2014 (Wed.)

S28-1 (Atomic Two-Dimensional Materials and Physics 1)

Ora

Chair: Ho Won Jang (Seoul National University)

13:00-15:00

S28-1-3373 Atomic Layer-by-Layer Thermoelectric Conversion in Topological Insulator Bismuth/Antimony Tellurides

13:00-13:30

Invited Speech

Ji Ho Sung^{1,2}, Hoseok Heo^{1,2}, Inchan Hwang^{1,2}, Myungsoo Lim², Donghun Lee^{1,2}, Kibum Kang^{1,2}, Hee Cheul Choi^{1,2}, Jae-Hoon Park², Seung-Hoon Jhi², Moon-Ho Jo^{1,2}

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

S28-1-3351 Ultrafast Terahertz Dynamics of Exciton and Dirac Fermion: Transition Metal Dichalcogenides and Topological Insulators

13:30-14:00

Invited Speech

Hyunyoung Choi

Yonsei University

S28-1-3337 Van der Waals Heterostructures of Semiconducting Transition Metal Dichalcogenide Monolayers

14:00-14:30

Invited Speech

Chul-Ho Lee

Korea University

S28-1-3359 Triboelectric/Piezoelectric Properties in 2D Materials

14:30-15:00

Invited Speech

Sang-Woo Kim

Sungkyunkwan University

Nov. 19, 2014 (Wed.)

S28-2 (Atomic Two-Dimensional Materials and Physics 2)

Ora

Chair: Chul-Ho Lee (Korea University)

15:30-17:30

S28-2-3348 Synthesis and Transfer of Atomically Thin Transition Metal Disulfides on Silicon for High Performance Water Splitting Photocathodes

15:30-16:00

Invited Speech

Seokhoon Choi¹, Ki Chang Kwon¹, Taemin Kim¹, Soo Young Kim², Ho Won Jang¹

¹Seoul National University, ²Chung-Ang University

S28-2-3360 Growth of Single-layer Graphene on H-terminated Germanium Surface

16:00-16:30

Invited Speech

Dongmok Whang

Sungkyunkwan University

S28-2-3357 Breakdown of the Interlayer Coherence and its Consequence on Quantum Hall Effects in Twisted Bilayer Graphene

16:30-17:00

Invited Speech

Jun Sung Kim

Pohang University of Science and Technology

S28-2-3340 **Direct Observation and Manipulation of Edge-states of Atomic Scale Topological Insulators**

17:00-17:30

Han Woong Yeom

Invited Speech

Institute for Basic Science

Poster Presentation

Materials and Processes for Logic and Memory Devices

Nov. 17, 2014 (Mon.)

MAP (Materials and Processes for Logic and Memory Devices)

Ramada Ballroom Lobby

Chair: Jungwoo Oh (Yonsei University)

08:00-09:00 & 17:45-19:00

MAP-0353 Low-power Switching of Phase Change Memory Ring Arrays formed by using Self-assembled Block Copolymer Nanostructures

Woon Ik Park^{1,2}, Jong Min Kim¹, Jae Won Jeong¹, Jaesuk Choi¹, Kwang Ho Kim², Yeon Sik Jung¹

¹Korea Advanced Institute of Science and Technology, ²Global Frontier Project Team

MAP-0723 Polarization Fatigue in Ferroelectric PZT-SBN Ceramics

Orapim Namsar¹, Anucha Watcharapasorn¹, Soodkhet Pojprapai², Sukanda Jiansirisomboon¹

¹Chiang Mai University, ²Suranaree University of Technology

MAP-0909 Analysis of Electronic Structure & Internal Photoemission at Interfaces in Metal-Insulator-Metal and Metal-Oxide-Semiconductor

Sang Yeon Lee, Jin Seo Kim, Hyung Tak Seo

Ajou University

MAP-1350 Fabrication of MnO Resistive Switching Random Access Memory (ReRAM) using Layer-by-layer (LbL) Process

Chiyoung Lee¹, Myeonggi Kim¹, Jaegab Lee¹, Jinhan Cho²

¹Kookmin University, ²Korea University

MAP-1390 Dielectric Properties of Strontium Carbonate doped Barium Iron Tantalum Ceramics

Lalita Tawee, Gobwute Rujijanagul

Chiangmai University

MAP-1400 Preparation and Dielectric Properties of (Sr1-xBax)Fe0.5Nb0.5O3 ; (x=0.0, 0.1 and 0.2) Ceramics

Thanatep Phatungthane, Gobwute Rujijanagul

Chiangmai University

MAP-1883 Charge Trap Memory Devices using Atomic Layer Depositions of Silicon Oxide and Silicon Nitride

Yong-Ho Noh, Jae-Min Park, Byeol Han, Jong-Wan Jung, Won-Jun Lee

Sejong University

MAP-2033 The Effect of Bi-doping on the Phase Change Properties of In3SbTe2

Minho Choi¹, Yong Tae Kim², Jinho Ahn¹

¹Hanyang University, ²Korea Institute of Science and Technology

- MAP-2068 Wide Voltage Operation for Resistive Switching in Metal/HfO₂/Metal Resistors**
Yong Chan Jung, Sejong Seong, Taehoon Lee, In-Sung Park, Jinho Ahn
Hanyang University
- MAP-2244 Two-step Growth of High-quality InP Epitaxial Layers on GaAs (001) by Metal Organic Chemical Vapor Deposition**
Young Dae Cho^{1,2}, In-Geun Lee^{1,2}, In-Hye Choi², Chan-Soo Shin², Kyung-Ho Park², Won-Kyu Park², Hyuk-Min Kwon³, Dae-Hyun Kim³, Dae-Hong Ko¹
¹*Yonsei University*, ²*Korea Advanced Nano Fab Center*, ³*SEMATECH*
- MAP-2465 Effects of Magnetic Domain Walls on the Anisotropic Magnetoresistance in Permalloy Nanowires**
Chunhgee Nam
Hannam University
- MAP-2654 Carrier Transport Mechanism of Metal Contact on Amorphous Hafnium Indium Zinc Oxides**
Seongjun Kim, Youngun Gil, Hyunsoo Kim
Chonbuk National University
- MAP-2706 The Effects of High Pressure Annealing on the Tunneling Field Effect Transistor (TFET)**
Donghwan Lim¹, Woosuk Jung¹, Sung Kwan Lim², Yong Hun Kim², Uk Jin Jung², Byoung Hun Lee², Changhwan Choi¹
¹*Hanyang University*, ²*Gwangju Institute of Science and Technology*
- MAP-2788 Engineering of Magnetic Properties of MgO/ CoFeB/ Nonmagnetic Layers for Magnetic Tunnel Junctions**
Hee-Gyum Park, Chul-Hyun Moon, Byoung-Chul Min, Kyung-Ho Shin
Korea Institute of Science and Technology
- MAP-3053 Electrochemical Deposition of Graphene Oxide/Metal Hybrid Film for Memristor Applications**
Mi-Seok Park, HyukSang Kwon
Korea Advanced Institute of Science and Technology

Materials and Process for BEOL and 3D Integration

Nov. 17, 2014 (Mon.)

MBP-1 (Materials and Process for BEOL and 3D Integration 1)

Ramada Ballroom Lobby

Chair: Changhwan Choi (Hanyang University)

08:00-09:00 & 17:45-19:00

MBP-1-0294 Growth Mechanism of Intermetallic Compounds in Au stud/Sn/Cu Pillar Bump under Electric Current Stressing

Byeong-Rok Lee¹, Jun-Beom Kim², Sung-Hyuk Kim³, Jong-Myeong Park³, Young-Bae Park¹

¹*Andong National University*, ²*Hanamicon*, ³*Nepes Corporation*

- MBP-1-0305 Via Interface Modification of Embedded Chip Resistor Packages and its Effect on Drop Shock Reliability**
Young-ho Km¹, Jong Chul Park², Se-Hoon Park²
¹Hanyang University, ²Korea Electronics Technology Institute
- MBP-1-0380 Fabrication of Sn-3.5Ag Eutectic Alloy Powder by Annealing Sub-micrometer Sn@Ag Powder prepared by Citric Acid-assisted Ag Immersion-plating**
Eun Byeol Choi, Sang-Soo Chee, Jong-Hyun Lee
Seoul National University of Science and Technology
- MBP-1-0523 Prevention of TSV Cu Protrusion using Flexible Polymer Barrier Deposited by Self-assembled Layer-by-Layer Multilayers**
Daekyun Jeong, Chiyoung Lee, Heechul Yang, Pil-Ryung Cha, Jaegab Lee
Kookmin University
- MBP-1-0687 Miniaturized Front-End Module by Embedding an Active ICs and Capacitors**
Jong-In Ryu, Se-Hoon Park, Jong Chul Park
Korea Electronics Technology Institute
- MBP-1-1011 Effects of Annealing and Current Stressing on the Intermetallic Compounds Growth Kinetics of Cu/Sn-Ag Micro-bump**
Gyu-Tae Park¹, Seung-Hyun Kim¹, Jong-Jin Park¹, June-Bum Kim¹, Ho-Young Son², Tac-Keun Oh², Jong-Hoon Kim², Min-Suk Suh², Nam-Seog Kim², Young-Bae Park¹
¹Andong National University, ²SK Hynix Inc.
- MBP-1-1069 The Role of Buffer Layers for Optimizing the Interface Roughness between the Bottom Pt Electrode and BaTiO₃ Films Employing Aerosol Deposition**
Hong-Ki Kim, Seung-Hwan Lee, Cong Wang, Ye Sol Yun, Esther Baek, Jeong-Hyun Lee, Young-Hie Lee
Kwangwoon University
- MBP-1-1165 Effect on Post-Annealing (Ca_{0.7}Sr_{0.3})(Zr_{0.8}Ti_{0.2})O₃ Films on Pt and Cu Substrates Fabricated by Aerosol Deposition**
Ye-Sol Yun, Seung-Hwan Lee, Hong-Ki Kim, Esther Baek, Jeong Hyun Lee, Young-Hie Lee
KwangWoon University
- MBP-1-1437 Carbon Nanotube-Silver Composite Metallization and its Chip Bonding Process for Wearable Electronics with Stretchability**
Jung-Yeol Choi, Dae-Woong Park, Tae Sung Oh
Hongik University
- MBP-1-1648 Warpage Characteristics of a Thin Package-on-Package Evaluated at Each Process Step of its Fabrication**
Dong-Hyeon Park¹, Dong-Myung Jung¹, Fabiano Colling², Carlos Moraes², Eduardo Rhod², William Hasenkamp², Tae Sung Oh¹
¹Hongik University, ²Unisinos University

MBP-1-2405 The Failure Analysis of the Salt-induced Corrosion of the Nickel Layer on an Electronic Connector

Na-Ri Lee, Hyoung-Seuk Choi

Korea Institute of Ceramic Engineering and Technology

MBP-1-3206 Preparation Ferroelectric KNN-LN based Borate Glass System

Wilaiwan Leenakul¹, Pratthana Intawin², Chatchai Kruea-In³

¹Rajamangala University of Technology PhraNakhon, ²Chiang Mai University, ³Chiang Mai Rajabhat University

Computational Design and Analysis of Electronic Materials

Nov. 17, 2014 (Mon.)

MCP (Computational Design and Analysis of Electronic Materials)

Ramada Ballroom Lobby

Chair: Jungwoo Oh (Yonsei University)

08:00-09:00 & 17:45-19:00

MCP-0367 Intermetallic Formation at Interface of Al/Cu Clad Fabricated by Hydrostatic Extrusion and its Properties

Jongbeom Lee, Haguk Jeong

Korea Institute of Industrial Technology

MCP-1873 Adsorption Energies Study of Aminosilane Precursors on Silicon Nitride Surface

Luchana L. Yusup¹, Jae-Min Park¹, Sora Park², Young-Kyun Kwon², Won-Jun Lee¹

¹Sejong University, ²Kyung Hee University

Materials and Process for Neuromorphic / Multivalued Logic Devices

Nov. 17, 2014 (Mon.)

MFP (Materials and Process for Neuromorphic / Multivalued Logic Devices)

Ramada Ballroom Lobby

Chair: Jungwoo Oh (Yonsei University)

08:00-09:00 & 17:45-19:00

MFP-1253 Design of an Artificial Retina Circuit Based on Memristor-CMOS Technology

Sung Wan Cho¹, Kyoungrok Cho¹, Eshraghian Kamran²

¹Chungbuk National University, ²iDataMap Corporation

Soft Nanomaterials and Nanobiomaterials

Nov. 17, 2014 (Mon.)

NBP (Soft Nanomaterials and Nanobiomaterials)

Ramada Ballroom Lobby

Chair: Yoon Sung Nam (Korea Advanced Institute of Science and Technology)

08:00-09:00 & 17:45-19:00

NBP-0829 Simultaneous Drug and Gene Delivery from the Biodegradable Poly(ϵ -caprolactone) Nanofibers for the Treatment of Liver Cancer and Metastasis

Hui-Lian Che¹, Mitsuhiro Ebara², Takao Aoyagi², Won Jong Kim³, In-Kyu Park¹

¹Chonnam National University, ²National Institute for Materials Science, ³Pohang University of Science and Technology

NBP-0919 Incorporation of MWCNTs into coating on Al Alloy processed by Plasma Electrolytic Oxidation

Kang Min Lee¹, Yeon Sung Kim¹, Ki Ryong Shin¹, Young Gun Ko², Dong Hyuk Shin¹

¹Hanyang University, ²Yeungnam University

NBP-0939 Self-assembled Semi-solid Interface Generated from Amphiphilic Block Copolymers to Stabilize Nano-sized Emulsions

Hwiseok Jun, Trang Huyen Le Kim, Jee Seon Kim, Yoon Sung Nam

Korea Advanced Institute of Science and Technology

NBP-1258 Inorganic-Polymer Hybrid Functional Materials Prepared using Highly Open Porous Polymer Microspheres

Ho Yeon Son¹, Dong Jae Lee¹, Jun Bae Lee², Chun Ho Park², Yoon Sung Nam¹

¹Korea Advanced Institute of Science and Technology, ²COSMAX Research & Innovation Center

NBP-1773 Synthesis and Characterization of SERS-active Gold Nanoflowers Encapsulated with Poly(N-isopropylacrylamide-co-acrylic acid) Hydrogels

Saet Byeol Bae, Ji Hye Yoo, Sang Wha Lee

Gachon University

NBP-1942 Self-assembly of Polymeric Nanospheres for the Applications of Superhydrophobic Surfaces

Young-Sang Cho

Korea Polytechnic University

NBP-2449 Silver Nanoparticle-Decorated Silica Spheres Exhibiting Antibacterial Effect on Air Filtration

Young-Seon Ko¹, Yun Haeng Joe², Jungho Hwang², Kyoungja Woo¹

¹Korea Institute of Science and Technology, ²Yonsei University

NBP-2457 Optimized Fabrication of Magnetic Silica Microspheres Decorated with Silver Nanoparticles

The Son Le, Young-Seon Ko, Kyoungja Woo

Korean Institute of Science and Technology

NBP-2863 Identification of Natural Dyes on Ag Nanoparticles by Surface-Enhanced Raman Scattering

Jihye Lee¹, Min Jung Kim¹, Philippe Walter², Yeonhee Lee¹

¹Korea Institute of Science and Technology, ²Université Pierre et Marie Curie

NBP-2958 Direct Observation of Plastic Deformation of Single Crystal Aragonite and Calcite

Sungmin Moon, Yoon Ah Shin, Jiwon Jeong, Subin Lee, Sang Ho Oh

Pohang University of Science and Technology

Top Down & Bottom Up Nanopatterning & Nanofabrication

Nov. 17, 2014 (Mon.)

NCP (Top Down & Bottom Up Nanopatterning & Nanofabrication)

Ramada Ballroom Lobby

Chair: Martin Pumera (Nanyang Technological University)

08:00-09:00 & 17:45-19:00

NCP-0693 Easy Conversion of ZnO Nanorods Array to Nanosheets Array with Enhanced Photovoltaics Performance

Feng Yang

Southwest Jiaotong University

NCP-0857 Graphene-based Hybrid Nanostructures for Counter Electrodes in Dye-sensitized Solar Cells

Jaeseok Gong, Yeongjin Lim, Hyonkwang Choi, Minhyon Jeon

Inje University

NCP-1151 Metal Enhanced Photoluminescence in Nano- and Macroporous Plasmonic Metal Photonic Crystals

Myung-Jin Lee¹, Kyu-Dong Lee¹, Kisun Kim², Seokwoo Jeon², Weon-Sik Chae¹

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

NCP-1180 Formation of Metal Nanoparticles via Dewetting of Immiscible Ni-Au Thin Film

Jong Geun Park, Seung Sik Jang, Hye Jung Lee, Min Gyu Kim, Yong-Jun Oh

Hanbat National University

NCP-1342 Characterization of Metal Thin Films Deposited by Laser Chemical Vapor Deposition (LCVD) at Atmospheric Pressure and its Applications

Kyunghoon Jeong¹, Injae Byun², Do-Soon Jung², Jaegab Lee¹

¹Kookmin University, ²Charm Engineering Co.

NCP-1397 Atomic Force Microscopy-Assisted Normally-off AlGaIn/GaN HEMTs

Min-Seok Kang, Jung-Ho Lee, Susanna Yu, Sang-Mo Koo

KwangWoon University

- NCP-1962 Electrochemical Analysis of Carbon-based Counter Electrodes for Dye Sensitized Solar Cells**
Yeongjin Lim, Jaeseok Gong, Minjeong Park, Hyonkwang Choi, Minhyon Jeon
Inje University
- NCP-2073 Synthesis of Si or F-containing Block Copolymers and their Application for Nanolithography**
Yoon Hyung Hur, Jong Min Kim, Yeon Sik Jung
Korea Advanced Institute of Science and Technology
- NCP-2214 Fabrication and Analysis of Core/Shell Nano-composites using Atomic Layer Deposition**
Sejong Seong, Yong Chan Jung, Taehoon Lee, In-Sung Park, Jinho Ahn
Hanyang University
- NCP-2245 Fabrication of Step-structured Molybdenum Disulfide by Block Copolymer Assisted Nanoscale Etching**
Soonmin Yim, Dong Min Sim, Yeon Sik Jung
Korea Advanced Institute of Science and Technology
- NCP-2253 Selectively Growth of ZnO Nanorod Arrays by Modulating the Surface Roughness of GaN using KrF Laser**
Buem Joon Kim, Jong-Lam Lee, Hyung Won Cho, Jae Yong Park
Pohang University of Science and Technology
- NCP-2502 Hetero-Nanostructures Formation on the Surface of Carbon-based Material by Plasma Treatment**
Tae-Jun Ko¹, Kyu Hwan Oh¹, Myoung-Woon Moon²
¹Seoul National University, ²Korea Institute of Science and Technology
- NCP-2557 Rapid Micro-foaming of Polyimide Film with UV Pulsed Laser and Chemical Blowing Agent**
Yong Won Ma, Bo Sung Shin, Myung Yung Jeong, Jae Yong Oh, Chan Park, Moon Suk Kang, Myung Ju Kim, Sung Moo Hong
Pusan National University
- NCP-2603 Uniform AgNi Nanomesh Film for Use as a Highly Robust and Flexible Transparent Conducting Electrode**
Han-Jung Kim, Su-Han Lee, Jihye Lee, Eung-Sug Lee, Jun-Hyuk Choi, Jun-Ho Jeong, Joo-Yun Jung, Dae-Geun Choi
Korea Institute of Machinery & Materials
- NCP-2624 Nanopore Perforation in Various Membrane Material by Focused Electron Beam in Transmission Electron Microscope**
Hyun-Mi Kim, Seong-Yong Cho, Ki-Bum Kim
Seoul National University

NCP-2833 Surface Treatment of Air Gap Membrane Distillation (AGMD) Condensation Plates: Techniques and Influences on Module Performance

Rachel Ananda Harianto, Rio Aryapratama, Wonjin Jo, Seockheon Lee, Heon Ju Lee
Korea Institute of Science and Technology

NCP-2860 Super-hydrophobic and Oleophobic Glass prepared by Plasma Etching and Thermal Deformation

TaeHo Son¹, Eunjin Yang¹, EuSun Yu², Myoung-Woon Moon², Ho-Young Kim¹
¹*Seoul National University*, ²*Korea Institute of Science and Technology*

NCP-3079 Nanodomain Swelling Block Copolymer Lithography for Morphology Tunable Metal Nanopatterning

Jeong Ho Mun, Seung Keun Cha, Jeong Eun Baek, Sang Ouk Kim
Korea Advanced Institute of Science and Technology

NCP-3086 Device-oriented Complex Nanostructures by Block Copolymer Lithography

Seung Keun Cha¹, Dong Ok Shin², Jeong Ho Mun¹, Sang Ouk Kim¹
¹*Korea Advanced Institute of Science and Technology*, ²*Electronics and Telecommunications Research Institute*

LED Materials and Devices

Nov. 17, 2014 (Mon.)

DBP-1 (LED Materials and Devices 1)

Ramada Ballroom Lobby

Chair: Cheolmin Park (Yonsei University)

08:00-09:00 & 17:45-19:00

DBP-1-0310 Epitaxially-grown Europium-doped Barium Titanate Films on Various Substrates for Red Emission

Young-Sun Jeon¹, Sung-Dai Kim¹, Young-Hwan Lee², Seung Hwangbo³, Jin-Tae Kim⁴, Kyu-Seog Hwang¹
¹*Nambu University*, ²*Chunnam Techno University*, ³*Honam University*, ⁴*Chosun University*

DBP-1-0568 Controllable White Upconversion Luminescence of Ho3+/Tm3+/Yb3+ Codoped NaLa(WO4)2 Phosphors

Jung-Il Lee, Ji Young Lee, Tae Wan Kim, Ji Young Shin, Bo Seul Lee, Jeong Ho Ryu
Korea National University of Transportation

DBP-1-0793 Fabrication and Property Analysis of Light-Emitting Diode Package Substrate by using Flexible Printed Circuit Board

Jung-Kab Park, Jin-Ha Shin, Young-Lae Cho, Jung-Woo Lee, Hwa-sun Park, Su-Jung Suh
Sungkyunkwan University

DBP-1-0816 Study of Thermal Properties of Anorthite-based Glass-ceramics of Varying Surface Treatment Conditions for LED Packaging Materials

Seunggu Kang, Yuna Lee
Kyonggi University

- DBP-1-1279 The Growth Evolution of K-doped ZnO Nanorods by Hydrothermal Growth Method on Semipolar (11-22) GaN Films**
Soohwan Jang¹, Pyunghye Son², Sung-Nam Lee³, Kwang Baik²
¹Dankook University, ²Hongik University, ³Korea Polytechnic University
- DBP-1-1346 Effect of ZrO₂/SiO₂ Ratio on the Thermal Properties of ZrO₂-CaO-MgO-SiO₂ Glass-ceramics for LED Packaging**
Da Young Lee, Seung Gu Kang
Kyonggi University
- DBP-1-1373 Effect of ZnO Single Crystal Addition on Anorthite Glass-ceramic for High Thermal Conduction Application**
Soobin Park, Seung Gu Kang
Kyonggi University
- DBP-1-1388 Effect of MgAl₂O₄ Spinel Addition on Phase Generation and Thermal Properties of MgO-Al₂O₃-SiO₂ Glass-ceramics for LED Packages**
Seunggu Kang, Jihwan Won
Kyonggi University
- DBP-1-1445 Lateral Overgrowth of a-plane Epitaxial ZnO using Hydrothermal Method**
Pyunghye Son¹, Kwang Hyeon Baik¹, Soohwan Jang²
¹Hongik University, ²Dankook University
- DBP-1-1518 Effect of ZnO Filler Type on Li₂O-ZrO₂-SiO₂ Glass-ceramics for LED Packaging**
Jimin Kang, Seunggu Kang
Kyonggi University
- DBP-1-2403 The Reliability Evaluation of the Single Crystal by Conoscopy**
Eunhye Jang, Hyoungseuk Choi
Korea Institute of Ceramic Engineering & Technology
- DBP-1-2555 Improvement of Al_{0.6}Ga_{0.4}N Layer for Deep Ultraviolet Light Emitting Diodes Grown on c-plane Sapphire by using a Step-graded AlGa_xN Layer**
Jaedo Pyeon, Jinwan Kim, Kyungjae Lee, Daeyong Eom, Minhwan Jeon, Cheon Heo, Okhyun Nam
Korea Polytechnic University
- DBP-1-2671 Highly Reflective Nonalloyed Ag-based Contacts to p-GaN for High-efficiency Light-emitting Diode**
Munsik Oh, Hyunsoo Kim
Chonbuk National University
- DBP-1-2771 Spatial Investigation between Structural Properties and Exciton Dynamics in Semipolar (11-22) GaN Grown on M-sapphire using Thick-SiO₂ Mask**
Kyuseung Lee¹, Joocheol Jeong¹, Jongjin Jang¹, Gyeungho Kim², Yong-Hoon Cho³, Okhyun Nam¹
¹Korea Polytechnic University, ²Korea Institute of Science and Technology, ³Korea Advanced Institute Science and Technology

DBP-1-2847 Leakage Current of GaN-based Light-Emitting Diodes Analyzed by Parastic Diode Model
Eunjin Jung, Seonghoon Jeong, Youngun Gil, Youngran Choi, Kyurin Kim, Hyunsoo Kim
Chonbuk National University

DBP-1-3020 Electrostatic Discharge Characteristics of InGaN/GaN Light-emitting Diodes with Si-doped Graded Superlattice
Kwanjae Lee¹, Jin Soo Kim¹, Cheul-Ro Lee¹, Jin Hong Lee², Jae-Young Leem³
¹*Chonbuk National University*, ²*Korea Photonics Technology Institute*, ³*Inje National University*

DBP-1-3071 Eutectic Bonding Utilizing Radio Frequency Induction Heating for Fabricating Vertical Light-emitting Diodes
Eunmi Choi¹, Su Jin Chae¹, Min Seok Oh¹, Yong Won Cha², Sung Gyu Pyo¹
¹*Chung-Ang University*, ²*Ltrin Co.*

OLED Materials and Devices

Nov. 17, 2014 (Mon.)

DCP (OLED Materials and Devices)

Ramada Ballroom Lobby

Chair: Cheolmin Park (Yonsei University)

08:00-09:00 & 17:45-19:00

DCP-0182 Synthesis and Electroluminescent Properties of 9,10-diphenylanthracene end-capped 5H-pyrido[3,2-b]indole Groups for Blue Organic Light-Emitting Diodes
Seul Bee Lee¹, Soo Na Park¹, Chan Woo Kim¹, Ho Won Lee², Young Kwan Kim², Seung Soo Yoon¹
¹*Sungkyunkwan University*, ²*Hongik University*

DCP-0183 An Efficient Blue OLED using N2,N2,N11,N11,5,6,8-heptaphenyltriphenylene-2,11-diamine as Emitting Material
Soo Na Park¹, Chanwoo Kim¹, Seul Bee Lee¹, Ho Won Lee², Young Kwan Kim², Seung Soo Yoon¹
¹*Sungkyunkwan University*, ²*Hongik University*

DCP-0696 Effect of Semitransparent Conductor for Integration on Active Matrix Organic Light-Emitting Diodes
Ho Won Lee¹, Jaehoon Park², Song Eun Lee¹, Jae Woo Lee¹, Yong Sun¹, Han Kyu Yoo¹, Sungkyu Lee¹, Kyo Min Hwang¹, Eou Sik Cho³, Young Kwan Kim¹
¹*Hongik University*, ²*Hallym University*, ³*Gachon University*

DCP-0841 Efficient TADF Emitters based on Carbazole/Triazine Hybrids
Geon Hyeong Lee, Dong Yuel Kwon, Young Sik Kim
Hongik University

DCP-0845 Phenylindolocarbazole/Oxadiazole Hybrids for Blue TADF Emitter
Dong Yuel Kwon, Geon Hyeong Lee, Young Sik Kim
Hongik University

- DCP-1013** **Chemical Analysis of Patterned Mask Cleaning in Organic Light Emitting Diode Fabrication with Raman Spectroscopy**
Yinhua Cui, Soon Hyeong Kwon, Eunmi Choi, Areum Kim, Seon Jea Lee, Keun Won Kang, Soyun Park, Sung Gyu Pyo
Chung-Ang University
- DCP-1245** **The Analysis of Glass Bending Strength according to the Array Separation of Pillars for Maintaining Vacuum Gap of Vacuum Glass**
Jaekyung Kim, Euysik Jeon
Kongju National University
- DCP-1479** **Fabrication of ZnO/AgNW/ZnO/AgNW/ZnO Multilayer Transparent Conductive Thin Films for Optoelectronic Applications**
Sslimsearom You, Yu Sup Jung, Hyung Wook Choi, Kyung Hwan Kim
Gachon University
- DCP-2156** **Mechanism of Peel-off of Metal Thin Film for Flexible OLED Substrate : Effect of Surface Pre-treatment**
Sungjoo Kim, Seungo Gim, Jong-Lam Lee
Pohang University of Science and Technology
- DCP-2287** **Research on Synthesis and Characterization of Poly(fluorene-co-benzothiadiazole) for Polymer Light-emitting Diodes (PLEDs)**
Han-Sol Namkung, Ja-Min Lee, Dong-Kyu Park, Chung-Gi Kim
Kyungseong University
- DCP-2325** **Enhancement of the Efficiency in Top Emission Organic Light-emitting Devices Utilizing an 1,4,5,8,9,11-hexaazatriphenylene Hexacarbonitrile Silver Top Electrode**
Young Pyo Jeon, Yong Hoon Choi, Ki Hyun Kim, Tae Whan Kim
Hanyang University
- DCP-2585** **Electrical and Adhesion Properties of Sputter Deposited Cr Thin Films by Glancing Angle Deposition**
Kwang-Jin Bae, Eun-Wook Jeong, Kwun Nam Hui, Ho-Hwan Chun, Young-Rae Cho
Pusan National University
- DCP-2700** **Characterization and Electroluminescence Properties of a New Green Light-Emitting Material Containing Phenothiazine and Oxadiazole**
Mansu Kim, Jaeik Han, Kwang-Hyun Ahn, Young Chul Kim
Kyung Hee University
- DCP-2707** **White Organic Light-Emitting Diodes based on the Solid State Solvation Effect of a Donor-Acceptor Type Molecule**
Soyeong Ahn, Jae Neung Kim, Young Chul Kim
Kyung Hee University

Advanced Li-ion Battery Materials

Nov. 17, 2014 (Mon.)

EAP (Advanced Li-ion Battery Materials)

Ramada Ballroom Lobby

Chair: Kisuk Kang (Seoul National University)

08:00-09:00 & 17:45-19:00

EAP-0268 Synthesis and Electrochemical Performance of Various Transition-metal doped Li₃V₂(PO₄)₃/graphene Cathode Materials for Li-ion Batteries

Man-Soo Choi¹, Hyun-Soo Kim¹, Young-Moo Lee², Bong-Soo Jin¹

¹Korea Electrotechnology Research Institute, ²Hanyang University

EAP-0389 Electrochemical Performance of Recovery Silicon from Waste Silicon Sludge as Lithium Ion Battery

Yun-Ho Jin, Kyung-Soo Park, Hang-Chul Jung

Institute for Advanced Engineering

EAP-0406 Electrochemical Performances of the Y-doped Li₃V₂-XYX(PO₄)₃/C Cathode Material for Lithium Secondary Battery

Minchan Jeong¹, Hyun-Soo Kim¹, Dong-Sik Bae², Bong-Soo Jin¹

¹Korea Electrotechnology Research Institute, ²Changwon National University

EAP-0414 Effects of the Fluorine-Substitution and Acid Treatment on the Electrochemical Performances of 0.3Li₂MnO₃•0.7LiMn_{0.60}Ni_{0.25}Co_{0.15}O₂ Cathode Material for Li-Ion Battery

Seon-Min Kim, Bong-Soo Jin, Sang-Min Lee, Hyun-Soo Kim

Korea Electrotechnology Research Institute

EAP-0417 Polymer Nanocomposite Electrode Consisting of Polyaniline and Modified Multi-walled Carbon Nanotube for Rechargeable Battery

Jung Sun Ha, Hye Ri Lee, Nam Ju Jo

Pusan National University

EAP-0422 Disulfide-containing Crosslinked Polyaniline Cathode for Rechargeable Battery

Ye-Ji Jung, A-Ran Lee, Nam-Ju Jo

Pusan National University

EAP-0536 Microstructural and Electrochemical Properties of LiCoO₂ Thin Film prepared by Metal Induced Crystallization (MIC) Method

Taecheon Kwon¹, Hyunwoo Ju¹, Hyunsuk Lee¹, Hyeonkwang Choi², Gyubong Cho¹, Taehyun Nam¹, Jungpil Noh¹

¹Gyeongsang National University, ²Inje University

EAP-0611 Tailoring Oxygen Content on Silicon Oxide (SiO_x) using ab-initio Study

Janghyuk Moon¹, Kyeongjae Cho², Maenghyo Cho¹

¹Seoul National University, ²The University of Texas at Dallas

- EAP-1030** **Enhancement of Anode Performance by Nanocomposite Formation between Graphene and Tin-oxide**
Jae Kwang Kim, Eunmi Choi, Daeun Kim, Ilbok Lee, Keun Won Kang, Soyun Park, Areum Kim, Sung Gyu Pyo, Songhun Yoon
Chung-Ang University
- EAP-1240** **Characterization of Li₇La₃Zr₂O₁₂ Solid Electrolyte prepared by Sol-gel Synthesis and Hot-pressing Process for Lithium Conductor**
Ae Ri Yoo, Hee Chul Lee
Korea Polytechnic University
- EAP-1289** **Smart Wrapping Strategy for SnO₂ with Porosity-Tuned Graphene for High Rate Lithium-Anodic Performance**
Seunghoon Nam, Sangheon Lee, Jaewon Kim, Joonhyeon Kang, Byungwoo Park
Seoul National University
- EAP-1405** **Power Enhancement Effect of Lithium Ion Battery by Graphene Interfacial Layer**
Young Il Song¹, Tae Yoo Kim¹, Jahwa Ahn², Jung Woo Lee¹, Su Jeung Suh¹, Sung-Soo Kim²
¹Sungkyunkwan University, ²Chungnam National University
- EAP-1410** **Capacity Design of Si-Fe-Al Alloy Anode Material for Li Rechargeable Battery**
Jong Su Kim^{1,2}, Jahwa Ahn¹, Nurppeisova Arailym¹, Jaewook Sung¹, Sung-Soo Kim¹
¹Chungnam National University, ²Soulbrain Co. Ltd.
- EAP-1603** **Electrochemical Performance of Olivine-type Lithium Metal Phosphate as Negative Electrode Materials in Lithium-ion Batteries**
Sehyeok Park, Eunkyong Hwang, Ji Heon Ryu
Korea Polytechnic University
- EAP-1848** **Carbon-coated NaNi_{0.5}Mn_{0.5}O₂ Cathode Materials for Sodium Ion Batteries**
Yongho Lee¹, Jieun Lee¹, Dong-Won Kim², Joong Kee Lee¹, Wonchang Choi¹
¹Korea Institute of Science and Technology, ²Hanyang University
- EAP-1855** **Preparation and Electrochemical Characterizations of α -MnO₂ Nanowire/Sulfur Composite Cathode for Lithium-Sulfur Batteries**
Jeongyeon Lee, Taejin Hwang, Joong Kee Lee, Wonchang Choi
Korea Institute of Science and Technology
- EAP-1858** **Synthesis of Graphite Carbon Coated Iron Oxide (Fe₂O₃@C) Nanocomposites as Anode Materials for Improved Li-ion Batteries**
Thuy An Nguyen, Gun Woo Kim, Sangwha Lee
Gachon University
- EAP-2157** **Influence of Surface-modified Cu Current Collector on Cycleability of Sn/TiN Thin Film Anode for Li-ion Battery**
Pan-jin Noh, Gyu-bong Cho, Min-jae Lee, Ki-won Kim
Gyeongang National University

EAP-2168 Synthesis of Exfoliated Graphite and Nano Si Composite for Lithium Ion Battery Cathode Material by RF Thermal Plasma

Jung-gil Kim^{1,2}, Myoungsun Shin^{1,2}, Kyu-Hang Lee^{1,2}, Sunyong Choi¹, Guangsup Cho², Seong-In Kim¹
¹Cheorwon Plasma Research Institute, ²Kwangwoon University

EAP-2376 Synthesis of Carbon-coated Iron Oxides as Anode Materials using Functional Polymers (PAA and PLL) for Improved Li-ion Batteries

Sangwha Lee
Gachon University

EAP-2568 Electrochemical Properties of All-Solid-State LiNi_{0.5}Mn_{1.5}O₄/LiPON/SiNx Thin Film Batteries

Haena Yim¹, Hyunseok Lee¹, Yung-Eun Sung², Ji-Won Choi¹
¹Korea Institute of Science and Technology, ²Seoul National University

EAP-2633 Structural Changes and Thermal Stability of 0.5Li₂MnO₃ – 0.5LiNi_{0.33}Co_{0.33}Mn_{0.33}O₂ Cathode Material for Lithium Ion Batteries Investigated by Synchrotron based in Situ X-ray Diffraction

Shoaib Muhammad, Hyunchul Kim, Wontae Lee, Taewhan Kim, Donghwi Kim, Mihee Jeong, Donghyuk Jang, Won-Sub Yoon
Sungkyunkwan University

EAP-2750 Fabrication of Transparent Thin Film Batteries using Wide Band Gap Active Materials

HyunSeok Lee¹, Kiyoon Kim¹, Haena Yim¹, Kwang-Bum Kim², Ji-Won Choi¹
¹Korea Institute of Science and Technology, ²Yonsei University

EAP-2761 Fabrication and Electrochemical Properties of 3D Structure Lithium Ion Batteries using Li(Ni_{0.9}-xMn_xCo_{0.1}-)O₂ Cathode Material

Kiyoon Kim¹, HyunSeok Lee¹, Haena Yim¹, Bae-Yeon Kim², Ji-Won Choi¹
¹Korea Institute of Science and Technology, ²Incheon National University

EAP-2866 Electrochemical Response of Rechargeable Battery Anode based on Fast growing TiO₂ Nanotube Arrays with Variable Aspect Ratio

Syed Atif Pervez¹, Doohun Kim², Umer Farooq¹, Jeong-hee Choi², You-jin Lee², Chil-hoon Doh^{1,2}
¹Korea University of Science and Technology KERI Campus, ²Korea Electrotechnology Research Institute

EAP-2878 The Influence of Proton Radiation on LiCoO₂ Thin Films

You Na Lee¹, In Yea Kim¹, Seung Hyun Jee¹, Kang Soo Lee², Sung Pil Woo², Young Soo Yoon¹
¹Gachon University, ²Yonsei University

EAP-2882 All-solid-state Lithium Ion Battery using Li-B-W-O Solid Electrolyte Fabricated by Liquid Phase Sintering

In Yea Kim¹, Seung Hyun Jee¹, Kang Soo Lee², Sung Pil Woo², You Na Lee¹, Young Soo Yoon¹
¹Gachon University, ²Yonsei University

- EAP-2901 Comparative Studies on LiFePO₄/graphite Pouch Cell during Electrochemical Cycling using in Situ X-ray Diffraction at Different Temperature**
Dong Hyun Kim¹, Ki Chun Kong², Kyung Yoon Chung¹
¹Korea Institute of Science and Technology, ²CM Partner Inc.
- EAP-3027 Enhanced Thermal Stability of LiNi_{0.6}Co_{0.2}Mn_{0.2}O₂ Positive Electrode by the Addition of another Element during the Heat Treatment**
Ye-ji Lee¹, Jae In Myoung¹, Taeun Yim², Jun Ho Song², Ji-Sang Yu², Ji Heon Ryu¹
¹Korea Polytechnic University, ²Korea Electronics Technology Institute
- EAP-3274 Li Storage of Calcium Niobates for Lithium Ion Batteries**
Haena Yim¹, Seung-Ho Yu², Yung-Eun Sung², Ji-Won Choi¹
¹Korea Institute of Science and Technology, ²Seoul National University
- EAP-3310 Synthesis and Electrochemical Properties of 0.7Li₂MnO₃-0.3Li₄Mn₅O₁₂ Nanocomposite Cathode Materials by Mechanochemical Process**
Jae-Kyo Noh^{1,2}, Dongjin Byun¹, Byung-Won Cho²
¹Korea University, ²Korea Institute of Science and Technology
- EAP-3314 Layered Lithium-manganese Rich NMC Cathode for Lithium Ion Batteries**
Juhyeon Ahn^{1,2}, Jong Hak Kim¹, Byung Won Cho²
¹Yonsei University, ²Korea Institute of Science and Technology

Photovoltaic Materials and Engineering

Nov. 17, 2014 (Mon.)

EEP-1 (Photovoltaic Materials and Engineering 1)

Ramada Ballroom Lobby

Chairs: Kisuk Kang (Seoul National University)

08:00-09:00 & 17:45-19:00

Christian Falconi (University of Rome Tor Vergata)

- EEP-1-0123 E-Beam Enhanced Low Temperature Crystallization of CuInSe₂**
MaengJun Kim¹, Sung-Youp Lee², Hyeong-Rag Lee², Sung Ho Lee³, SangHo Sohn²
¹Korea Atomic Energy Research Institute, ²Kyungpook National University, ³Nano Convergence Practical Application Center
- EEP-1-0194 Fabrication of High-Purity Copper (4N) from Spent Photovoltaic Ribbon using Zone-melting Method**
Jei Pil Wang
Pukyong National University
- EEP-1-0605 Characterization of Nickel Silicide Formation by Selective Electroless Plating Process for Crystalline Silicon Solar Cells**
Atteq ur Rehman, Eun Gu Shin, Sang Hee Lee, Soo Hong Lee
Sejong University

EEP-1-0645 The Construction of Tandem Dye-Sensitized Solar Cells from Chemically-Derived Nanoporous Photoelectrodes

Hongsik Choi, Taehyun Hwang, Sangheon Lee, Seunghoon Nam, Joonhyeon Kang, Byungho Lee, Byungwoo Park
Seoul National University

EEP-1-0652 Tunability of Optical Band Gap in Cobalt and Iron doped Bismuth Titanate with Two Stage Doping

Chung Wung Bark, Myoung Geun Song
Gachon University

EEP-1-0691 Structure-Related Optical Properties of Fe doped Bi_{3.25}La_{0.75}Ti₂O₁₂ Thin Films Grown on Various Substrate

Jun Young Han, Chung Wung Bark
Gachon University

EEP-1-0705 Highly Conductive MoO₃/Au/MoO₃-PEDOT:PSS Composite Electrodes for ITO-free bulk-heterojunction Organic Solar Cells

Md Maniruzzaman, Md. Abdul Kuddus Sheikh, Kyunghoon Jeong, Jaegab Lee
Kookmin University

EEP-1-0711 The InZnTaO Passivation on Ag Nanowire Network Electrode by using Linear Facing Target Sputtering for FOSCs

Ki-Won Seo, Da-Young Cho, Hye-Min Lee, Hyo-Joong Kim, Eun-Hye Ko, Ha-Neul Park, Han-Ki Kim
Kyung Hee University

EEP-1-0727 MoO₃-Intergraded InZnO Films for Use as a Transparent Anode in Organic Solar Cell

Hyo-Joong Kim, Da-Young Cho, Hye-Min Lee, Ki-Won Seo, Eun-Hye Ko, Ha-Neul Park, Han-Ki Kim
Kyung Hee University

EEP-1-0738 Effect of Stepwise Pre-annealing Treatment on the Solution-processed Cu₂ZnSnS₄ Thin Films

Si-Nae Park, Shi-Joon Sung, Dae-Ho Son, Dae-Hwan Kim, Jin-Kyu Kang
Daegu Gyeongbuk Institute of Science & Technology

EEP-1-0771 Electrical, Optical, and Mechanical Properties of Slot-die Coated PEDOT:PSS Films for Organic Solar Cells

Eun-Hye Ko, Hyo-Joong Kim, Ki-Won Seo, Da-Young Cho, Hye-Min Lee, Ha-Neul Park, Han-Ki Kim
Kyung Hee University

EEP-1-0789 Fabrication of Morphologically Different Titanium Dioxide Nanoparticles (TiO₂ NP) through Sol Gel Methodology and their Photocatalytic Applications

Yadevalli Suneel Kumar¹, I Pugazhenthir¹, Eethamukkala Ubba¹, Mohammed Ghouse Shaik¹, C Dasaradhan¹, F. Nawaz Khan¹, Eun Hyuk Chung², Euh Duck Jeong²
¹VIT University, ²Korea Basic Science Institute

- EEP-1-0795 Growth and Characterization of Cuprous Oxide for p-Cu₂O/n-ZnO Heterojunctions by Electro-chemical Deposition**
Hyunghoon Kim, Ho Seong Lee
Kyungpook National University
- EEP-1-0800 Fabrication of Perovskite-sensitized Solar Cells based on Electrospun TiO₂ Nanofiber Electrode**
Kang-Pil Kim, Dae-Kue Hwang, Shi-Joon Sung
Daegu Gyeongbuk Institute of Science & Technology
- EEP-1-0842 Effect of Reaction Temperature of One-step Soaking Reaction on Nanostructured TiO₂ Semiconductor for Photovoltaic Application**
Mi Sun Park, Shi-Joon Sung, Dae-Hwan Kim
Daegu Gyeongbuk Institute of Science & Technology
- EEP-1-0874 Recovery of Ag from End-of-life c-Si Solar Cell by Electrochemical Process in Methanesulfonic Acid Solvent**
Jin-Seok Lee, Jun-Kyu Lee, Bo-Yun Jang, Joon-Soo Kim, Young-Soo Ahn, Ki-Hwan Kang
Korea Institute of Energy Research
- EEP-1-0882 A Study of CdS Quantum Dots on TiO₂ Photoanodes using Advanced Successive Ionic Layer Adsorption and Reaction for Quantum Dot Sensitized Solar Cell**
Jaeho Kim, Geonyang Kim, Hye Jin Ha, Sangho Sohn
Kyungpook National University
- EEP-1-0890 Materials, Interfaces, and Photon Confinement in Bi-functional Mesoporous TiO₂ Disks for Dye-Sensitized Solar Cells**
Dae-Kue Hwang, Jeong-Hwa Kim, Kang-Pil Kim, Shi-Joon Sung
Daegu-Gyeongbuk Institute of Science and Technology
- EEP-1-0914 Utilization of New Low Temperature Processable Conducting Polymer Film for Improved Performance in Photovoltaic Cells**
Sai-Anand Gopalan, Anantha-Iyengar Gopalan, Kwang-Pill Lee, Kwang-Don Lee, Byoung Ho Kang, Jae-Sung Lee, Sang-Won Lee, Hyung-Min Jeong, Shin-Won Kang
Kyungpook National University
- EEP-1-0926 Improving Air Stability of PbS and PbSe Quantum Dots by Perfect Surface Passivation**
Jae-Hyeon Ko¹, Hyekyoung Choi², Ju Young Woo², Sohee Jeong², Yong-Hyun Kim¹
¹Korea Advanced Institute of Science and Technology, ²Korea Institute of Machinery and Materials
- EEP-1-0952 Electrospun TiO₂ Nanofibers as a Photoelectrode in Dye-sensitized Solar Cells**
Jeong-Hwa Kim, Shi-Joon Sung, Dae-Kue Hwang
Daegu Gyeongbuk Institute of Science & Technology

EEP-1-0962 Nickel Electroless Plating: Contact Resistance and Adhesion Analysis for Mono-Type Crystalline Silicon Solar Cells

Eun Gu Shin, Atteq ur Rehman, Sang Hee Lee, Soo Hong Lee
Sejong University

EEP-1-1067 Effect of Sn Doping on the Properties of Nano-structured ZnO Thin Films Deposited by Co-sputtering Technique

M Aminul Islam¹, Kazi Sajedur Rahman¹, Faiazul Haque¹, Naveed A Khan¹, Md Akhtaruzzaman¹, Mohammad M Alam², Kamaruzzaman Sopian¹, Nowshad Amin¹
¹The National University of Malaysia, ²King Saud University

EEP-1-1079 A Comprehensive Study on Undoped and In-doped ZnS Thin Films Grown by Co-sputtering Technique

Faiazul Haque¹, Kazi S Rahman¹, Naveed A Khan¹, Mohammad A Islam¹, Md J Rashid¹, Mohammad Salim¹, Md Akhtaruzzaman¹, M M Alam², Nowshad Amin¹
¹The National University of Malaysia, ²King Saud University

EEP-1-1111 Properties of Cu Incorporated CdTe Thin Films for Photovoltaic Application

Kazi S Rahman¹, Faiazul Haque¹, Naveed A Khan¹, Mohammad A Islam¹, Mohammad M Alam², Md Akhtaruzzaman¹, Kamaruzzaman Sopian¹, Nowshad Amin¹
¹The National University of Malaysia, ²King Saud University

EEP-1-1135 Acid Treatement on Hole Transport-layer for High Power Conversion Efficient Organic Photovoltaic Solar Cells

Ki-Hwang Hwang, Jung Hoon Yu, So Hyoun Jeon, Jin Su Lee, Hyeon Jin Seo, Sang Hun Nam, Jin-Hyo Boo
Sungkyunkwan University

EEP-1-1158 Characterization of in-situ Annealed Sub-micron Thick CIGS Thin Films

Byoung-Soo Ko, Shi-Joon Sung, Dae-Kue Hwang
Daegu Gyeongbuk Institute of Science & Technology

EEP-1-1176 The Conductivity and Adhesion Enhancement of Hole Transper Layer(PEDOT:PSS) with Various Surfactant

Ki-Hwan Hwang, Jung Hoon Yu, Sang Hun Nam, Dong Woo Ju, Hyeon Jin Seo, Jin Su Lee, So Hyoun Jeon, Jin-Hyo Boo
Sungkyunkwan University

EEP-1-1190 In Situ Investigation of Structure Variations in Thin Films with Poly(3-hexylthiophene) and [6,6]-Phenyl-C61-Butyric Acid Methyl Ester by Synchrotron Grazing Incidence Wide Angle X-ray Scattering

Sung-Youp Lee¹, Jehan Kim², Tae-Joo Shin², Byong-Wook Shin¹, Hyeong-Rag Lee¹
¹Kyungpook National University, ²Pohang Accelerator Laboratory

EEP-1-1564 High Quality CdS Thin Film Growth by Avoiding Anomalies in Chemical Bath Deposition for Large Area Thin Film Solar Cell Application

Yulisa Yusoff¹, Puvaneswaran Chelvanathan¹, Qamar Huda¹, Mohammad Salim¹, Mohammad M Alam², Zeid A Alothman², Nowshad Amin¹

¹The National University of Malaysia, ²King Saud University

EEP-1-2007 Fabrication and Characterization of Absorption Layer using Spray Method for Flexible CIGS Solar Cells

Juntae Park, Hyonkwang Choi, Kwangyoon Kim, Minhyon Jeon
Inje University

EEP-1-2308 Prospects of Hetero-Junction WS₂ based Thin Film Solar Cells from Numerical Modeling

Haroon Rashid¹, Kazi S Rahman¹, Mohammad Istiaque Hossain², Fahhad H Alharbi², Nouar Tabet², Nowshad Amin¹

¹The National University of Malaysia, ²Qatar Environment and Energy Research Institute

EEP-1-2596 Effect of Titanium Chloride Surface Treatment and Spraying Distance on Charge Collection Efficiency in Electro sprayed SnO₂ DSSCs Photoanodes

Shoyebmohamad Shaikh, Oh-Shim Joo
Korea Institute of Science and Technology

EEP-1-2776 Synthesis and Crystallization of CuIn_{1-x}Ga_xSe₂ Compounds formed by Co-sputtering Equipped with Se Evaporation

Jae-Hyung Wi, Young-Hee Joo, Chang-Il Kim
Chung-Ang University

EEP-1-2792 Detection of Matrix Elements and Trace Impurities in Cu(In,Ga)Se₂ Photovoltaic Absorbers using Surface Analytical Techniques

Min Jung Kim¹, Jihye Lee², Seon Hee Kim², Haidong Kim¹, Kang-Bong Lee², Yeonhee Lee²

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

EEP-1-2822 Designing High Efficiency Photonic Crystal Solar Cells

Abhijit Jadhav, Sovann Khan, Seung Yong Lee, Jong Ku Park, So Hye Cho
Korea Institute of Science and Technology

EEP-1-2898 The Performance Improvement of Organic Solar Cell by using Double Cathode Buffer Layers

Yeong-Her Wang¹, Jhong-Ciao Ke¹, Kan-Lin Chen², Kuan-Wei Lee³, Chien-Jung Huang⁴

¹National Cheng-Kung University, ²Fortune Institute of Technology, ³I-Shou University, ⁴National University of Kaohsiung

EEP-1-2903 Degradation with Inserting Pentacene Layer of Small Molecule Organic Solar Cells

Pao-Hsun Huang¹, Kan-Lin Chen², Neng-Lang Shih¹, Chern-Hwa Chen¹, Chien-Jung Huang¹

¹National University of Kaohsiung, ²Fortune Institute of Technology

EEP-1-3078 The Reflectance Effect of Si-based Solar Cell on the Pyramids Texturing Structures through the SF₆/O₂ Plasma

Jong-Chang Woo¹, Chang-Han Je¹, Joo-Yeon Kim¹, Yoon-Soo Chun², Chang-Auck Choi¹, Seoung-Q Lee¹

¹Electronics and Telecommunications Research Institute, ²Korea University

EEP-1-3094 Selectively Enhanced Electron- or Hole- Transport in Bulk-Heterojunction Organic Photovoltaics with Heteroatom doped Carbon Nanotubes

Soo Ah Nam¹, Ju Min Lee¹, Hyung Il Park¹, Ji Sun Park², Sang Ouk Kim¹

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

EEP-1-3220 Improving Performance of Organic Solar Cells using B4PyMPM Self-assembled Nanostructures as Electron Transport Layer on Cathodes

Il Soo Oh, Chan Hyuk Ji, Ae Na Lee, Se Young Oh

Sogang University

EEP-1-3231 Ni-W-P/Cu for Silicon Solar Cells by Electroless Deposition Method

Eun Ju Kim¹, Youngsup Song¹, Joo Yul Lee¹, Dong Chan Lim¹, Duk Haeng Lee², Woon Suk Jung², Kwang-Ho Kim³, Kyu-Hwan Lee¹, Jae-Hong Lim¹

¹Korea Institute of Materials Science, ²Hojin Platech Co. Ltd., ³Pusan National University

Material Discovery by High-throughput Screening

Nov. 17, 2014 (Mon.)

CAP (Material Discovery by High-throughput Screening)

Ramada Ballroom Lobby

Chair: Michelle Jeanette Sapountzis Spencer (RMIT University)

08:00-09:00 & 17:45-19:00

CAP-0895 Screening New High- κ Materials by High-throughput First-principles Calculation

Kanghoon Yim, Yong Youn, Joohee Lee, Kyuhyun Lee, Seungwu Han

Seoul National University

CAP-1335 Automatic First-principles Calculation Scheme for Oxygen Vacancies in Various Oxide Materials

Joohee Lee, Kanghoon Yim, Seungwu Han

Seoul National University

Catalyst for Energy and Environmental Applications

Nov. 17, 2014 (Mon.)

CCP (Catalyst for Energy and Environmental Applications)

Ramada Ballroom Lobby

Chair: Michelle Jeanette Sapountzis Spencer (RMIT University)

08:00-09:00 & 17:45-19:00

CCP-0372 Phosphoric Acid-Tolerant Alloy Catalysts for High Temperature Proton Exchange Membrane Fuel Cells

Ji-Eun Lim¹, Uk Jae Lee¹, Sang Hyun Ahn², Eunae Cho², Hyoung-Juhn Kim², Jong Hyun Jang², Hyungbin Son¹, Soo-Kil Kim¹

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

CCP-0578 Ab Initio Thermodynamics of Pt Nanoskins on TiN(100) for Fuel Cell Application

Youngjoo Tak, Woosun Jang, Norina A. Richter, Aloysius Soon
Yonsei University

CCP-0714 Unraveling CO₂ Adsorption Mechanism in Diamine-grafted Metal-organic Frameworks by First-principles Calculations

Li-Ming Yang, Sang Soo Han
Korea Institute of Science and Technology

CCP-0820 A First-principles Study on IrAu and RhAg Nanoparticles

K.P.S.S. Hembram, Kwang-Ryeol Lee, Sang Soo Han
Korea Institute of Science and Technology

CCP-1116 A First-principles Description of Surface Stress Responses in Nano-electrocatalysts

Ji-Hwan Lee, Su-Hyun Yoo, Aloysius Soon
Yonsei University

CCP-1827 Tuning Surface Chemistry to Enhance the Enantiospecificity on Chiral Cu (531)S Surface

Ho Seong Song, Jeong Woo Han
University of Seoul

CCP-1833 Thermal Stability of Arc Plasma deposited Pt Nano-particles on CeO₂-Al₂O₃: Quantum Chemical Calculations, XPS and XANES Study

Young Eun Jeong¹, Anil Kumar Pullur¹, Heon Phil Ha¹, Hee Lack Choi², Kwan-Young Lee³
¹Korea Institute of Science and Technology, ²Pukyong National University, ³Korea University

CCP-1845 Universality of Mixing Rule for Small Adsorbates (H, O, S, CO and OH) Adsorption on Binary Transition Metal Alloys

Jeonghyun Ko, Jeong Woo Han
University of Seoul

CCP-1863 Density Functional Theory Study of Cation Segregation on LaBO₃(001) (B = Mn, Co, and Fe) Surfaces for Designing High Performance SOFC Cathodes

Hyunguk Kwon, Jeong Woo Han
University of Seoul

CCP-1872 Density Functional Theory Study for the Evaluation of M-doped TiO₂(101) (M = Cr, Mn, Fe, Co and Ni) over CO Oxidation

Kyeounghak Kim, Jeongwoo Han
University of Seoul

CCP-2696 Structural and Charge Effects on Oxygen Reduction Reaction

Keunsu Choi, Hiroshi Mizuseki
Korea Institute of Science and Technology

CCP-2797 Effect of S adsorption on NiCu Alloy Nanoparticle Morphologies using Density Functional Theory and Gibbs- Wulff Theorem

Ji-Su Kim¹, Byung-Kook Kim², Yeong-Cheol Kim¹
¹Korea University of Technology and Education, ²Korea Institute of Science and Technology

Organic Materials Modeling

Nov. 17, 2014 (Mon.)

CFP (Organic Materials Modeling)

Ramada Ballroom Lobby

Chair: Michelle Jeanette Sapountzis Spencer (RMIT University)

08:00-09:00 & 17:45-19:00

CFP-0804 Simulation for Disordered Morphologies in Organic Semiconductors

Kye Yeop Kim, Dong Sun Yu, Seungwu Han
Seoul National University

Materials and Process for BEOL and 3D Integration

Nov. 18, 2014 (Tue.)

MBP-2 (Materials and Process for BEOL and 3D Integration 2)

Ramada Ballroom Lobby

Chair: Moon-Ho Ham (Gwangju Institute of Science and Technology)

08:00-09:00 & 16:00-18:00

MBP-2-1224 Effect of Pd(P) Layer on Reflow Reaction of Submicron Au/Pd(P)/Ni(P) Surface Finish with Sn-Ag-(Cu) Solders

Yu Ri Chae, Joo Youl Huh
Korea University

MBP-2-1620 Effects of Leveler Concentration in High Aspect Ratio via Filling in 3D SiP

Se-Hyun Jang, Jae-Ho Lee
Hongik University

MBP-2-1967 Development of Chip-on-flex Bonding using Sn-based Bumps and Non-conductive Adhesive

Sun-Chul Kim, Kyoung-Moo Harr, Young-Min Kim, Myung-Hwan Hong, Ji-Hyun Lee, Young-Ho Kim
Hanyang University

MBP-2-2598 Failure Mechanism of Power Semiconductor under Intermittent Operating Condition

SungSoon Choi, WooYoung Lee, KwanHun Lee
Korea Electronics Technology Institute

MBP-2-2631 Effects of Alternative Voltage on the Electrochemical Migration and Corrosion Behaviors of Sn and Sn-Cu Intermetallic Compound

JongSoo Kim, MiSeok Park, HyukSang Kwon
Korea Advanced Institute of Science and Technology

MBP-2-2872 Packaging-Completed Flexible Electronic Device using Flip-Chip Bonding Technology

Do Hyun Kim, Keon Jae Lee
Korea Advanced Institute of Science and Technology

Sensors and Oxide Semiconductor

Nov. 18, 2014 (Tue.)

MDP (Sensors and Oxide Semiconductor)

Ramada Ballroom Lobby

Chairs: Changhwan Choi (Hanyang University)

08:00-09:00 & 16:00-18:00

Byoung Hun Lee (Gwangju Institute of Science and Technology)

MDP-0141 Room Temperature Oxygen Sensing Properties of Multiple Networked Nb₂O₅ Nanorod Sensors Functionalized with Au Nanoparticle

Sunghoon Park, Soohyun Kim, Sangbo Park, Chongmu Lee
Inha University

MDP-0273 Large Electric Field-Induced Strain and Piezoelectric Responses of Lead-Free Bi_{0.5}(Na_{0.80}K_{0.20})_{0.5}TiO₃-Ba(Ti_{0.90}Sn_{0.10})O₃ Ceramics near Morphotropic Phase Boundary

Pharatree Jaita¹, Anucha Watcharapasorn¹, David P. Cann², Sukanda Jiansirisomboon¹

¹Chiang Mai University, ²Oregon State University

MDP-0304 Room Temperature Acetone Sensing Properties of WO₃ Nanorod Sensors Decorated with Pt-Au Bimetallic Nanoparticles

Sunghoon Park, Soohyun Kim, Sangbo Park, Chongmu Lee

Inha University

MDP-0357 Photo-thermally Induced Current Switching in Vanadium-dioxide-based Devices using CO₂ Laser Pumping

Jihoon Kim, Yong Wook Lee

Pukyong National University

MDP-0769 Effects of Electrode in Oxide Semiconductor Gas Sensors

Sung Pil Lee

Kyungnam University

MDP-0792 Synthesis, Characterization and for Optoelectronic Application of Green Precursor based Lead Sulfide (PbS) Colloidal Quantum Dots

M.V. Bharathi¹, Kaustab Ghosh¹, Y. Suneel Kumar¹, F. Nawaz Khan², Eun Hyuk Chung², Euh Duck Jeong²

¹VIT University, ²Korea Basic Science Institute

MDP-0801 Influence of Annealing Temperature on the Microstructural and Electrical Characteristics of Sol-gel processed Ni-Co-O Films

Ho Seong Lee, Sang Woo Bae, Hyunghoon Kim

Kyungpook National University

MDP-1025 Improvement of Gas Sensing Characteristics by Adding Nanoparticles on ZnO-based SnO₂ Nanowires

Han Gil Na, Yong Jung Kwon, Hong Yeon Cho, Hyoun Woo Kim

Hanyang University

MDP-1091 Drastic Enhancement of Gas Sensing Behavior of Metal-decorated Carbon Nanotube Layers

Hong Yeon Cho, Han Gil Na, Yong Jung Kwon, Hyoun Woo Kim

Hanyang University

MDP-1182 Effects of Electrode Patterns on the Gas Sensing Properties of Nano-structures Grown by Dry Method

Su Yeon Lee¹, Ho Nyun Lee², Hyun Jong Kim², Hee Chul Lee¹

¹Korea Polytechnic University, ²Korea Institute of Industrial Technology

- MDP-1292 Flexible Tactile Sensor with High Sensitivity for Biomedical Grasper**
Junwoo Lee¹, Cheon Jung Kim¹, Jinseok Kim², Jeong Hoon Lee¹
¹Kwangwoon University, ²Korea Institute of Science and Technology
- MDP-1320 The Influence of Film Thickness on the Electrical and Optical Properties of Al-doped ZnO Thin Films Deposited by RF Magnetron Sputtering**
Joongwon Kim, Abhishek Sharma, Sang-Im Yoo
Seoul National University
- MDP-1321 Effect of Dopants (Al/Si) on Zn–Sn–O based TFT Characteristics**
Abhishek Kumar Sharma, Joongwon Kim, Sang-Im Yoo
Seoul National University
- MDP-1559 Fabrication of Solution-processed Tin Oxide Semiconductor Thin Films and Photodetectors at a Low Temperature by UV Light Irradiation**
Chien-Yie Tsay¹, Shan-Chien Liang¹, Jyh-Ming Wu²
¹Feng Chia University, ²National Tsing Hua University
- MDP-1667 Effect of Electron-beam Irradiation on Gas Sensing Behavior in Reduced Graphene Oxides**
Gun-Joo Sun¹, Jae-Hun Kim¹, Hyoun Woo Kim², Sang Sub Kim¹
¹Inha University, ²Hanyang University
- MDP-1682 Hollow-mesh-structured Zinc Oxide Nanowire Forest as Hydrogen Sensor**
Na-Ri Kang¹, Jinsung Chun¹, Jeong Min Baik¹, Seong Keun Kim², Ju-Young Kim¹
¹Ulsan National Institute of Science and Technology, ²Korea Institute of Science and Technology
- MDP-1889 Effect of Additives on the Anisotropic Etching of Silicon by using a TMAH based Solution**
Ki Hwa Jun, Jung Sik Kim
University of Seoul
- MDP-1979 Fabrication and Characterization of Graphene-based Electrochemical Sensors for Glucose Measurement**
Minjeong Park, Hyonkwang Choi, Jaeseok Gong, Yeongjin Lim, Yunjae Park, Minhyon Jeon
Inje University
- MDP-2018 Fabrication and Piezoelectric Properties of ZnO Nanowires using High Vacuum Die Casting Technique**
Ho Chang¹, Chin-Guo Kuo², Jian-Hao Wang¹
¹National Taipei University of Technology, ²National Taiwan Normal University
- MDP-2115 Effect of Zn Thickness on Optical and Electrical Properties of SnO₂/Zn/SnO₂ Thin Films prepared by RF Sputtering**
SungJae Kim¹, KeunYoung Park¹, YeongSeung Jeong¹, HangJoo Ko², TaeKwon Song¹, BonHeun Koo¹
¹Changwon National University, ²Korea Photonics Technology Institute

MDP-2149 Design and Fabrication of Si Strain Gauges based on Thin SOI Membrane for the Ultra-high Pressure Measurement

Bum-Joon Kim¹, Si-Dong Kim², Woo-Seok Choi², Byung-Woo Kim³, Jung-Sik Kim¹

¹University of Seoul, ²Auto Industrial Company, ³University of Ulsan

MDP-2154 Effect of the Deposition of Metal on Photoluminescence of Nanopatterned ZnO Film

Su-Han Lee, Ju-Yun Jung, JunHo Jeong, Jihye Lee

Korea Institute of Machinery and Materials

MDP-2172 Optoelectronic Properties of (Mn, Ga, Al) Doped ZnO Thin Film Deposited by Magnetron Sputtering

Deok-In Kim, Chan-Wook Jeon

Yeungnam University

MDP-2249 Computational Analysis of 3D Novel Colorimetric Plasmon Sensor Structure based on Aluminum Anodized Oxide Structure

Hyung Won Cho, Jong-Lam Lee

Pohang University of Science and Technology

MDP-2452 Early Diagnosis System of Alzheimer's Disease using Highly Sensitive Microelectrodes-based Impedance Sensor

Yong Kyoung Yoo¹, Myung-Sic Chae², Hye Jin Kim², Jinsik Kim², Gangeun Kim², Jeong Hoon Lee¹, Kyo Seon Hwang²

¹Kwangwoon University, ²Korea Institute of Science and Technology

MDP-2711 Effect of Radio-activation on Properties of Pb(Mg1/3Nb2/3)O3-PbTiO3

Yong-Il Kim¹, Namkyoung Choi², Yun-Hee Lee¹, Ki-Bok Kim¹

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

MDP-2764 Rectifying Characteristics of Transparent Diode using a-IGZO/SiNx Coupling

Myung-Jea Choi, Myeong-Ho Kim, Duck-Kyun Choi

Hanyang University

MDP-2765 Evaluation of Mobile Charge Carrier in Oxide Semiconductor by a Confocal Scanning Optical Microscopy

Bonghoon Kang¹, Dong-Soo Choi²

¹Far East University, ²Sungkyunkwan University

MDP-2857 A Study on the Optimization of Aluminum-doped Zinc Oxide Films Deposited by RF Sputtering on PES Substrates

Beom-Seok Lee, Young-Hee Joo, Chang-Il Kim

Chung-Ang University

- MDP-2865 Zinc Diffusion Process for Infra-red Avalanche Photodiode using Metal Organic Chemical Vapor Deposition**
Dong-Hwan Jun¹, Hae Yong Jeong¹, Chan-Soo Shin¹, Kyungho Park¹, Won-Kyu Park¹, Yong-Su Kim², Sang-Wook Han², Sung Moon², InJoon Lee², Sangin Kim³
¹Korea Advanced Nano-Fab Center, ²Korea Institute of Science and Technology, ³Ajou University
- MDP-2963 Characteristics of Transparent ZTO/Ag/ZTO Multilayer Electrode Grown on Flexible Substrate**
Sang-Min Lee, Chang-Il Kim
Chung-Ang University
- MDP-2968 Synthesis of Lanthanide Metal-doped Zinc Oxide Nanorod and its Characterization**
Siti Nooraya Mohd Tawil¹, Nurulnadia Sarip², Norhidayah Che Ani², Sharul Ashikin Kamaruddin², Nurul Fadzilah Ab Rasid¹, Farhanahani Mahmud², Azizi Miskon¹, Mohd Zainizan Sahdan²
¹National Defence University of Malaysia, ²Universiti Tun Hussein Onn Malaysia
- MDP-3056 Characterization of Anodic Aluminum Oxide Membrane with Variation of Crystallizing Temperature for pH Sensor**
Jin-Ho Yeo, Sung-Gap Lee, Hye-Rin Jung, Ye-Won Jo, Dong-Jin Lee
Gyeongsang National University
- MDP-3058 Structural and Electrical Properties of NixMn3-xO4 Ceramics for IR Sensor**
Hye-Rin Jung¹, Sung-Gap Lee¹, Jin-Ho Yeo¹, Min-Ho Kim¹, Young-Gon Kim²
¹Gyeongsang National University, ²Chosun College of Science & Technology
- MDP-3173 Development of Solution-processed Molybdenum doped Indium Oxide with High Carrier Mobility and Near Infrared Transparency**
Jae-Chan Lee, Na-Rae Kim, Han-Wool Yeon, Dae-Hyun Nam, Ho-Young Kang, Young-Chang Joo
Seoul National University
- MDP-3270 The Surface and Optical Properties of Al-doped ZnO Large Scale Thin Films using 1500 mm Dual Cylindrical Cathodes**
JinJu Lee, Haena Yim, Dong-Hee Park, Won-Kook Choi, Ji-Won Choi
Korea Institute of Science and Technology

Carbon Nanomaterials & Other Nanoscale Materials

Nov. 18, 2014 (Tue.)

NAP (Carbon Nanomaterials & Other Nanoscale Materials)

Ramada Ballroom Lobby

Chairs: Martin Sterrer (Fritz-Haber-Institut der Max-Planck-Gesellschaft)
Wenjie Shen (Chinese Academy of Science)

08:00-09:00 & 16:00-18:00

NAP-0191 Glucose Sensors Fabricated by Graphene Oxide Hydrogel Crosslinked with Various Diamines

Seung Hyun Hur, Le Thuy Hoa, Van Hoang Luan
University of Ulsan

NAP-0227 Functionalized reduced Graphene Oxide based ABS (Acrylonitrile Butadiene Styrene) Nanocomposites by Solution Blending

Miae Oh, Thi Diem Tuyet Vu, Jin Suk Chung
University of Ulsan

NAP-0348 Elemental Doping to Control the Growth Direction of 1-D Nanostructures

Junghyeok Kwak, Gyeong Bae Park, Yuho Min, Heeseung Yang, Unyong Jeong
Yonsei University

NAP-0441 The Newly Synthesis Method and Gas Sensing Properties of Tin Dioxide Nanoparticles by Plasma Electrolytic Oxidation Process (PEO)

Tae Hyung Kim, Yomin Choi, Bongyoung Yoo, Yong Ho Choa
Hanyang University

NAP-0750 Pressurized Polyol Synthesis of Al-doped ZnO Nanocluster

Ji Hea Jung, Hana Lim, Ho-Nyun Lee, Hyun-Jong Kim
Korea Institute of Industrial Technology

NAP-0756 Synthesis of Silica Nanoparticles with Various Surface Structures and Anti-reflective (AR) Films using the Silica Nanoparticles

Yeoung Ah Noh, Ki Chul Kim
Mokwon University

NAP-0774 Influence of CaO Addition on Nanostructures of Grained AZ31 Magnesium Alloy Processed by Equal-Channel Angular Pressing

Seong-hwan Bae¹, Ki-ho Jung¹, Young-chul Shin¹, Duk-jae Yoon¹, Megumi Kawasaki²
¹*Korea Institute of Industrial Technology*, ²*Hanyang University*

NAP-0830 Growth of Pure SnO Nano-platelets on Various Substrates by Thermal Evaporation

Mee-Ri Kim¹, Sang-Jun Park², Keun-Soo Kim², Ki-Chul Kim¹
¹*Mokwon University*, ²*Sejong University*

NAP-0850 Photoluminescence Properties and Photocatalytic Performance of Different Size ZnO Nanoparties Decorated Graphene Oxide

Doan Van Thuan, Nguyen Tri Khoa, Soon Wook Kim, Dae-Hwang Yoo, Eui Jung Kim, Sung Hong Hahn
University of Ulsan

NAP-0878 Synthesizing Various Diameter TiO₂ Nanotubes by Anodic Oxidation of Ti Thin Films for Photocatalytic Activities

Soon Wook Kim, Hong Ki Kim, Dae-Hwang Yoo, Eui Jung Kim, Sung Hong Hahn
University of Ulsan

NAP-0887 Cu-doped TiO₂/reduced Graphene Oxide Thin Film Photocatalysts: Effect of Cu Contents on Methylene Blue Removal in Water

Thanh Truc Pham¹, Hyun Jun Lee¹, Chinh Nguyen-Huy¹, Thuy-Duong Nguyen-Phan², Ik-keun Yoo¹, Eun Woo Shin¹
¹*University of Ulsan*, ²*Brookhaven National Laboratory*

- NAP-0920 Sulfur Delta-doped Graphene Layers by Near Infrared Chemical Vapor Deposition**
 Ki Hong Im¹, Yunjae Park², Hyonkwang Choi²
¹Samsung Electronics Co., Ltd., ²Inje University
- NAP-0948 Evaluation of Formability on Nanostructure of ECAPed Mg-3wt%Al-1wt%Zn-0.5wt%CaO Alloy**
 Duk-jae Yoon, Seong-hwan Bae, Young-chul Shin, Seong-joo Lim, Eung-zu Kim
 Korea Institute of Industrial Technology
- NAP-0975 Synthesis and Electrochemical Analysis of Manganese Oxides for Super-capacitor**
 Hyein Hwang, Taewoo Kim, Jaeyong Jang, Inyeong Park, Hyuck Jang, Sung-Hyeon Baeck
 Inha University
- NAP-0977 Performance Evaluation of Activated Carbon Nano Fiber (ACNF) as a Carbon Support for Li-Air Battery**
 Inyeong Park, Mincheol Choi, Won Jun Jo, Hyun-A Choi, Heeyun Kim, Sang Eun Shim, Sung-Hyeon Baeck
 Inha University
- NAP-0980 Synthesis of Ferrite/GO Hybrid for Electromagnetic Absorbing Film**
 Byung Mun Jung
 Korea Institute of Materials Science
- NAP-0987 Preparation and Characterization of Nano-structured Manganese Oxide for Super Capacitor**
 Jaeyong Jang, Hyun-A Choi, Hyein Hwang, Taewoo Kim, Inyeong Park, Dongwook Lim, Won Jun Jo, Sung-Hyeon Baeck
 Inha University
- NAP-1040 Substrate-site Self Assembly of Aligned Carbon Nanotubes using Atomic Force Microscopy**
 Eunmi Choi, Areum Kim, Sung Gyu Pyo
 Chung-Ang University
- NAP-1057 Improved Sensing Behaviors in Reduced Graphene Oxide Functionalized with Metal Nanoparticles**
 Han Gil Na, Yong Jung Kwon, Hong Yeon Cho, Hyoun Woo Kim
 Hanyang University
- NAP-1074 Development of Microstructure with Nano-phases in a Calcium Oxide-doped Mg-3Zn-1Al Alloy**
 Ha-Guk Jeong¹, Jong-Bum Lee¹, Shae K. Kim¹, Kaichi Saito²
¹Korea Institute of Industrial Technology, ²Akita University

NAP-1200 Titanium Nano Tube (sheet)/reduced Graphene Oxide for Photodegradation of Water Pollutants: Morphological Effect on Photocatalysis

Thanh Truc Pham¹, Thuy-Duong Nguyen-Phan², Eun Woo Shin¹

¹University of Ulsan, ²Brookhaven National Laboratory

NAP-1229 Growth of High Quality High-k Dielectric Layer on Graphene using Hexagonal Boron Nitride Buffer Layer

Sang A Han, Kang Hyuck Lee, Tae-Ho Kim, Sang-Woo Kim

Sungkyunkwan University

NAP-1275 The Study on Enhancement of Thermal Conductivity of Cu-Graphene Composite

Sang-Woo Kim^{1,2}, Dohyung Lee², Dong-Woo Joh¹, Myung-sk Choi¹, Hyo-Soo Lee¹

¹Korea Institute of Industrial Technology, ²Hanyang University

NAP-1313 Ultra-Stable PbSe Nanocrystal Quantum Dots via In-Situ Formation of Atomically Thin Halide Adlayers on PbSe(100)

Ju Young Woo¹, Jae-Hyeon Ko², Jung Hoon Song¹, Kyungnam Kim¹, Yong-Hyun Kim², Doh C. Lee², Sohee Jeong¹

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

NAP-1391 Synthesis of Highly Luminescent InP/ZnS Nanocrystals with Non-pyrophoric Phosphorous Precursors and their Surface Modification

Eunjin Lee¹, Gyu-Chae Choi¹, Jong-woo Moon¹, Youn-Kyoung Baek¹, Youngkuk Kim¹, Yang-Do Kim²

¹Korea Institute of Materials Science, ²Pusan National University

NAP-1422 Synthesis, Characterization, and Photocatalytic Properties of Meso-macroporous Silica-titania

Jong Woo Moon, Young-Kuk Kim

Korea Institute of Materials Science

NAP-1423 Analysis for Temperature Field in a High Current-passing Carbon Nanosphere using Nontraditional Thermal Transport Model

B. C. Chen¹, C. Y. Ho², Y. H. Tsai², M. Y. Wen³

¹Buddhist Dalin Tzu Chi General Hospital, ²Hwa Hsia Institute of Technology, ³Cheng Siu University

NAP-1436 Preparation of Silver Halides for Selective Oxidation of Organic Compounds under Visible Light Irradiation

Yuri Nishino, Atsuhiko Tanaka, Keiji Hashimoto, Hiroshi Kominami

Kinki University

NAP-1491 Synthesis of Single Crystal SiC Nanowires using RF Sputtering and Thermal Annealing

Ji-Eun Lee¹, Byeong Geun Kim², Heon-Jin Choi¹, Won-Seon Seo², Seong-Min Jeong²

¹Yonsei University, ²Korea Institute of Ceramic Engineering and Technology

- NAP-1525** **Temperature Dependent Capacitance-voltage Characteristics of Carbon Nanotube Embedded 4H-SiC MOS Capacitors**
Taeseop Lee, Min-Seok Kang, Tae-Jun Ha, Sang-Mo Koo
Kwangwoon University
- NAP-1530** **Fabrication of Nanomeshes Arrays using Anodized Aluminum Oxide as Plasmonic Color Filter**
Jungyoon Kim, Seong-Il Kim
Korea Institute of Science and Technology
- NAP-1720** **A Direct Patterning of Graphene Transferred on ITO Glass by using Nd:YVO₄ Laser**
Jeongmin Lee, Hong-Seok Kim, Jae-Hee Han, Seongjae Cho, Sang Jik Kwon, Eou-Sik Cho
Gachon University
- NAP-1734** **Layer-by-layer Growth of Bi₂Te₃-Sb₂Te₃ on h-BN via Van Der Waals Heteroepitaxy**
Hoseok Heo, Moon-Ho Jo
Pohang University of Science and Technology
- NAP-1894** **Formation of Anatase TiO₂ Nanoparticles with Highly Exposed {001} Facets by F⁻ Ion Doping in Hydrothermal Process**
Seung Muk Lee, Jun Hyuk Choi, Geun Chul Park, Jun Hyung Lim, Jinho Joo
Sungkyunkwan University
- NAP-2036** **Anomalous Growth of Multi-phased and Multi-dimensional Manganese Oxide-Metal (Fe, Co and Ni) Oxide Nanostructures**
Kishore Sridharan, Tae Joo Park
Hanyang University
- NAP-2086** **Decoration of reduced Graphene Oxide with Size-controlled Copper Nanoparticles**
Haneul Jang¹, Hyejung Chang², Hyunjoo Choi¹
¹Kookmin University, ²Korea Institute of Science and Technology
- NAP-2139** **A Study on the Properties of Carbon Black Mortar using GBFS and Polymer**
Hongseok Jang, Seungyoung So
Chonbuk National University
- NAP-2179** **Solution Processable MoS₂ Thin Film Photodetectors with Polymers**
Dhinesh Babu Velusamy, Cheolmin Park
Yonsei University
- NAP-2283** **The Characteristics of NIZO/Ag/NIZO Multilayers Film for Polymer Dispersion Liquid Crystal-based Smart Windows**
Eun-Mi Kim¹, Jeong-Pyo Oh², In-Seok Choi³, Gi-Seok Heo¹
¹Korea Institute of Industrial Technology, ²Chonnam National University, ³DongShin University

NAP-2286 The Study on NIZO/Ag/NIZO Multi-structure Transparent Electrodes Deposited by RF Magnetron Sputtering System

Eun-Mi Kim¹, Jeong-Pyo Oh², In-Seok Choi³, Gi-Seok Heo¹

¹Korea Institute of Industrial Technology, ²Chonnam National University, ³DongShin University

NAP-2313 Microstructure and Mechanical Properties of CNT/Al Composites Fabricated by Differential Speed Rolling

Jongbeom Lee, Haguk Jeong

Korea Institute of Industrial Technology

NAP-2375 Preparation and Characterization of Silica-gold Nanoshells with Different Surface Coverage of Gold Clusters

Sangwha Lee

Gachon University

NAP-2439 Nanostructured Superhydrophobic Silk fabricated with Ion Beam Method

Ji Hyun Oh¹, Tae-Jun Ko², Myoung-Woon Moon², Chung Hee Park¹

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

NAP-2474 Effect of Ionic Strength to Graphene Oxide (GO) in Biosensor Applications

Jinsik Kim¹, Myung-sic Chae¹, Yong Kyung Yoo¹, Hyejin Kim¹, Gangeun Kim¹, Jeong Hoon Lee², Kyo Seon Hwang¹

¹Korea Institute of Science and Technology, ²Kwangju University

NAP-2506 Nanocomposites of Porous Hydrocarbon and TiO₂ for Oil Absorption and Desorption by UV Responsive Switchable Wettability

Do Hyun Kim¹, So-Hye Cho², Sang Hoon Kim², Kyu Hwan Oh¹, Myoung-Woon Moon²

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

NAP-2646 Gradual Transformation from CdTe Nanoparticles into Nanowires

Hyun Jung Choi, Ki Sun Lee, Jeong Won Kang, Ki-Sub Kim

Korea National University of Transportation

NAP-2648 Synthesis and Characterization of Silicon Nanopowder Prepared by Plasma arc Discharge

Sehoon Jang¹, Bhavesh Sinha², Kookchae Chung¹

¹Korea Institute of Materials Science, ²Mumbai University

NAP-2699 Synthesis and Characterization of N-doped Graphene on SiC Substrate by Pulsed Laser Annealing

Junghwan Park, Insung Choi, Sung-Yool Choi, Keon Jae Lee

Korea Advanced Institute of Science and Technology

NAP-2743 A USANS-SANS Study on the Correlation between the Shape of Gamma Alumina and Catalytic Activity

Man-Ho Kim, Sang Hoon Kim, Sugyeong Han, Heonphil Ha, Ji Young Byun

Korea Institute of Science and Technology

- NAP-2817 Wavelength Tuning of Monolayer Molybdenum Disulfide by Oxygen Plasma**
Min Su Kim¹, Giwoong Nam², Seki Park¹, Jubok Lee¹, Yongjun Lee¹, Jae-Young Leem², Jeongyong Kim¹
¹Sungkyunkwan University, ²Inje University
- NAP-2826 Optoelectronic Study of ZnO/TSDB Hybrid Structure**
Guru Prakash Neupane¹, Krishna Prasad Dhakal¹, Min Su Kim¹, Eun Hei Cho², Jinsang Kim³, Jinsoo Joo², Jeongyong Kim¹
¹Sungkyunkwan University, ²Korea University, ³University of Michigan
- NAP-2844 Development of Stretchable Electrode using a Carbon Nanotube Thin Film Embedded onto Polymer-CNT composite**
So-Young Lee¹, Hyung Cheoul Shim², Seungmin Hyun², Hoo-Jeong Lee¹
¹SungKyunKwan University, ²Korea Institute of Machinery & Materials
- NAP-2921 A Study on Optimal Conditions for Image Analysis of Chemically Manufactured Graphene by Optical Microscopy**
Wonoh Lee, Young Seok Oh, Jea Uk Lee
Korea Institute of Materials Science
- NAP-3019 Transparent Conductive Electrodes based on Graphene/Metal Composite for Thin Film CIGS Solar Cell**
Junmo Kim, Chang-il Kim, Young-hee Joo
Chung-Ang University
- NAP-3085 Interfacial Fast Self-assembly of Large-area Pristine Graphene Film**
Taeyeong Yun, Sangouk Kim
Korea Advanced Institute of Science and Technology
- NAP-3091 Selective and Reversible CO₂ Capture Functionality of Carbon Nitride Functionalized Graphene Aerogel**
Youngtak Oh, Uday Narayan Maiti, Sang Ouk Kim
Korea Advanced Institute of Science and Technology
- NAP-3138 Unzipped Nanotube Sheet Films converted from Spun Multi-walled Carbon Nanotubes by O₂ Plasma**
Hoon Sik Jang¹, Sang Koo Jeon², Dae Seob Shim³, Seung Hoon Nahm²
¹DADA KOREA Co., Ltd., ²Korea Research Institute of Standards and Science, ³Cheil industries INC.
- NAP-3215 Effect on the Addition of Carbon Nanotubes (CNTs) in the Electrolyte in Plasma Electrolytic Oxidation (PEO) Process on Magnesium Alloy**
Muchang Sung^{1,2}, Seokhyun Nam¹, Minho Park¹, Taeseung Song¹
¹KC Chemical, ²Hanyang University

NAP-3266 Thickness Effects of TiC Interlayer on Tribological Properties of DLC prepared by UBM Sputtering Method

Yong Seob Park¹, Chulmin Park², Jaehyeong Lee³

¹Chosun College of Science and Technology, ²Korea Railroad Research Institute, ³Sungkyunkwan University

NAP-3329 Characteristics of N Doped DLC Films prepared by Unbalanced Magnetron Sputtering Method for Electronic Devices

Jaehyeong Lee¹, Dong Uk Kim¹, Chulmin Park², Byung Hui Choi³, Jung-Hyun Yun³, Yong Seob Park³

¹Sungkyunkwan University, ²Korea Railroad Research Institute, ³Chosun College of Science and Technology

Flexible, Stretchable Displays and Printed Electronics (DA)

Nov. 18, 2014 (Tue.)

DAP (Flexible, Stretchable Displays and Printed Electronics)

Ramada Ballroom Lobby

Chair: Tae-Woo Lee (Pohang University of Science and Technology)

08:00-09:00 & 16:00-18:00

DAP-0172 The Influence of SPS Additives on the Elongation and Surface Properties of Copper Thin Films

Tae-Gyu Woo, Chang-Bern Kim, Sang-Woo Lee, Il-Song Park, Kyeong-Won Seol
Chonbuk National University

DAP-0189 A Study on the Adhesion Properties of Reactive Sputtered Molybdenum Thin Films with Nitrogen Gas on Polyimide Substrate as a Cu Barrier Layer

Hongsik Kim, HeeHwan Choe, Jae-Hong Jeon, Jong Hyun Seo
Korea Aerospace University

DAP-0324 Metal-grid-embedded Flexible Transparent Conducting Films prepared by Electrohydrodynamic Jet Printing

Youngwoo Lee, Jiyeon Yang, Bissannagari Murali, Byung-Kyu Yu, Jihoon Kim
Kongju National University

DAP-0335 Developing Flexible Acoustic Devices using Piezoelectric Materials Coated with Carbon Nanotubes for Improving SPL

Keehong Um
Hansei University

DAP-0529 PEDOT:PTS coated Textile Fiber S/D OTFTs

Rahim Abdur, Jaegab Lee
Kookmin University

- DAP-0701 Wavy Structure and Stretchable Characteristics of Bi-layer Substrates Formed by Surface Treatment**
Sang Chul Lim¹, Jae Bon Koo², Chan Woo Park², Ji Young Oh², Soon-Won Jung², Bock Soon Na², Sang Seok Lee², Hye Yong Chu², Myung Chan An¹, Dong Ic Lee¹, Se Hyuk Yeom¹, Chang Taek Seo¹
¹Gumi Electronics and Information Technology Research Institute, ²Electronics and Telecommunications Research Institute
- DAP-0935 Transparent Conductive Films Composite with Copper Nanoparticle/Graphene Fabricated by Spray Coating Method**
Kyongmin Kim, Jinwoon Kim, Junghyun Sok
University of Seoul
- DAP-1010 Preparation of Novel Pyridine-based Aromatic Polyimides and Effect of Fluorine Functionality**
Hohyoun Jang, Md. Awlad Hossain, Lei Jin, Jaeseung Pyo, Fei Tan, Sungkwun Lee, Whangi Kim
Konkuk University
- DAP-1170 Fabrication of Light Guide Plates with Micro-patterned Organic Films including Hollow Silica Powder by using Nano-imprint Lithography**
Se Yong Park, Hee Chul Lee
Korea Polytechnic University
- DAP-1173 Solution-processed Titanium Oxide Dielectric Films for Low-voltage Organic Thin-film Transistor Application**
Sujin Sung, Sungjun Park, Wonjune Lee, Jongho Son, Myung-Han Yoon
Gwangju Institute of Science and Technology
- DAP-1446 Highly Conductive Electrode Pattern on Flexible Film using Metal Ink via Thermal Sintering and Transfer Printing Process**
Ji-Sub Park, Gyeong-Tae Park, Jae-Hyun Kim, Imtiaz Muhmud, Joon-Chan Choi, Jeong Min Bae, Jin-Tae Kim, Jin-Hyuk Bae, Hak-Rin Kim
Kyungpook National University
- DAP-1900 Stretchable Organic Thin-Film Transistors Fabricated on Elastomer Substrates using Stiff-Islands Structures**
Soon-Won Jung, Jeong-Seon Choi, Jae Bon Koo, Chan Woo Park, Bock Soon Na, Ji-Young Oh, Sang Chul Lim, Sang Seok Lee, Hye Yong Chu
Electronics and Telecommunications Research Institute
- DAP-1953 Development of Functional Smart Film Manufacturing Technologies**
Jihun Park¹, S.H. Lim¹, Eui-Joong Kim¹, Haoxie Song¹, Bup Ju Jeon², Joong Kee Lee³
¹IM Co., Ltd, ²Shinhan University, ³Korea Institute of Science and Technology
- DAP-2165 Non-volatile Ferroelectric Polymer Transistor Memory with Sub-millimetre Bending Radius and its Mechanical Property Analysis**
Richard Hahnkee Kim, Sun Kak Hwang, Cheolmin Park
Yonsei University

- DAP-2292 A Study of the Multi-Color Manipulation of Polymer and Phosphors Composite Films using the Mechanoluminescence Phenomenon**
Jeungpyo Oh¹, Eun Mi Kim², In Seok Choi³, Gi-Seok Heo²
¹Chonnam National University, ²Korea Institute of Industrial Technology, ³DongShin University
- DAP-2294 Characteristics of Mechanically Driven Luminescence Film using the Mechanoluminescence Phenomenon**
Inseok Choi¹, Eunmi Kim², Jeungpyo Oh³, Gi-Seok Heo²
¹DongShin University, ²Korea Institute of Industrial Technology, ³Chonnam National University
- DAP-2437 Low Cost and Single Process Transparent Electrode with ZnO and Silver Nanowire Composite**
Kisun Park¹, Doo-hyun Ko¹, Il Ki Han¹, Dongjin Byun², Hyungduk Ko¹
¹Korea Institute of Science & Technology, ²Korea University
- DAP-2810 Investigation of Aluminum Oxide Barrier Layer Deposited on Various Plastic Substrates by PEALD Process for Flexible Display Applications**
Jong Geol Lee, Hyun Gi Kim, Sung Soo Kim
Kyung Hee University
- DAP-2883 Optimization of UV-irradiation Conditions for Liquid Crystal Alignment on Photo-alignment Layers with Different Photo-reaction Mechanism**
Jang-Ju Lee, Deoksu Jo, Sang-Hyon Paek
Kyung Hee University
- DAP-2937 Improving Switching Time of Electrochromic Device based on PEDOT:PSS with ITO Electrode**
Chanbin Lee, Hansol Jang, Hong Seung Kim
Korea Maritime University

LED Materials and Devices

Nov. 18, 2014 (Tue.)

DBP-2 (LED Materials and Devices 2)

Ramada Ballroom Lobby

Chair: Jong Kyu Kim (Pohang University of Science and Technology)

08:00-09:00 & 16:00-18:00

- DBP-2-1694 Effective Internal Quantum Efficiency and Thermal Resistance in High-Power Ceramic Package LED**
Byungjin Ma, Jemin Kim, Sungsoon Choi, Kwanhoon Lee
Korea Electronics Technology Institute
- DBP-2-1986 The Study of Optical Properties as Glass Composition of ZnO-Bi2O3-P2O5 Glass/Phosphor Composite for White LED**
Il Gu Kim, Bong Ki Ryu, Jong Hwan Kim, Jae Yeop Jung, Su Yeon Choi, Hyun Jun Park
Pusan National University

DBP-2-2055 Implementation of Photonic Crystals Structure by Laser Interference Lithography: Enhancement of Light Extraction Efficiency in GaN based LEDs

Chul Jong Yoo, Jae Yong Park, Jong-lam Lee
Pohang University of Science and Technology

DBP-2-2460 Synthesis of Quantum Dot-silica Composite and LED Application

Hyein Yoo¹, Kwangyeol Lee², Kyoungja Woo¹
¹*Korea Institute of Science and Technology*, ²*Korea University*

DBP-2-2488 Effects of Fluorine Doping on Structural and Optical Properties of Hydrothermally Grown ZnO Nanorods

Giwoong Nam¹, Youngbin Park¹, Iksoo Ji¹, Min Su Kim², Jong Su Kim³, Jin Soo Kim⁴, Jae-Young Leem¹
¹*Inje University*, ²*Institute for Basic Science*, ³*Yeungnam University*, ⁴*Chonbuk National University*

DBP-2-2490 Annealing Effects on Structural and Optical Properties of Nanocrystalline ZnO Thin Films Deposited by Thermal Oxidation of Metallic Zn

Jiyun Moon¹, Ikhyun Kim¹, Min Su Kim², Jong Su Kim³, Jin Soo Kim⁴, Jae-Young Leem¹
¹*Inje University*, ²*Institute for Basic Science*, ³*Yeungnam University*, ⁴*Chonbuk National University*

DBP-2-2493 Characteristics of Sol-gel-derived ZnO Thin Films with Different Precursor Concentrations on Mica Substrates

Younggyu Kim¹, Seonhee Park¹, Jiyun Moon¹, Min Su Kim², Jong Su Kim³, Jin Soo Kim⁴, Jae-Young Leem¹
¹*Inje University*, ²*Institute for Basic Science*, ³*Yeungnam University*, ⁴*Chonbuk National University*

DBP-2-2494 Annealing Temperature Dependence of Metallic Au Seed Layers on Electrodeposited-ZnO Nanorods

Youngbin Park¹, Giwoong Nam¹, Younggyu Kim¹, Min Su Kim², Jong Su Kim³, Jin Soo Kim⁴, Jae-Young Leem¹
¹*Inje University*, ²*Institute for Basic Science*, ³*Yeungnam University*, ⁴*Chonbuk National University*

DBP-2-2499 Oxidation Temperature-dependent Structural and Optical Properties of ZnO Thin Films Grown on Quartz Substrates by Thermal Oxidation of Zn Metal

Seonhee Park¹, Dongwan Kim¹, Wookbin Lee¹, Min Su Kim², Jong Su Kim³, Jin Soo Kim⁴, Jae-Young Leem¹
¹*Inje University*, ²*Institute for Basic Science*, ³*Yeungnam University*, ⁴*Chonbuk National University*

DBP-2-2513 Hybrid White Light Emitting Diodes by Encapsulating InGaN with Thermal Curable Polysiloxane/Phosphor Composites

Chi-Jung Chang, Chun-Feng Lai, Wei-Yung Chiou, P. Madhusudhana Reddy
Feng Chia University

DBP-2-2531 Etch Characteristics of Palladium by using Inductively Coupled Ar-based Plasma using Photoresist as an Etch-mask

Yong Yeon Kim, Jae-Kwan Kim, Ji-Myon Lee
Sunchon National University

DBP-2-2546 High Quality Al-polar AlN Growth on (0001) Sapphire using Polarity-selective Thermal Etching

Minhwan Jeon, Jinwan Kim, Kyungjae Lee, Daeyong Eom, Jaedo Pyeon, Cheon Heo, Okhyun Nam
Korea Polytechnic University

New Energy Storage Systems and Materials beyond LIB

Nov. 18, 2014 (Tue.)

EBP (New Energy Storage Systems and Materials beyond LIB)

Ramada Ballroom Lobby

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

08:00-09:00 & 16:00-18:00

EBP-0427 Fe2O3 Nanoparticles Embedded in Nitrogen-doped Graphene Layers as Electrode Materials for Supercapacitors

Lisong Xiao, Sebastian Kluge, Christof Schulz, Hartmut Wiggers
University of Duisburg-Essen

EBP-0471 Organic Electrolyte Composition for Use in Asymmetric Hybrid Capacitor with Wide Operating Temperature Range

Byunggwon Lee, Junrag Yoon
Samwha Capacitor

EBP-0475 Preparation of Spent Coffee Grounds Derived Activated Carbon by KOH Activation

Ho Jun Lee¹, Dea-Joong Woo², Sang Jin Han², Dong-Yeol Lee², Sun-Min Park¹, Kwang Chul Roh¹
¹*Korea Institute of Ceramic Engineering and Technology*, ²*Vinatech*

EBP-0478 Electrochemical Performance of Hybrid Supercapacitor Fabricated using Multistructured Activated Carbon

Min-Young Cho^{1,2}, Mok-Hwa Kim^{1,2}, Hyun-Kyung Kim¹, Kwang-Bum Kim¹, Jung Rag Yoon³, Sun-Min Park², Kwang Chul Roh²
¹*Yonsei University*, ²*Korea Institute of Ceramic Engineering & Technology*, ³*Samwha Capacitor Co.*

EBP-0532 Activated Multi-walled CNTs prepared by KOH for Supercapacitor

Joah Han¹, Sun-Min Park¹, Woong Kim², Kwang Chul Roh¹
¹*Korea Institute of Ceramic Engineering & Technology*, ²*Korea University*

EBP-0589 Nitrogen doped Activated Carbon by Urea for Supercapacitors

Won-Seop Kang¹, Mok-Hwa Kim¹, Woong Kim², Sun-Min Park¹, Kwang-Chul Roh¹
¹*Korea Institute of Ceramic Engineering and Technology*, ²*Korea University*

EBP-0741 Effects of Atomic Layer Deposition on the Electrochemical Properties of Carbon Nanofiber as Anode Materials in Li-ion Batteries

Jung Soo Park, Yiseul Park, Seong-Ho Baek, MinSun Kim, Soonhyun Kim, Jae Hyun Kim
Daegu Gyeongbuk Institute of Science & Technology

- EBP-0764** **Fabrication of Morphologically Different Magnesium Metal Surface by Chemical Oxidation and their Adhesion of PPS Resin**
Eun Hyuk Chung, Tae Eun Hong, Jon Pil Kim, Jong Sung Jin, Jong-Seong Bae, F. Nawaz Khan, Euh Duck Jeong
Korea Basic Science Institute
- EBP-0872** **Optimized Solvent-in-Salt Electrolytes for High-energy Rechargeable Metallic Lithium Batteries**
Zheng Fang¹, Liumin Suo², Yong-sheng Hu¹, Hong Li¹, Liquan Chen¹
¹*Institute of Physics, Chinese Academy of Sciences,* ²*University of Maryland*
- EBP-1270** **Fabrication and Characteristics of High Capacitance Al Thin Films Capacitor using a Polymer Inhibitor Bath in Electroless Plating Process**
Young Lae Cho¹, Chang Hyoung Lee¹, Jung Kab Park¹, Hyung-seon Choi², Sung Su Kim², Su Jeong Suh¹
¹*Sungkyunkwan University,* ²*Samyoung Electronics Co.*
- EBP-1647** **Electrochemical Properties of Fluorinated Activated Carbon for Supercapacitors**
Mok-Hwa Kim¹, Sun-Min Park¹, Kwang-Bum Kim², Kwang Chul Roh¹
¹*Korea Institute of Ceramic Engineering & Technology,* ²*Yonsei University*
- EBP-1776** **Enhanced Energy Density of Lithium Ion Capacitors based on Tin Oxide@carbon/ Activated Carbon Electrodes via Optimizing Mass Ratio of Negative/Positive Electrodes**
A-Young Kim¹, Dongjin Byun², Joongkee Lee¹
¹*Korea Institute of Science and Technology,* ²*Korea University*
- EBP-2106** **SnCu Thin Film Electrodes formed on Surface-modified Current Collectors for Na Ion Battery**
Min-jae Lee, Gyu-bong Cho, Pan-jin Noh, Ki-won Kim
Gyeongsang National University
- EBP-2211** **Effects of Carbon Coating on Li4Ti5O12 Anode Material for Hybrid Capacitor**
Jongkyu Lee, Byungwan Lee, Junggrag Yoon
Samwha Capacitor
- EBP-2301** **Surface Modification of NiO/Ni Electrode by Atmospheric Pressure Corona Discharge for Redox Supercapacitor Application**
Manop Panapoy, Tanapol Chalermkiti, Bussarin Ksapabutr
Silpakorn University
- EBP-2738** **High Capacity Iron based Composite Material as a Cathode for Sodium-ion Batteries**
Ghulam Ali, Chung Kyung Yoon
Korea Institute of Science and Technology

EBP-2907 In Situ X-ray Diffraction Study on NaFe1-xMxO2 during Electrochemical Cycling

Dieky Susanto^{1,2}, Kyung Yoon Chung¹

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

EBP-3076 Solvated Graphene based Two Dimensional Gel Sheet for Fast Operative Supercapacitor

Sang Ouk Kim^{1,2}, Uday Narayan Maiti^{1,2}, Tae Woo Jeon², Joonwon Lim²

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

Water Splitting and Solar Fuel

Nov. 18, 2014 (Tue.)

EDP (Water Splitting and Solar Fuel)

Ramada Ballroom Lobby

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

08:00-09:00 & 16:00-18:00

EDP-0236 Crystal Structure and Photocatalytic Activity of Al-doped TiO2 for Methylene Blue Dye Degradation

Deuk Yong Lee¹, Hun Cho¹, Daejun Kang¹, Yonghyeon Yun¹, Seung Joon Song¹, Myung-Hyun Lee², Nam-Ihn Cho³

¹Daelim University, ²Korea Institute of Ceramic Energy & Technology, ³Sun Moon University

EDP-0985 Fabrication and Characterization of Amorphous Cobalt-doped Molybdenum Sulfide for Enhanced Electrocatalysis

Dongwook Lim, Hyein Hwang, Mincheol Choi, Taewoo Kim, Sung-Hyeon Baek

Inha University

EDP-0991 Water Splitting System of 2D SnS2 and TiO2 Nanotube based SnS2 using Atomic Layer Deposition

Il-Han Yoo, Shankara Kalanur, Sun A Park, Hyungtak Seo

Ajou University

EDP-1512 Three-dimensional RuO2 Branched Au-TiO2 Nanowire Heterostructures as Photostable and Efficient Photoelectrodes in Water Splitting

Jae Won Lee¹, Joonmo Park¹, Sang Hoon Joo¹, Hyun Woong Park², Heon Lee³, Hu Young Jeong¹, Myung Hwa Kim⁴, Jeong Min Baik¹

¹Ulsan National Institute of Science and Technology, ²Kyungpook National University, ³Korea University, ⁴Ewha Womans University

EDP-1617 Comparison of Corrosion Properties of Zn, Al, Mg Alloy as a Sacrificial Anode to Protect Offshore Steel Structure

Jinho Rhee, Jae-Ho Lee

Hongik University

EDP-1932 Synthesis and Catalytic Properties of Pt/Silica Hybrid Nanocatalysts Encapsulated with Ultrathin Oxide

Song Yi Moon, Brundabana Naik, Chan Ho Jung, Jeong Young Park

IBS, Korea Advanced Institute of Science and Technology

- EDP-2000 Study of Thermal Stability and Reactivity of Hybrid Nanocatalysts using in-situ Fourier Transform Infrared (FTIR) Spectroscopy**
 Sunyoung Oh, Song Yi Moon, Brundabana Naik, Jeong Young Park
IBS and EEWS, Korea Advanced Institute of Science and Technology
- EDP-2250 Highly Efficient Visible Light Photocatalysis of Mesoporous Activated Carbon-TiO₂ Composite prepared by Sol-gel and Microwave Processing**
 Bussarin Ksapabutr, Ing-Orn Sittirug, Manop Panapoy
Silpakorn University
- EDP-2887 Three-Dimensional In₂O₃:Sn Nanowire-CdS Core-Shell Nano-structure Photoelectrode for Photoelectrochemical Water Splitting**
 Ju Seong Kim, Hyun Soo Han, Shin Sun, Seong Sik Shin, Jun Hong Noh, Kug Sun Hong, Kisuk Kang
Seoul National University

Photovoltaic Materials and Engineering

Nov. 18, 2014 (Tue.)

EEP-2 (Photovoltaic Materials and Engineering 2)

Ramada Ballroom Lobby

Chairs: Byungwoo Park (Seoul National University)

08:00-09:00 & 16:00-18:00

Byungha Shin (Korea Advanced Institute of Science and Technology)

- EEP-2-1248 Effect of Forming Gas Annealing on Microstructure of Ag Contact on Crystalline Si Solar Cell**
 Min Je Hwang, Sung Bin Cho, Joo Youl Huh
Korea University
- EEP-2-1281 Temperature-dependent Photoresponse Characteristics of 4H-SiC Lateral MOSFETs in the 200-1000 nm Spectral Range**
 Susanna Yu, Min-Seok Kang, Sang-Mo Koo
KwangWoon University
- EEP-2-1334 Ag Front Contact Formation of Crystalline Si Solar Cells using Single-step Inkjet Printing with Liquid-type Additive**
 Hee Soo Kim, Sung Bin Cho, Joo Youl Huh
Korea University
- EEP-2-1369 Pre-Annealing Dependence of Solution-Processed CZTS Thin Solar Cells**
 Soomin Song, SeongYeon Kim, JunHo Kim
Incheon National University
- EEP-2-1434 Substrate Temperature Effect of In-based Buffer Layer on CIGS Solar Cells**
 SeongYeon Kim¹, JunHo Kim¹, Jihye Gwak², Jae Ho Yun², Kyung-Hoon Yoon²
¹Incheon National University, ²Korea Institute of Energy Research

EEP-2-1467 Indium Tin Oxide Free Semitransparent Organic Photovoltaic Cells using Dielectric/Metal/Dielectric as Transparent Electrodes

Ae Na Lee, Il Soo Oh, Ji Hun Park, Se Young Oh
Sogang University

EEP-2-1554 Influence of ZnO Nanorods with Different Aspect Ratios as an Electron Transport Layer on Inverted Organic Solar Cells

Gyu Chae Choi^{1,2}, Eun Jin Lee^{1,2}, Yang Do Kim², Young Kuk Kim¹
¹*Korea Institute of Materials Science*, ²*Pusan National University*

EEP-2-1557 Formation of MoO_x Nanobelts from Cost Effective Annealing of DC-Sputtered Bi-Layer Molybdenum Thin Films

Puvaneswaran Chelvanathan, Yulisa Yusoff, Samia A Nadi, Towhid H Chowdhury, Mohammad J Rashid, Md Akhtaruzzaman, Nowshad Amin
The National University of Malaysia

EEP-2-1574 Properties of a-SiGe Thin Films on Glass by Co-Sputtering for Photovoltaic Absorber Application

Sayyed A. Shahahmadi¹, B. Yeganeh¹, Nilofar Asim¹, M. M. Alam², Z. A. Allothman², Kamaruzzaman Sopian¹, Nowshad Amin^{1,2}
¹*The National University of Malaysia*, ²*King Saud University*

EEP-2-1584 Structural Changes of Poly(3-hexylthiophene) and [6,6]-Phenyl-C61-butyric Acid Methyl Ester Blend Thin Film during Residual Solvent Evaporation using Synchrotron Grazing Incidence Wide Angle X-ray Scattering

Jehan Kim¹, Taejoo Shin¹, Sung-Youp Lee², Byong-Wook Shin², Hyeong-Rag Lee²
¹*Pohang Accelerator Laboratory*, ²*Kyungpook National University*

EEP-2-1624 Prospects of i-ZnO/ZnS Bi-Layer Buffer in Thin Film Solar Cells

Puvaneswaran Chelvanathan¹, Yulisa Yusoff¹, Ameen M Ali¹, Iskandar Yahya¹, Norhana Arshad¹, Mohammad M Alam², Nowshad Amin¹, Zeid A Allothman²
¹*The National University of Malaysia*, ²*King Saud University*

EEP-2-1722 Effects of Pulsed-DC Sputtering Powers on Laser Ablation of AZO Films

Jaeseok Heo, Seongjae Cho, Sang Jik Kwon, Eou Sik Cho
Gachon University

EEP-2-1741 Structural and Optical Property Evolution of RF-Sputtered ZnS Thin Film

Puvaneswaran Chelvanathan¹, Yulisa Yusoff¹, Mohammad Istiaque Hossain², Md Akhtaruzzaman¹, M Mezbaul Alam³, Zeid A Allothman³, Kamaruzzaman Sopian¹, Nowshad Amin¹
¹*The National University of Malaysia*, ²*Qatar Environment and Energy Research Institute*, ³*King Saud University*

- EEP-2-1917 Light Trapping in Thin Film Silicon Solar Cells with Periodic Structure on Glass Substrate**
Sungjae Bong, Shihyun Ahn, Le Huy Tuan Anh, Sunbo Kim, Hyeongsik Park, Chonghoon Shin, Junsin Yi
Sungkyunkwan University
- EEP-2-1921 Study of Honeycomb Structure for Light Trapping using ICP-RIE Dry Etching for High Efficiency Thin-Film Silicon Solar Cells**
Sangho Kim, Chonghoon Shin, Anh Huy Tuan Le, JunSin Yi, Ai Dao Vinh
Sungkyunkwan University
- EEP-2-1925 Advanced Light Trapping of Periodically Textured Glass using by Inductively Coupled Plasma - Reactive Ion Etching for Thin-Film Solar Cells**
Shihyun Ahn¹, Anh Huy Tuan Le¹, Sunbo Kim¹, Sungjae Bong¹, Hyeongsik Park¹, Chonghoon Shin¹, Youn-Jung Lee¹, Jaehyeong Lee¹, Chaehwan Jeong², Vinh Ai Dao¹, Junsin Yi¹
¹*Sungkyunkwan University*, ²*Korea Institute of Industrial Technology*
- EEP-2-1929 Interface Modification of Electrostatically Assembled Bilayer for Improved Photovoltaic Characteristics**
Sai-Anand Gopalan, Gopalan Anantha-Iyengar, Kwang-Don Lee, Sang-Won Lee, Kwang-Pill Lee, Shin-Won Kang
Kyungpook National University
- EEP-2-1960 Gate-tunable Wide Bandwidth Photodetector using Graphene/Silicon Schottky Contact**
Kyoung Eun Chang, Ukjin Jung, Tae Jin Yoo, Jinwoo Noh, Byoung Hun Lee
Gwangju Institute of Science and Technology
- EEP-2-2002 Amplification of Hot Electron Flow by Surface Plasmon Effect using Metal-insulator-metal Nanodiodes**
Changhwan Lee^{1,2}, Young Keun Lee^{1,2}, Changui Ahn², Hyosun Lee^{1,2}, Ievgen Nedrygailov¹, Seokwoo Jeon², Jeong Young Park^{1,2}
¹*IBS*, ²*Korea Advanced Institute of Science and Technology*
- EEP-2-2014 Zero Bias Operation of CVD Graphene Photodetector using Asymmetric Metal Contacts**
Han Na Choi¹, Sang Kyung Lee¹, Tae Jin Yoo¹, Chang Goo Kang², Byoung Hun Lee¹
¹*Gwangju Institute of Science and Technology*, ²*Cambridge University*
- EEP-2-2027 Electrical and Optical Characteristics of ZnTe/ZnO Heterojunction Diodes with N-doped ZnTe Buffer Layer Grown on p-type Si**
Kyoung Su Lee, Dong Uk Lee, Eun Kyu Kim
Hanyang University
- EEP-2-2047 Effectual Strategies for Photo-current Enhancement in PbS Quantum-dot Solar Cells fabricated by SILAR Process**
Muhammad Abdul Basit, Muhammad Awais Abbas, Jin Ho Bang, Tae Joo Park
Hanyang University

- EEP-2-2176 MoN Thin Film as Se Diffusion Barrier for Mo Back Contact in Thin Film Solar Cell**
Min-Su Kwon, Hangil Kim, Soo-Hyun Kim, Chan-Wook Jeon
Yeungnam University
- EEP-2-2195 Phase Transformation of Se/CIG/Mo/glass Thin Films during Annealing : A Real-Time Synchrotron X-ray Scattering Study**
Yeon Su Son¹, Tae Sik Cho¹, Yong Bae Kim²
¹Kyungpook National University, ²Gumi Electronics and Information Technology Research Institute
- EEP-2-2209 Enhanced Electron Life Time and Long-Term Stability in Dye-sensitized Solar Cells Fabricated with Organic Dye Containing Tri-Anchoring Groups in a Chromophore**
ChiHwan Lee¹, YoungRock Kim¹, YongHee Lee¹, YoonSoo Han², JaeHong Kim¹
¹Yeungnam University, ²Catholic University of Daegu
- EEP-2-2216 Novel Organic Dye based on Phenothiazine and Carbazole Chromophore for Dye-sensitized Solar Cells**
ChiHwan Lee¹, YoungRock Kim¹, Quoc Bao Le¹, JungMin Cho¹, DoKyung Lee², JaeHong Kim¹
¹Yeungnam University, ²Catholic University of Daegu
- EEP-2-2221 Evaluating Performance of Micron-scale Ag Grids as a Transparent Electrode**
Jinho Ahn, Kilbock Lee
Hanyang University
- EEP-2-2226 Carbazole-Chromophore based Photosensitizer for p-type Dye-Sensitized Solar Cells**
JiYoung Park, BoYoun Jang, Thi Hai Nguyen, HeeJin Ahn, JaeHong Kim
Yeungnam University
- EEP-2-2241 Enhanced Dye Sensitized Solar Cells of Quasi-Solid-State for Förster Resonance Energy Transfer**
JiYoung Park, BoYoun Jang, HyeongJin Yun, JaeHong Kim
Yeungnam University
- EEP-2-2260 Dye-sensitized Solar Cells Composed of Nanorod ZnO Electrode prepared by the Chemical Bath Deposition**
Young Rock Kim, Chi Hwan Lee, Jun Min Kim, Kwang Soon Ahn, Jae Hong Kim
Yeungnam University
- EEP-2-2264 Polymer/Metal/Dielectric (P/M/D) Transparent Electrode for Organic Solar Cell**
Juyoung Ham, Jong-Lam Lee
Pohang University of Science and Technology
- EEP-2-2265 Enhanced Efficiency of Dye Co-sensitized Solar Cells prepared from the One-bath Mixed Dye Solution Process**
Young Rock Kim, Chi Hwan Lee, Bo Youn Jang, Kwang-soon Ahn, Jae Hong Kim
Yeungnam University

EEP-2-2267 Organic Dye based on Triphenylamine with Cobalt and Iodine Liquid Electrolytes in Dye-sensitized Solar Cells

Bo Youn Jang¹, Ji Young Park¹, Jun Min Kim¹, Yoon Soo Han², Jae Hong Kim¹

¹Yeungnam University, ²Catholic University of Daegu

EEP-2-2273 Blended Polymer Gel Electrolytes based on PVDF-HFP and PMMA for Highly Efficient Photovoltaic Performance

Bo Youn Jang¹, Ji Young Park¹, Do Kyoung Lee¹, Do Kyoung Lee², Jae Hong Kim¹

¹Yeungnam University, ²Catholic University of Daegu

EEP-2-2509 Effects of Sodium Dodecyl Sulfonate as a Co-adsorbate on the Performance of Dye-Sensitized Solar Cells

Ju Hee Oh¹, Yoon Soo Han²

¹Kyungpook National University, ²Catholic University of Daegu

EEP-2-2512 Enhanced Power Conversion Efficiency of Dye-Sensitized Solar Cells with Li₂SiO₃-modified Photoelectrode

Jong Tae Kim¹, Sang-Ju Lee¹, Dae-Hwan Kim¹, Shi-Joon Sung¹, Yoon Soo Han²

¹Daegu Gyeongbuk Institute of Science and Technology, ²Catholic University of Daegu

Simulation of Organic Materials

Nov. 18, 2014 (Tue.)

CBP (Simulation of Organic Materials)

Ramada Ballroom Lobby

Chair: Abhishek Kumar Singh (Indian Institute of Science)

08:00-09:00 & 16:00-18:00

CBP-3281 First-principles Study on the α - β Phase Transition of Ferroelectric Poly(Vinylidene Difluoride): Observation of Multiple Transition Pathways

Won June Kim¹, Myung Hoon Han¹, Young-Han Shin², Eok Kyun Lee¹

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

Simulation of Electronic and Magnetic Devices

Nov. 18, 2014 (Tue.)

CDP (Simulation of Electronic and Magnetic Devices)

Ramada Ballroom Lobby

Chair: Abhishek Kumar Singh (Indian Institute of Science)

08:00-09:00 & 16:00-18:00

CDP-0129 Simulation of Bucky Shuttle Memory Device using Graphene Nanoribbon

Sun-Young Kim, Sanghoon Cho, Ki-Sub Kim, Jeong Won Kang, Chung-Sang Won

Korea National University of Transportation

- CDP-0153 Roles of Oxygen Frenkel Pairs in Photoluminescence of Bismuth Doped yttria: ab Initio Thermodynamics Modeling and Experimental Verifications**
Heechae Choi, So-Hye Cho, Sovann Khan, Kwang-Ryeol Lee, Seungchul Kim
Korea Institute of Science and Technology
- CDP-0339 Development of Dual-mode Wireless Power Transmitters by Analyzing the Protocol for WPC and PMA**
Keehong Um¹, Soo-Yeub Yoo²
¹Hansei University, ²Amotech Co., Ltd
- CDP-0514 An Efficient FDTD Algorithm to Simulate Absorbed Energy of each Non-flat Layers or Particles of Thin Film Solar Cells**
Seok Yong Byun¹, Seok-Joo Byun¹, Taek Sung Lee², Won Mok Kim², Dongwoo Sheen³
¹Insideoptics, Inc., ²Korea Institute of Science and Technology, ³Seoul National University
- CDP-0530 Analysis of Optical Reflectance from c-Si Surface with Submicron Pyramid Patterns by using FDTD Simulation Technique**
Seok-Joo Byun¹, Seok Yong Byun¹, Taek-Sung Lee², Won Mok Kim²
¹INSIDEOPTICS, ²Korea Institute of Science and Technology
- CDP-0583 Atomistic Observation on Lithiation Behaviors of Silicon Nanowires: Reactive Molecular Dynamics Simulation**
Hyun Jung, Sang Soo Han
Korea Institute of Science and Technology
- CDP-0744 Magnetic Permeability and Magnetic-resonance Transmission of Metal/insulator/metal based Nanodot Arrays**
Son (Thanh) Vo, Jong-Ryul Jeong
Chungnam National University
- CDP-0749 Tuning the Schottky Barrier Height at Silicide/Silicon Interfaces: An ab-initio Study**
Pooja Srivastava¹, Mincheol Shin², Kwang-Ryeol Lee¹, Seungchul Kim¹
¹Korea Institute of Science and Technology, ²Korea Advanced Institute of Science and Technology
- CDP-0755 Investigation of the Silicon Oxynitrides Formation on Si(001) via Reactive Molecular Dynamics**
Haining Cao, Seungchul Kim, Kwang-Ryeol Lee
Korea Institute of Science and Technology
- CDP-0898 Modeling and Analysis on Window-unified Capacitive Type of Touch Sensor**
Chan-Hwa Hong^{1,2}, Jae-Heon Shin¹, Kyung-Hyun Kim¹, Nae-Man Park¹, Woo-Hyung Seo¹, Chang-Woo Song¹, Ji-Woong Yang³, Byeong-Kwon Ju², Woo-Seok Cheong¹
¹Electronics and Telecommunication Research Institute, ²Korea University, ³Chung-Ang University

CDP-0965 **Origin of Intrinsic Hole-carrier Formations in Heterojunctions of Methylammonium Lead Iodide Perovskite on Titanium Oxide: First-principles Study**

Yongseok Choi^{1,2}, Heechae Choi², Jaechul Lee¹, Kahyun Hur²

¹Korea University, ²Korea Institute of Science and Technology

CDP-1370 **First-principles Study on Electronic Structures of Amorphous InGaZnO-SiO₂ Interfaces**

Hochul Song, Youngho Kang, Ho-Hyun Nahm, Seungwu Han

Seoul National University

CDP-1898 **Electronic and Optical Properties of Ultrathin Silicon Nanomembranes: A First-principles Investigation**

Woo-Sun Jang, Su-Hyun Yoo, Aloysius Soon

Yonsei University

CDP-2642 **Atomistic Characterizations on Bandgap Variations of Low-Dimensional Structures of Nanomaterials**

Lan-Hee Yang^{1,2}, Sangil Hyun¹, Eunhae Koo¹

¹Korea Institute of Ceramic Energy & Technology, ²Korea University

Methods for Material Simulation

Nov. 18, 2014 (Tue.)

CEP (Methods for Material Simulation)

Ramada Ballroom Lobby

Chair: Hyunwook (Shaun) Kwak (Schrodinger, Inc.)

08:00-09:00 & 16:00-18:00

CEP-0534 **Development of Apparatus for CO₂ Injection & Utilization in Coke Oven using TRIZ**

Jong Hag Jeon

POSCO

CEP-0537 **A Study of Variational Formulation on Electro-Mechanical Macromodel of Dissipative Materials**

Deok-Kee Choi

Dankook University

CEP-0832 **An Efficient Modeling Scheme to Generate Amorphous Structures**

Yong Youn, Youngho Kang, Seungwu Han

Seoul National University

CEP-1028 **Contact Hole Shrink of Directed Self-Assembly and its Application based on Simulation Approach**

Sang-kon Kim

Hanyang University

CEP-1049 Atomic Resolution Scanning Seebeck Microscope Simulation for Pristine and Defective Graphene

Eui-Sup Lee¹, Sanghee Cho², Ho-Ki Lyoo², Yong-Hyun Kim¹

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

CEP-1379 Atomistic and Electronic Structure of Grain Boundaries in Multicrystalline Silicon: Atomistic Simulations

Hiroshi Mizuseki¹, Yoshiyuki Kawazoe²

¹Korea Institute of Science and Technology, ²Tohoku University

CEP-1417 Quasiparticle Electronic Structures of TiO₂ and SrTiO₃

Gijae Kang, Youngho Kang, Seungwu Han

Seoul National University

CEP-1919 Temperature Distribution in Non-magnetic and Ferromagnetic Material Layer ordering Thin Film Structure

Kyung-Min Lee

Chungnam National University

CEP-2344 Nonlinear Viscoelastic Material Modeling and Variational Formulation Method of Electroactive Polymers

Deok-Kee Choi

Dankook University

CEP-2529 New Analysis of Gas Adsorption / Separation of Metal Organic Framework by using computational Tool

Byungchul Yeo, Sangsoo Han

Korea Institute of Science and Technology

CEP-2616 Use of Artificial Neural Network for the Simulation of Radon Emission Concentration of Granulated Blast Furnace Slag Mortar

Hongseok Jang, Malrey Lee, Boram Lee, Xing Shuli

Chonbuk National University

CEP-2637 Morphology-dependent Adhesions of Complex Interfaces in Hybrid Nanofilms

Ji-Eun Choi, Youngho Park, Sangil Hyun, Eunhae Koo

Korea Institute of Ceramic Energy & Technology

CEP-3279 On the Nature of Dispersion Interaction of Alkali Metals

Minho Kim, Hyungjun Kim

Korea Advanced Institute of Science and Technology

Magnetism and Magnetic Materials

Nov. 19, 2014 (Wed.)

MEP (Magnetism and Magnetic Materials)

Ramada Ballroom Lobby

Chair: Haein Yim (Sookmyung Women's University)

08:00-10:00

MEP-0276 **Synthesis of High Moment and Monodisperse Mn-Zn Ferrite Nanoparticles by Polyol and Sonochemical Methods**

Mohamed Abbas¹, B. Parvatheeswara Rao², CheolGi Kim¹

¹Daegu Gyeongbuk Institute of Science and Technology, ²Andhra University

MEP-0466 **Exchange-biased Ferromagnetic Electrode and its Application for Complementary Spin Transistor**

Youn Ho Park¹, Jun Woo Choi¹, Joonyeon Chang¹, Heon-Jin Choi², Hyun Cheol Koo¹

¹Korea Institute of Science and Technology, ²Yonsei University

MEP-0477 **Synthesis of Co-rich Nanowires as a Barcode Segment for Multiplexing Bio-applications**

Sri Ramulu Torati¹, Xing Hao Hu¹, Venu Reddy¹, Seok Soo Yoon², CheolGi Kim¹

¹Daegu Gyeongbuk Institute of Science & Technology, ²Andong National University

MEP-0518 **Densification and Magnet Properties of Fe Powder with Heat-treatment Conditions**

Hyeon-Taek Son, Yong-Ho Kim, Jung-Won Choi

Korea Institute of Industrial Technology

MEP-0561 **Nanostructure Analysis of L10-FePtCu Magnetic Nanoparticles**

Jung-Il Lee, Joon Hwang, Chang-Woo Hong, Jeong Ho Ryu

Korea National University of Transportation

MEP-1062 **Influence of Barium Hexaferrite on Magnetic Properties of Hydroxyapatite Ceramics**

Narumon Lertcumfu¹, Gobwute Rujijanagul¹, Parkpoom Jarupoom²

¹Chiang Mai University, ²Rajamangala University of Technology Lanna

MEP-1299 **The Effect of Growth Temperature on GdBa₂Cu₃O_{7-δ} Coated Conductors Fabricated by the RCE-DR Process**

Soon-Mi Choi¹, Jung-Woo Lee¹, Won-Jae Oh¹, Tae-Hyun Seok¹, Jae-Hun Lee², Seung-Hyun Moon², Sang-Im Yoo¹

¹Seoul National University, ²Superconductor, Nano & Advanced Materials Corporation Ltd

MEP-1306 **Synthesis and Magnetic Properties of SrFe(2-x)ZnxFe₁₆O₂₇ (0.0 ≤ x ≤ 2.0)**

Jae-Hyoung You, Sungjoon Choi, Sang-Im Yoo

Seoul National University

MEP-1366 **Conductance Change Induced by the Rashba Effect in the LaAlO₃/SrTiO₃ Interface**

Taeyueb Kim¹, Shin-Ik Kim¹, Seung-Hyub Baek¹, Jinki Hong², Hyun Cheol Koo¹

¹Korea Institute of Science and Technology, ²Korea University

- MEP-1601 Magnetic and Microwave Properties of Al³⁺ and In³⁺ Substituted Mg-Mn Ferrites**
Chien-Yie Tsay¹, Shan-Chien Liang¹, Chien-Ming Lei², Chung-Chieh Chang³
¹Feng Chia University, ²Chinese Culture University, ³Academia Sinica
- MEP-1905 The Effect of the Morphology of Carbonyl Iron Powder (CIP) on Electromagnetic Wave Absorption Ability**
Soobin Woo¹, Hwijun Kim², Hyunjoo Choi¹
¹Kookmin University, ²Korea Institute of Industrial Technology
- MEP-2098 Effect of Secondary Phase on Magnetic and Magnetocaloric Properties of La_{0.7}Ca_{0.3}MnO₃/Mn_{1-x}Zn_xFe₂O₄ Composites**
Yeong Seung Jeong, Sung Jae Kim, Keun Young Park, Bon Heun Koo, Mohammad Shafique Anwar
Changwon National University
- MEP-2126 Enhancement of the Remanence Value of Bulk Strontium Ferrite by the Addition of AlNiCo**
Kwang-Won Jeon, Ki Woong Moon, Min Kang, Min Kyu Kang, Gyu-Tae Lee, Jongryoul Kim
Hanyang University
- MEP-2132 Annealing Effect on the Microstructure and Magnetic Properties of YIG Nano Powders prepared by a Sol-gel Method**
Rambabu Kuchi
Chungnam National University
- MEP-2147 Study of Zn On Magnetocaloric Effect in (0.97)La_{0.70}7Sr_{0.3}MnO₃/(0.03)Mn(1-x) ZnXFe₂O₄ Composites**
Keun Young Park, Yeong Seung Jung, Sung Jae Kim, Seung Rok Lee, Mohammad Shafique Anwar, Bon Heun Koo
Changwon National University
- MEP-2162 Synthesis and Magnetic Properties Core/Shell Structured α"-Fe₁₆N₂/Al₂O₃ Magnetic Powders**
Min Kyu Kang, Ki Woong Moon, Kwang-Won Jeon, Min Kang, Gyu-Tae Lee, Jongryoul Kim
Hanyang University
- MEP-2200 High Characteristic Sr-Ferrite Magnetic Powders Made by New Direct-Spray Roasting**
Tae Sik Cho
Kyungpook National University
- MEP-2204 Effect of Multi-stage Deformation on the Microstructure and Magnetic Properties of Dy-free Nd-Fe-B Magnets prepared by Hot Deformation Process**
Hee-Ryoung Cha¹, Shu Liu¹, Ji-Hun Yu¹, Hae-Woong Kwon², Yang-Do Kim³, Jung-Goo Lee¹
¹Korea Institute of Materials Science, ²Pukyong National University, ³Pusan National University

- MEP-2262** **Synthesis and Microstructural Analysis of Magnetic $\text{CaFe}_{0.5}\text{Co}_{0.5}\text{O}_{3-\delta}$ using reitveld Method**
Bon Heun Koo, Zeeshan ur Rehman, Sung Jae Kim, Keun Young Park
Changwon National University
- MEP-2272** **Characteristics of Semiconducting Indium Tungsten Oxide Thin Films prepared using Solution Coating Method**
Ji Hye Jung¹, Sung Ho Lee², Do Kyung Lee¹
¹Catholic University of Daegu, ²Nano Convergence Practical Application Center
- MEP-2470** **Domain Wall Movement in a Rhombic Co Thin Film Structure**
Chunghee Nam
Hannam University
- MEP-2521** **Effects of Film Stress and Geometry on Texture Evolution before and after the Martensitic Transformation in a Nanocrystalline Co Thin Film**
Sung Bo Lee¹, Dong-Ik Kim², Yanghoo Kim¹, Seung Jo Yoo³, Ji Young Byun², Heung Nam Han¹, Dong Nyung Lee¹
¹Seoul National University, ²Korea Institute of Science and Technology, ³Korea Basic Science Institute
- MEP-2597** **Synthesis, Morphology Control and Electromagnetic Wave Absorption Properties of Electrospun FeCo Alloy Nanofibers**
Young-In Lee¹, Dae-Hwan Jang², Yong-Ho Choa²
¹Seoul National University of Science and Technology, ²Hanyang University
- MEP-2710** **Synthesis and Magnetic Properties of τ -MnAl Magnets**
Ki Woong Moon, Kwang-won Jeon, Gyu-Tae Lee, Jongryoul Kim
Hanyang University
- MEP-2715** **Coercivity Enhancement of HDDR Treated Nd-Fe-B Magnet Powders using Nd-Cu Diffusion**
Kwang-Won Jeon, Ki Woong Moon, Min Kang, Min Kyu Kang, Gyu-Tae Lee, Jongryoul Kim
Hanyang University
- MEP-2725** **Magnetic Permeability and Power Loss Behaviors of FeCo Micro Hollow Fiber Composites**
Moosung Choi, Don Chul Choi, Jongryoul Kim
Hanyang University
- MEP-2848** **Perpendicular Magnetic Anisotropy in CoSiB/Pd/CoSiB Trilayer Thin Film with Various Pd Thicknesses**
Sol Jung¹, Haein Yim¹, Taewan Kim²
¹Sookmyung Women's University, ²Sejong University

Nanoscale Devices & Characterization

Nov. 19, 2014 (Wed.)

NDP (Nanoscale Devices & Characterization)

Ramada Ballroom Lobby

Chairs: Sang Ouk Kim (Korea Advanced Institute of Science and Technology)

08:00-10:00

WooChul Jung (Korea Advanced Institute of Science and Technology)

NDP-0126 **Molecular Dynamics Study on Mechanical Response of Crossroad-Type Graphene Resonator**

Sun-Young Kim, Sanghoon Cho, Ki-Sub Kim, Jeong Won Kang, Chung-Sang Won
Korea National University of Transportation

NDP-0134 **Gate-voltage Tuning of the Tunneling Characteristics in Graphene/BN/Au Vertical Devices**

Muhammad Zahir Iqbal, Muhammad Farooq Khan, Muhammad Waqas Iqbal, Jonghwa Eom
Sejong University

NDP-0138 **Modification of the Structural and Electrical Properties of Graphene Layers by Pt Adsorbates**

Muhammad Waqas Iqbal, Muhammad Zahir Iqbal, Muhammad Farooq Khan, Jonghwa Eom
Sejong University

NDP-0139 **Tailoring of the Electrical Characteristics of Graphene by Potassium Nitrate Chemical Doping**

Muhammad Farooq Khan, Muhammad Zahir Iqbal, Muhammad Waqas Iqbal, Jonghwa Eom
Sejong University

NDP-0525 **Characterization of a DRAM Capacitor with a Supporter using a Tendency of Failed Cell Address**

Sungho Lee^{1,2}, Jonghyuk Kang^{1,2}, Yongho Yoo², Jin Choi², Jongseo Hong², Cheol-Woong Yang¹
¹*Sungkyunkwan University*, ²*Samsung Electronics Co*

NDP-0658 **Characterisation of LAO Thin Films Grown on Substrate by Off-axis RF Sputtering**

Chung Wung Bark, Do Hyun Kim
Gachon University

NDP-0766 **High Sensitivity Au-Polypyrrole Nanorod Sensor for the Detection of Volatile Organic Compound Gas at Room Temperature**

Jae-Sung Lee, Na-Rae Yoon, Byoung-Ho Kang, Sang-Won Lee, Sai-Anand Gopalan, Hyun-Min Jeong, Sae-Wan Kim, Shin-Won Kang
Kyungpook National University

NDP-0815 **Variability of Contact Properties in MoS₂ Thin-Film Transistors**

Seong Yeoul Kim, Seon Young Park, Woong Choi
Kookmin University

- NDP-0957** **Epitaxial Growth of Silicon Films by the Non-classical Growth Mechanism during Hot Wire Chemical Vapor Deposition**
Jaesoo Jung, Daseul Kim, Nongmoon Hwang
Seoul National University
- NDP-0973** **Optical and Electrical Performance of Ga-doped ZnO nanorods/p-GaN Film Heterojunction Light Emitting Diodes prepared using Hydrothermal Method**
Geun Chul Park, Jun Hyuk Choi, Seung Muk Lee, Jun Hyung Lim, Jinho Joo
Sungkyunkwan University
- NDP-1020** **Hydrophobic Sponge Structure-based Triboelectric Nanogenerator**
Jinsung Chun¹, Keun Young Lee², Kyeong Nam Kim¹, Na-Ri Kang¹, Ju-Young Kim¹, Sang-Woo Kim², Jeong Min Baik¹
¹*Ulsan National Institute of Science and Technology*, ²*Sungkyunkwan University*
- NDP-1043** **Silk based Time-Controllable, Biocompatible and Transparent Piezoelectric Composite Nanogenerator using Lead-free Ferroelectric Nanoparticles**
Kyeong Nam Kim¹, Jinsung Chun¹, Song A Chae², Chang Won Ahn², Ill Won Kim², Sang Woo Kim³, Jeong Min Baik¹
¹*Ulsan National institute of Science and Technology*, ²*University of Ulsan*, ³*Sungkyunkwan University*
- NDP-1146** **Synthesis of Silver Telluride Nanofibers by Electrospinning and Electrodeposition Method**
Kee-Ryung Park¹, Seil Kim¹, Yo-Min Choi¹, Nosang V. Myung², Yong-Ho Choa¹
¹*Hanyang University*, ²*University of California Riverside*
- NDP-1185** **Modified Electrolysis Method for Synthesis of Copper Nanoparticle based on Bulk Copper in Aqueous Solution**
Hyeong-Sik Kim, Young-Tae Kwon, Yo-Min Choi, Seil Kim, Yong-Ho Choa
Hanyang University
- NDP-1297** **Dielectric Properties of CaCu₃Ti₄O₁₂ Ceramics with the Nanocoating of BaTiO₃**
Hui Eun Kim¹, Youn-Woo Hong², Sang-Im Yoo¹
¹*Seoul National University*, ²*Korea Institute of Ceramic Energy & Technology*
- NDP-1340** **Gate Potential Controlling Ionic Concentration Polarization in a Nanofluidic Preconcentrator**
Sung Il Han¹, Yong Kyoung Yoo¹, Rhokyun Kwak², Kyo Seon Hwang², Jeong Hoon Lee¹
¹*Kwangwoon University*, ²*Korea Institute of Science and Technology*
- NDP-1415** **A Study on the Optical and Electrical Properties of GZO/Metal/GZO Multi-layered Transparent Electrodes for Photonic Applications**
Moon-Ki Jeong, Hee Chul Lee
Korea Polytechnic University

NDP-1418 Dependence of Thermal Properties on the Anorthite/Diopside Ratio by Glass-ceramics Process for LED Package

Seunggu Kang
Kyonggi University

NDP-1428 Simulation of Thermal Transport in Carbon Nanotube using Nanoscale Heat Conduction Model

C. Y. Ho¹, M. Y. Wen², B. C. Chen³, Y. H. Tsai¹

¹*Hwa Hsia Institute of Technology*, ²*Cheng Siu University*, ³*Buddhist Dalin Tzu Chi General Hospital*

NDP-1513 Graphene as Passivation Layer for Ge PIN Photodiode

Zagarzusem Khurelbaatar, Jong-Hee Kim, Taek Sung Kim, Yeon-Ho Kil, Chel-Jong Choi, Kyu-Hwan Shim
Chonbuk National University

NDP-1521 Biaxially Textured MgO Films on Solution Derived Planarization Y2O3 Buffer Substrate

RockKil Ko, BooMin Kang, GwanTae Kim, DongWoo Ha, ByungGeol Kim
Korea Electrotechnology Research Institute

NDP-1546 Long Length Y2O3 Thin Film Tape by Chemical Solution Multi-nano Layer Coating for IBAD-MgO Templates

BooMin Kang, RockKil Ko, GwanTae Kim, DongWoo Ha
Korea Electrotechnology Research Institute

NDP-1686 Metallic Glass-Polymer Nanolaminate with Enhanced Tensile Strength and Ductility

O Bae Woo, Ju-Young Kim
Ulsan National Institute of Science and Technology

NDP-1708 Evaluation of Tensile Mechanical Properties of Electro-plated Copper Thin Film from Single Nanoindentation

Si-Hoon Kim, Young-Cheon Kim, Ju-Young Kim
Ulsan National Institute of Science and Technology

NDP-1767 Facile Fabrication of Galvanic Skin Response Sensor based on Vertically-aligned Silver Nanowires

Sun Hwa Park¹, Ji Eun Lee¹, Hanna Park², Jae Yong Song¹
¹*Korea Research Institute of Standards and Science*, ²*Kyungpook National University*

NDP-1838 Diffusion Behavior and Adhesion Strength of Ti/Cu Laminate Fabricated by Surface Activation Bonding and Subsequent Heat Treatment

Taek-Kyun Jung¹, Myung-Sik Choi², Jong-Jin Baek², Ho-Joon Choi¹, Young-Chul Shin¹, Sung-Chul Lim¹, Hyo-Soo Lee¹
¹*Korea Institute of Industrial Technology*, ²*Inha University*

- NDP-1840 The FIB Marking Technique for the Site-specific Target TEM Lamella**
Sungho Lee^{1,2}, Jonghyuk Kang^{1,2}, Cheol-Woong Yang¹
¹Sungkyunkwan University, ²Samsung Electronics Co
- NDP-1861 Effect of RF Plasma Treatment on Evaporation Behavior and Powder Characteristics of Ru-Cr Alloy Powder**
Jong-Whan Ho¹, Jong-Jin Baek², Kyu-Bong Jang³, Taek-Kyun Jung³, Sung-Chul Lim³, Hyouk-Chon Kwon³, Seung-Boo Jung¹
¹SungKyunKwan University, ²Inha University, ³Korea Institute of Industrial Technology
- NDP-1867 Effect of Operating Conditions on Adhesion Strength of Al/Al2O3 Laminate Fabricated by Surface Activation Bonding**
Jong-Jin Baek¹, Jong-Whan Ho², Kyu-Bong Jang³, Taek-Kyun Jung³, Sung-Chul Lim³, Hyouk-Chon Kwon³, Chi-Hwan Lee¹
¹Inha University, ²SungKyunKwan University, ³Korea Institute of Industrial Technology
- NDP-1879 In-Situ Ftir Study on Atomic Layer Deposition of Silicon Nitride**
Tirta R. Mayangsari, Luchana L. Yusup, Jae-Min Park, Won-Jun Lee
Sejong University
- NDP-2050 Fabrication of High Performance Single-crystal Silicon Nanowire Field-effect Transistors on a Large Area**
Se Ryeun Yang, Jae Won Jeong, JongMin Kim, Yeon Sik Jung
Korea Advanced Institute of Science and Technology
- NDP-2061 The Dynamic Friction Performance of a Pneumatic Cylinder with Al2O3 Film on Cylinder Surface**
Ho Chang¹, Chou-Wei Lan², Mu-Jung Kao¹, Hao-Xian Wang¹
¹National Taipei University of Technology, ²Industrial Technology Research Institute
- NDP-2436 Glass Capillary based Optimized Electro-kinetic Small Molecular Trapping System**
Yong Kyoung Yoo¹, Sung Il Han¹, Junwoo Lee¹, Cheon Jung Kim¹, Myung-Sic Chae¹, Kyo Seon Hwang², Jeong Hoon Lee¹
¹Kwangwoon University, ²Korea Institute of Science and Technology
- NDP-2536 Direct Fabrication of Nanochannels by Mechanical Folding of a Stiff Layer on a Soft Polymer**
So Nagashima¹, Hamid Ebrahimi², Kwang-Ryeol Lee¹, Ashkan Vaziri², Myoung-Woon Moon¹
¹Korea Institute of Science and Technology, ²Northeastern University
- NDP-2821 Characterization of Aluminum Capacitor Fabricated by Complex Anodizing Method**
Jin-Ha Shin, Jung-Ho Park, Hwa-sun Park, Su-Jeong Suh
Sungkyunkwan University

NDP-2828 Near-field Scanning Optical Microscope Photoluminescence Studies of Rubrene Nanostructures Grown by Vapor Phase Transport

Yongjun Lee¹, Seki Park¹, Cheol-Joon Park², Hyeon Jung Park², Jubok Lee¹, Min Su Kim¹, Mickaël Fevrier¹, Jinsoo Joo², Jeongyong Kim¹

¹Sungkyunkwan University, ²Korea University

NDP-2894 Optical Determination of Crystal Axis of Organic Single Nanostructures

Jubok Lee¹, Cheol-Joon Park², Min Su Kim¹, Seki Park¹, Yongjoon Lee¹, Jinsoo Joo², Jeongyong Kim¹

¹Sungkyunkwan University, ²Korea University

NDP-2994 Nano-scale Surface Roughness of Mesoporous Silica Thin Films

Chi Won Ahn

Korea Advanced Institute of Science and Technology

NDP-2997 Seebeck-coefficient Measurements of Pt-C FEBID Nanostructures

Heiko Reith¹, Roland Sachser², Friedemann Völklein³, Kornelius Nielsch¹, Michael Huth²

¹Universität Hamburg, ²Goethe-Universität, ³Hochschule RheinMain

NDP-3031 Formation of GaN Quantum Dots on Si(111) by using Ga Pre-deposition

Ilgyu Choi¹, Jin Soo Kim¹, Byonggu Jo¹, Dongwoo Park¹, Kwanjae Lee¹, Hyunjung Lee¹, Cheul Ro Lee¹, Jae Young Leem²

¹Chonbuk National University, ²Inje University

NDP-3400 Synthesizing of Hollow Silver Spheres by RF Plasma Method

JongRok Ahn¹, YangKoo Cho¹, Hwackjoo Lee¹, Moonup Bae¹, Kweonha Park²

¹Korea Research Institute of Standards and Science, ²Korea Marine University

NDP-3401 A Study on the Lubricant Effects of Nano Metal Powders

JongRok Ahn¹, YangKoo Cho¹, Hwackjoo Lee¹, Moonup Bae¹, Kweonha Park²

¹Korea Research Institute of Standards and Science, ²Korea Marine University

TFT Materials and Devices

Nov. 19, 2014 (Wed.)

DDP (TFT Materials and Devices)

Ramada Ballroom Lobby

Chair: Wooyoung Shim (Yonsei University)

08:00-10:00

DDP-0190 Effects of Chlorine Ions on the Dissolution Mechanism of Cu Thin Film in Phosphoric Acid based Solutions

Bo-Hyun Seo¹, Joerg Winkler², Jong Hyun Seo¹

¹Korea Aerospace University, ²PLANSEE SE

- DDP-0262 High Performance Polymer Transistors on Plastic Substrate**
Gi-Seong Ryu¹, Kwang Hun Park², Yun-Hi Kim², Yong-Young Noh¹
¹Dongguk University, ²Gyeongsang National University
- DDP-0408 Charge Injection Engineering for Ambipolar Transistor with Grapheme Oxide**
Museok Go, Mijung Lee
Kookmin University
- DDP-0426 Effects of Double Active Layer & Stabilizer on the Performance of Solution-processed Zinc Tin Oxide Thin Film Transistor**
Jihun Shin, Sangjo Kim, Seungsoo Ha, Yongjin Lim, Chanhee Park, Moonsuk Yi
Pusan National University
- DDP-0597 Improvement in the Electrical Performance of Ge doped InZnO Thin Film Transistor**
Yongjin Lim, Jihun Shin, Sangjo Kim, Seungsoo Ha, Chanhee Park, Moonsuk Lee
Pusan National University
- DDP-0656 Inkjet-printed Zinc-tin-oxide TFTs with a Solution-processed Hybrid Dielectric Layer**
Young-Jin Kwack, Woon-Seop Choi
Hoseo University
- DDP-0663 Low Temperature Inkjet-Printed Indium Zinc Oxide TFTs with Lithium Doping**
Woon-Seop Choi
Hoseo University
- DDP-0674 Photo-initiator Free, Photo-patternable Polyimides as Gate Insulator for Pentacene Thin-film Transistors**
Hoon Joo Yang¹, Hye Jung Suk², Yi Mi Hye², Taek Ahn¹
¹Kyungsung University, ²Korea Research Institute of Chemical Technology
- DDP-0686 Synthesis and Characterization of Post-functionalized Photo-patternable Soluble Polyimide Gate Insulator for Pentacene Thin Film Transistors**
Ji Young Kim¹, Mi Hye Yi¹, Taek Ahn²
¹Korea Research Institute of Chemical Technology, ²Kyungsung University
- DDP-0949 The Performance of Transparent Oxide TFT Employed ZTO-In2O3 based Active Layer**
Kyung-Hyun Kim, Chang-Woo Song, Jae-Heon Shin, Nae-Man Park, Chan-Hwa Hong, Woo-Hyung Seo, Ji-Woong Yang, Woo-Seok Cheong
Electronics and Telecommunications Research Institute
- DDP-0967 The Effects of Post-deposition Treatments of Gate Insulator on the Electrical Properties of IZO-based Oxide TFTs**
Chang-Woo Song¹, Ji-Woong Yang², Jae-Heon Shin¹, Kyung-Hyun Kim¹, Nae-Man Park¹, Chan-Hwa Hong¹, Woo-Hyung Seo¹, Hyuck-In Kwon², Woo-Seok Cheong¹
¹Electronics and Telecommunications Research Institute, ²Chung-Ang University

- DDP-1038** **Electrical and Thermal Properties of Laminated Nano-composite Gate Insulators for Flexible Thin Film Transistors**
Jinsoo Kim
Sungkyunkwan University
- DDP-1493** **Low-temperature processed diF-TES-ADT Large Crystal High Performance Organic Field-effect Transistor (OFET) for Flexible Electronics**
Won-Tae Park, Yong-Young Noh
Dongguk University
- DDP-1789** **Photo-induced Instability in Amorphous Metal-oxide based TFTs for Transparent Electronic Applications**
Min-Seok Kang, Sang-Mo Koo, Tae-Jun Ha
Kwangwoon University
- DDP-1817** **Gate Insulator Effects on the Electrical Performance of P-type SnO Thin-Film Transistors**
Myeonghun U¹, Young-Joon Han¹, Yong-Jin Choi¹, Sang-Hun Song¹, In-Tak Cho², Jong-Ho Lee², Hyuck-In Kwon¹
¹Chung-Ang University, ²Seoul National University
- DDP-1984** **Characteristics of FTO as Transparent Conductive Oxide Electrode Material for Flexible Display**
Eun Jung Jang¹, Chairul Hudaya², Ji Hun Park³, Bup Ju Jeon¹, Joong Kee Lee⁴
¹Shinhan University, ²University of Science and Technology, ³IM Co., Ltd, ⁴Korea Institute of Science and Technology
- DDP-2746** **High-Performance and Stability of Dual Channel Layer Amorphous InGaZnO TFTs by UV Irradiation**
Sung-Hoo Kim, Myung-Min Kim, Duck-Kyun Choi
Hanyang University
- DDP-2768** **Electrical and Optical Properties of Mn-doped SnO₂/Ag/ Mn-doped SnO₂ Multilayer Thin Films**
YoonHo Cho¹, Sahn Nahm², Ji-Won Choi¹
¹Korea Institute of Science and Technology, ²Korea University
- DDP-2784** **UV Exposure Enhancement in Contact Resistance and Electrical Characteristics of Coplanar a-IGZO Thin Film Transistor**
Myung-Min Kim, Seung-Man Ryu, Duck-Kyun Choi
Hanyang University
- DDP-2804** **Effect of Surface Composition of IGZO Films on TFT Characteristics Fabricated by Electron-assisted Sputtering Process**
Ji-Yun Seon, Young Joon Yoon
Korea Institute of Ceramic Engineering and Technology

- DDP-3013 The Influence of Oxygen Partial Pressure on the Characteristics of TiO₂ TFT Device Performance**
Dongsuk Han, Jaehyung Park, Minsoo Kang, Jongwan Park
Hanyang University
- DDP-3018 Etching Mechanism of IGZO Thin Films in CF₄/Ar Plasma with the Addition of Inert Gases**
Young-Hee Joo, Jea-Hyung Wi, Chang-Il Kim
Chung-Ang University
- DDP-3294 Digital X-ray Detector with a-IGZO Thin Film Transistors**
Hyoung-seok Choi, Myeong-ho Kim, Duck-kyun Choi
Hanyang University

Emerging Materials and Devices for Unconventional Displays

Nov. 19, 2014 (Wed.)

DEP (Emerging Materials and Devices for Unconventional Displays)

Ramada Ballroom Lobby

Chair: Wooyoung Shim (Yonsei University)

08:00-10:00

- DEP-1055 Development of Copper Bezel Metal for Window-unified 30" Touch Screen Panel**
Woo-Hyung Seo¹, Chang-Woo Song¹, Ji-Woong Yang², Kyung-Hyun Kim¹, Jae-Heon Shin¹, Nae-Man Park¹, Chan-Hwa Hong¹, Hyuck-In Kwan², Woo-Seok Jeong¹
¹Electronics and Telecommunication Research Institute, ²Chung-Ang University
- DEP-1374 Synthesis and Characterization of Highly Luminescent, Near-infrared Emitting CuInS₂/ZnS Quantum Dots for Bio-imaging**
Hyung Seok Choi, Jae Chul Park, Youngsun Kim, Mi Hwa Oh, Duk Young Jeon, Yoon Sung Nam
Korea Advanced Institute of Science and Technology
- DEP-2779 Optimization of Inverted InP Quantum Dot Light-emitting Diodes using Low-temperature Solution-processed Zinc Oxide as an Electron Transport Layer**
Ilwan Jang¹, Jiwan Kim², Christian Ippen³, Tonino Greco³, Min Suk Oh², Jeongno Lee², Won Keun Kim², Armin Wedel³, Chul Jong Han², Sung Kyu Park¹
¹ChungAng University, ²Korea Electronics Technology Institute, ³Fraunhofer Institute for Applied Polymer Research
- DEP-3080 Generation of Binary Holograms from Real Object using the Direct Binary Search Algorithm**
Thibault Lepotier¹, Taegeun Kim², You Seok Kim², Min-Chul Park¹
¹Korea Institute of Science and Technology, ²Sejong University

Advances in Fuel Cells and Hydrogen Storage

Nov. 19, 2014 (Wed.)

ECP (Advances in Fuel Cells and Hydrogen Storage)

Ramada Ballroom Lobby

Chair: Denis Andrienko (Max Planck Institute for Polymer Research)

08:00-10:00

ECP-0159 Effects of Lithium Oxide Addition on Sintering Behavior and Electrical Conductivity of yttria-doped Ceria

Joo-Sin Lee

Kyungshung University

ECP-0162 Effects of Lithium Oxide Addition on Sintering Behavior and Electrical Conductivity of Ce_{0.8}Gd_{0.2}O_{1.9} Ceramics prepared by Commercial Powders

Ji-Hoon Park¹, Seung-Woo Seo¹, Min-Woo Park¹, Ji-Hoon Koo², Ki-Tae Lee², Joo-Sin Lee¹

¹*Kyungshung University*, ²*Chonbuk National University*

ECP-0228 Hydrogen Susceptibility of AISI 316 Stainless Steel at Low Temperatures below 300°C

Yun-Hee Lee, Ki-Bok Kim, Yongil Kim, Seung-Wook Baek, Unbong Baek, Hae Moo Lee

Korea Research Institute of Standards and Science

ECP-0647 Hydrogenation Behavior of MgHx-BZY(BaZr_{0.8}Y_{0.2}O_{3-δ}) Composites

Young-Sang Lee, Tae-Whan Hong

Korea National University of Transportation

ECP-0734 Stability and Activity of Au-decorated Pt Surface for Oxygen Reduction Reaction in Acidic Media

Hana Lim, Ji Hea Jung, Ho Nyun Lee, Hyun-Jong Kim

Korea Institute of Industrial Technology

ECP-0995 Synthesis and Property of Sulfonated Poly(methylisatin biphenylene) containing Diphenyl ether by Polyhydroalkylation for Proton Exchange Membrane Applications

Soonho Lee, Hohyou Jang, Sangyoung Lee, Jaeseong Ha, Kyunghwan Kim, Whangi Kim

Konkuk University

ECP-0996 Synthesis and Characterization of Imidazolium Linear Bisphenol Polycarbonate Hydroxides for Anion Exchange Membrane

Hohyou Jang, Soonho Lee, Hyunho Joo, Taehoon Hong, Seungtae Kim, Whangi Kim

Konkuk University

ECP-1476 Molecular Dynamics Simulation of Oxygen Ion Conduction in Orthorhombic Perovskite Ba-doped LaInO₃

Kuk-Jin Hwang¹, Mi-Young Yoon¹, Hae-Jin Hwang¹, Soon-Mok Choi², Seong-Min Jeong³

¹*Inha University*, ²*Korea University of Technology and Education*, ³*Korea Institute of Ceramic Engineering and Technology*

- ECP-1622 Recovery of Bi and Sb from Copper Spent Electrolytes by Electrowinning Method**
Ja-kyung Koo, Jae-Ho Lee
Hongik University
- ECP-1672 Catalytic Activity of Metal-oxide Nanocatalysts Synthesized using Ultrasonic Spray Pyrolysis Process**
Chan Ho Jung^{1,2}, Jaecheol Yun³, Kamran Qadir^{1,2}, Brundabana Naik^{1,2}, Jung Yeul Yun³, Jeong Young Park^{1,2}
¹Graduate School of EEWS, Korea Advanced Institute of Science and Technology, ²Institute for Basic Science, ³Korea Institute of Materials Science
- ECP-1749 Catalytic H₂ Oxidation on TiO₂/Nanoporous Au; Towards Engineering TiO₂/Au Interface**
Kamran Qadir^{1,2}, Bui Thi Phuong Quynh³, Hyosun Lee^{1,2}, Song Yi Moon^{1,2}, Sang Hoon Kim³, Jeong Young Park^{1,2}
¹Korea Advanced Institute of Science and Technology, ²Institute for Basic Science, ³Korea Institute of Science and Technology
- ECP-1753 Pd based Alloy Nanomaterials for Chemical Hydrogen Storage: Efficient Catalysts for Hydrogen Production from Formic Acid**
Chang Won Yoon
Korea Institute of Science and Technology
- ECP-1762 Anion Conductive Nickel Catalyzed Polyphenylene containing Imidazolium Cation for Fuel Cell Membrane Application**
Md. Awlad Hossain, Soonho Lee, Hohyoun Jang, Jinseong Lim, Jiho Yoo, Kyungchul Kim, Whangi Kim
Konkuk University
- ECP-1813 Detection of Chemicurrent on Pt Nanoparticles deposited on Au/TiO₂ Catalytic Nanodiodes under Hydrogen Oxidation**
Hyosun Lee, Sun Mi Kim, Chang Hwan Lee, Kalyan C. Goddeti, Young Keun Lee, Ievgen I. Nedrygailov, Jeong Young Park
Graduate School of EEWS, Korea Advanced Institute of Science and Technology, Institute for Basic Science
- ECP-1911 High-Pressure Scanning Tunneling Microscopy (HP-STM) Study of Selective Oxidation Process over Pt₃Ni(111)**
Jeongjin Kim^{1,2}, Jong Hun Kim^{1,2}, Bongjin Simon Mun³, Jeong Young Park^{1,2}
¹Institute for Basic Science, ²Korea Advanced Institute of Science and Technology, ³Gwangju Institute of Science and Technology
- ECP-1918 Chemical Doping of TiO₂ with Nitrogen and Fluorine and its Support Effect on Catalytic Activity of CO Oxidation**
Kalyan C. Goddeti^{1,2}, Sun Mi Kim^{1,2}, Young Keun Lee^{1,2}, Sang Hoon Kim³, Jeong Young Park^{1,2}
¹Institute for Basic Science, ²Graduate School of EEWS, Korea Advanced Institute of Science and Technology, ³Korea Institute of Science and Technology

- ECP-1983 Effect of Metal Oxides on the Catalytic Effect of a Mo-based Catalytic Glass**
Suyeon Choi, Bongki Ryu, Yeongseok Kim, Jonghwan Kim, Ilgu Kim, Jaeyeop Jung, Hyeonjoon Park
Pusan National University
- ECP-1990 Studies on the Effect of Addition of CeO₂ in Iron Phosphate Glass for Catalytic Application**
Jaeyeop Jung, Jonghwan Kim, Youngseok Kim, Ilgu Kim, Suyeon Choi, Hyunjoon Park, Bongki Ryu
Pusan National University
- ECP-2119 Catalytic Properties on the Effect of Addition of MoO₃ in V2O5-B2O3 Glasses**
Hyeon Joon Park, Young Seok Kim, Jong Hwan Kim, Il Gu Kim, Jae Yeop Jung, Su Yeon Choi, Bong Ki Ryu
Pusan National University
- ECP-2160 Characterization and Catalytic Properties of CeO₂ Powder in Silicate Glass Systems**
Jonghwan Kim¹, Youngseok Kim², Ilgu Kim¹, Bongki Ryu¹
¹*Pusan National University*, ²*LG Electronics*
- ECP-2389 Scaling Behavior of Al₂O₃ coated on Metal Foam at High Temperature/Cyclic Deformation Mode**
Taek-Kyun Jung¹, Myung-Sik Choi², Hyo-Soo Lee¹
¹*Korea Institute of Industrial Technology*, ²*Inha University*
- ECP-2744 Analysis of Proton Conductivity at Σ3 Tilt Grain Boundary in Barium Cerate using Density Functional Theory**
Jin-Hoon Yang¹, Byung-Kook Kim², Yeong-Cheol Kim¹
¹*Korea University of Technology and Education*, ²*Korea Institute of Science and Technology*
- ECP-2759 Facile Synthesis of Hollow Fe-N-C Hybrid Nanostructures for Oxygen Reduction Reaction in Polymer Electrolyte Membrane Fuel Cells (PEMFCs)**
Min Jung Park^{1,2}, Jin Hee Lee², Juhae Jung², Jaeyune Ryu², EunAe Cho², Suk-Woo Nam², Jin Young Kim², Chang Won Yoon^{1,2}
¹*Korea University of Science and Technology*, ²*Korea Institute of Science and Technology*

Thermoelectric Power Devices and Nanogenerators

Nov. 19, 2014 (Wed.)

EFP (Thermoelectric Power Devices and Nanogenerators)

Ramada Ballroom Lobby

Chair: Ju-Young Kim (Ulsan National Institute of Science and Technology)

08:00-10:00

- EFP-0211 The Effects of Bi on the Thermoelectric Properties of Mg₂Si-Mg₂Ge Solid Solutions**
Sin-Wook You, Dong-Kil Shin, Il-Ho Kim
Korea National University of Transportation

- EFP-0219 Thermoelectric Properties of Yb-filled CoSb₃ Skutterudites**
Dong-Kil Shin¹, Il-Ho Kim¹, Kwan-Ho Park², Won-Seon Seo²
¹Korea National University of Transportation, ²Korea Institute of Ceramic Engineering and Technology
- EFP-0856 Thermoelectric Properties of Si-based Multilayers with Various Ultra-thin Films**
Sin Young Kang, Kyoung Min Kim, Kyoung Wan Park
University of Seoul
- EFP-1087 Characteristic Evaluation on Cooling Performance of Thermoelectric Modules**
Sea Rom Seo¹, Seungwoo Han²
¹Chungnam National University, ²Korea Institute of Machinery and Materials
- EFP-1134 Analysis of Heat Conduction according to the Sealed Shape of Glass Edge**
Youngshin Kim, Eusik Jeon
Kongju National University
- EFP-1213 Flexible Transparent Graphene Triboelectric Nanogenerators**
Seongsu Kim, Manoj Kumar Gupta, Jeong Hwan Lee, Sang-Woo Kim
Sungkyunkwan University
- EFP-1215 The Generation of High-Power Single Direction Stress-Induced Dipole Alignment from ZnSnO₃ Nanocubes/Polymer Hybrid Piezoelectric Nanogenerator**
Sung Soo Kwak, Keun Young Lee, Suhyun Yoon, Sang-Woo Kim
Sungkyunkwan University
- EFP-1230 Effective Pressure-to-energy Conversion using Micro-structured Film based Piezoelectric Nanogenerator**
Hong-Joon Yoon, Han-Jun Ryu, Sang-Woo Kim
Sungkyunkwan University
- EFP-1235 Ferroelectric Coupling Effect on Energy Band Structure of Hybrid Photovoltaic Device with Self-Organized P(VDF-TrFE) Nanomatrixes**
Tae Yun Kim, Sang-Woo Kim
Sungkyunkwan University
- EFP-1269 Stretchable Piezoelectric-pyroelectric Hybrid Nanogenerator**
Ju-hyuck Lee, Wanchul Seung, Sang-Woo Kim
Sungkyunkwan University
- EFP-1448 Micro Power Generation of a Thermoelectric Thin Film Device using the Heat Dissipated by a High-Power Light-Emitting Diode**
Jae-Hwan Kim, Kang-Je Shin, Woo-Jun Kim, Tae Sung Oh
Hongik University

- EFF-1784** **Effects of Si Dopant on Thermoelectric Properties of InAs Nanowires**
Seong Gi Jeon¹, Jin Yu¹, Sang Jun Lee², Ji Eun Lee², Hyun Min Park², Jae Yong Song²
¹Korea Advanced Institute of Science and Technology, ²Korea Research Institute of Standards and Science
- EFF-1799** **Effects of Bi_{0.5}Na_{0.5}TiO₃ Dopant on Microstructure and Thermoelectric Properties of NaxCoO₂ Ceramics**
Suwapitcha Buntham, Sukanda Jiansirisomboon, Anucha Watcharapasorn
Chiang Mai University
- EFF-2370** **Atomic Layer-by-Layer Thermoelectric Conversion in Topological Insulator Bismuth/Antimony Tellurides**
Ji Ho Sung, Hoseok Heo, Inchan Hwang, Myung-Soo Lim, Donghun Lee, Kibum Kang, Hee Cheul Choi, Jae-Hoon Park, Seung-Hoon Jhi, Moon-Ho Jo
Pohang University of Science and Technology
- EFF-2570** **Flexible Single Crystalline PMN-PT Thin Film Nanogenerator and its Application for Self-powered Cardiac Pacemaker**
Jae Hyun Han, Geon-Tae Hwang, Keon Jae Lee
Korea Advanced Institute of Science and Technology
- EFF-2701** **Self-Powered Flexible Light-Emitting Device via Piezoelectric PZT Nanogenerator**
Dae Yong Park, Chang Kyu Jeong, Keon Jae Lee
Korea Advanced Institute of Science and Technology
- EFF-2998** **Thermoelectric Characterization of Bi₂Se₃ Nanowires Synthesized via Vapor-liquid-solid Growth**
Ho Sun Shin¹, Bacel Hamdou¹, Heiko Reith¹, Eckhard Pippel², Kornelius Nielsch¹
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Kang, Seunggu	DBP-1-0816(70), DBP-1-1388(71), DBP-1-1518(71), NDP-1418(116)	Kim, Bumjoon	S17-0781(43)
Kang, Shin-Won	EEP-1-0914(79), EEP-2-1929(105), NDP-0766(114)	Kim, Bum-Joon	MDP-2149(88)
Kang, Sin Young	EEP-0856(125)	Kim, Byeong Geun	NAP-1491(92)
Kang, Unseock	S14-0196(42)	Kim, Byoung-Joon	S24-2-2574(53)
Kang, Wenbin	S12-0454(38)	Kim, Byung Kyu	EC-2916(44)
Kang, Won-Seop	EBP-0589(100)	Kim, ByungGeol	NDP-1521(116)
Kang, Youngho	CDP-1370(109), CEP-0832(109), CEP-1417(110), MD-0501(37)	Kim, Byunghoon	S25-1-3223(57)
Kao, Mu-Jung	NDP-2061(117)	Kim, Byung-Kook	CCP-2797(84), ECP-2744(124)
Kato, Yoshihiro	S10-1542(21)	Kim, Byung-Woo	MDP-2149(88)
Kavehei, Omid	MF-1193(19)	Kim, Byungyeon	S25-1-3210(57)
Kawasaki, Megumi	NAP-0774(90)	Kim, Chan Woo	DCP-0182(72)
Kawazoe, Yoshiyuki	CEP-1379(110)	Kim, Chang-Bem	DAP-0172(96)
Ke, Jhong-Ciao	EEP-1-2898(81)	Kim, Chang-Eun	S18-0328(29)
Khan, F. Nawaz	EBP-0764(101), MDP-0792(86), EEP-1-0789(78)	Kim, Chang-Il	DDP-3018(121), EEP-1-2776(81), MDP-2857(88), MDP-2963(89), NAP-3019(95)
Khan, Muhammad Farooq	NDP-0134(114), NDP-0138(114), NDP-0139(114)	Kim, Chansoo	NA-2-0966(50)
Khan, Naveed A	EEP-1-1067(80), EEP-1-1079(80), EEP-1-1111(80)	Kim, Chanwoo	DCP-0183(72)
Khan, Sovann	CDP-0153(108), EEP-1-2822(81)	Kim, CheolGi	MEP-0276(111), MEP-0477(111), S22-1-1679(54)
Khoa, Nguyen Tri	NAP-0850(90)	Kim, Cheolgyu	DA-2978(40), MB-2933(20)
Khurelbaatar, Zagarzusem	NDP-1513(116)	Kim, Cheolmin	NA-2-0315(50)
Kibria, Md Golam	S14-0479(42)	Kim, Cheon Jung	MDP-1292(87), NDP-2436(117)
Kil, Yeon-Ho	NDP-1513(116)	Kim, Chul-Heung	S2-0618(17)
Kim, Areum	DCP-1013(73), EAP-1030(75), NAP-1040(91)	Kim, Chung-Gi	DCP-2287(73)
Kim, A-Young	EBP-1776(101)	Kim, Da Bin	ND-0943(52)
Kim, B. S.	S23-1-3293(58)	Kim, Dae-Hwan	EEP-1-0738(78), EEP-1-0842(79), EEP-2-2512(107)
Kim, Bae-Yeon	EAP-2761(76)	Kim, Dae-Hyeong	EEP-3319(126)
Kim, Bongseo	S8-3111(31)	Kim, Dae-Hyun	MAP-2244(64)
Kim, Bong-Seo	EF-0413(44), EF-0862(43)	Kim, Daeun	EAP-1030(75)
Kim, Buem Joon	DB-2235(24), NCP-2253(69)	Kim, Daseul	NA-2-0966(50), NDP-0957(115)
		Kim, Da-Seul	NA-2-0930(50)
		Kim, Deok-In	MDP-2172(88)
		Kim, Do Hyun	MBP-2-2872(85), NAP-2506(94),

	NDP-0658(114)	Kim, Heje	EE-1-1891(26)
Kim, Do-Hyun	NA-1-2444(33)	Kim, Hong Ki	NAP-0878(90)
Kim, Dong Hyun	EAP-2901(77)	Kim, Hong Seung	DAP-2937(98)
Kim, Dong Sung	EF-0493(44)	Kim, Hongdoo	DD-1161(41)
Kim, Dong Uk	NAP-3329(96)	Kim, Hong-Ki	MBP-1-1069(65), MBP-1-1165(65)
Kim, Donghwi	EAP-2633(76)	Kim, Hong-Seok	NAP-1720(93)
Kim, Dong-Ik	EC-2916(44), MEP-2521(113)	Kim, Hongsik	DAP-0189(96)
Kim, Dong-Soo	S3-2430(35)	Kim, Ho-Young	NCP-2860(70)
Kim, Dongwan	DBP-2-2499(99)	Kim, Hui Eun	NDP-1297(115)
Kim, Dong-Won	EAP-1848(75)	Kim, Hwijun	MEP-1905(112)
Kim, Doohun	EAP-2866(76)	Kim, Hye Jin	MDP-2452(88)
Kim, Duckjong	ND-0943(52)	Kim, Hyejin	NAP-2474(94)
Kim, Eui Jung	NAP-0850(90), NAP-0878(90)	Kim, Hyeonggyu	DA-2652(40), DD-2110(41), DD-2140(41)
Kim, Eui-Joong	DAP-1953(97)	Kim, Hyeong-Sik	NDP-1185(115)
Kim, Eun Ju	EEP-1-3231(82)	Kim, Hyo Jin	NA-2-0252(50)
Kim, Eun Kyu	EEP-2-2027(105)	Kim, Hyo-Joong	EEP-1-0711(78), EEP-1-0727(78), EEP-1-0771(78)
Kim, Eun Mi	DAP-2292(98), DAP-2294(98)	Kim, Hyongsuk	S2-2986(18)
Kim, Eung-Gun	S19-2945(48), S19-2945(48)	Kim, Hyoun Woo	MDP-1025(86), MDP-1091(86), MDP-1667(87), NAP-1057(91)
Kim, Eung-zu	NAP-0948(91)	Kim, Hyoung Seok	DE-0917(41)
Kim, Eun-Mi	NAP-2283(93), NAP-2286(94)	Kim, Hyoung-il	S14-1139(42)
Kim, Eun-Young	S21-3233(47)	Kim, Hyoung-Juhn	CCP-0372(83)
Kim, Gangeun	MDP-2452(88), NAP-2474(94)	Kim, Hyun	ED-1502(45)
Kim, Geonyang	EEP-1-0882(79)	Kim, Hyun Gi	DAP-2810(98)
Kim, Gun Woo	EAP-1858(75)	Kim, Hyun Jong	MDP-1182(86)
Kim, GwanTae	NDP-1521(116), NDP-1546(116)	Kim, Hyunah	ED-3033(45)
Kim, Gyeungho	DBP-1-2771(71)	Kim, Hyunchul	EAP-2633(76), S16-1653(24)
Kim, Haekyoung	S26-1-2464(55)	Kim, Hyunghoon	EEP-1-0795(79), MDP-0801(86)
Kim, Haidong	EEP-1-2792(81)	Kim, Hyungjun	CEP-3279(110), ND-1219(52), ND-1362(52), S19-0761(48), S19-0761(48)
Kim, Hak-Rin	DAP-1446(97)	Kim, Hyung-Jun	ND-2686(51)
Kim, Hangil	EEP-2-2176(106), MB-3030(20)	Kim, Hyun-Gyu	S24-2-2425(54)
Kim, Han-Jung	NCP-2603(69)	Kim, Hyun-Jong	ECP-0734(122), NAP-0750(90)
Kim, Han-Ki	EEP-1-0711(78), EEP-1-0727(78), EEP-1-0771(78)		
Kim, Hee Soo	EEP-2-1334(103)		
Kim, Hee-Je	EE-1-1354(26), EE-2-3257(27)		
Kim, Heeyun	NAP-0977(91)		

Kim, Hyun-Kyung	EBP-0478(100)	Kim, Jaekyung	DCP-1245(73)
Kim, Hyunmi	ND-1219(52)	Kim, Jaeup	S21-1487(47)
Kim, Hyun-Mi	MD-1206(36), NA-2-0438(50), NA-2-0778(50), NCP-2624(69), ND-1362(52), ND-2620(51), ND-2686(51)	Kim, Jaewon	EA-2-1651(46), EAP-1289(75), EE-2-1641(26)
Kim, Hyun-Seok	ND-2917(51)	Kim, Jaewoong	S23-2-3298(59)
Kim, Hyunsoo	DBP-1-2671(71), DBP-1-2847(72), MAP-2654(64)	Kim, Jang-Joo	S27-1-3193(60)
Kim, Hyun-Soo	EAP-0268(74), EAP-0406(74), EAP-0414(74)	Kim, Jee Seon	NBP-0939(67)
Kim, Ikhyun	DBP-2-2490(99)	Kim, Jehan	EEP-1-1190(80), EEP-2-1584(104)
Kim, Il Gu	DBP-2-1986(98), ECP-2119(124)	Kim, Jehyun	ME-1078(37)
Kim, Ilgu	ECP-1983(124), ECP-1990(124), ECP-2160(124)	Kim, Jemin	DBP-2-1694(98)
Kim, Il-Ho	EEP-0211(124), EFP-0219(125)	Kim, Jeong-Hwa	EEP-1-0890(79), EEP-1-0952(79)
Kim, Ill Won	NDP-1043(115)	Kim, Jeongjin	ECP-1911(123)
Kim, In Yea	EA-2-1912(46), EAP-2878(76), EAP-2882(76)	Kim, Jeongyong	NAP-2817(95), NAP-2826(95), NDP-2828(118), NDP-2894(118)
Kim, Inho	MF-1193(19)	Kim, Jeoung Woo	MA-2158(18)
Kim, J. H.	MA-2516(18)	Kim, Ji Young	DDP-0686(119)
Kim, Jae Hong	EEP-2-2260(106), EEP-2-2265(106), EEP-2-2267(107), EEP-2-2273(107)	Kim, Jihoon	DAP-0324(96), MD-0319(37), MDP-0357(86)
Kim, Jae Hyun	EBP-0741(100)	Kim, Jin Seo	MAP-0909(63)
Kim, Jae Ik	EE-2-1641(26)	Kim, Jin Soo	DBP-1-3020(72), DBP-2-2488(99), DBP-2-2490(99), DBP-2-2493(99), DBP-2-2494(99), DBP-2-2499(99), NDP-3031(118)
Kim, Jae Kwang	EAP-1030(75)	Kim, Jin Woong	S6-0870(49)
Kim, Jae Neung	DCP-2707(73)	Kim, Jin Young	ECP-2759(124)
Kim, Jae Nyeong	S23-1-3331(58)	Kim, Jin-Gyu	DB-2518(23)
Kim, Jaeho	EEP-1-0882(79)	Kim, Jin-Hoon	NA-1-2089(33)
Kim, JaeHong	EEP-2-2209(106), EEP-2-2216(106), EEP-2-2226(106), EEP-2-2241(106)	Kim, Jinhwan	NA-1-2032(34)
Kim, Jae-Hun	MDP-1667(87)	Kim, Jinsang	NAP-2826(95)
Kim, Jaehwan	NC-2735(32)	Kim, Jin-Sang	MD-3366(37)
Kim, Jae-Hwan	EEP-1448(125)	Kim, Jinseok	MDP-1292(87)
Kim, Jae-Hyun	DAP-1446(97), NA-2-0257(50)	Kim, Jinsik	MDP-2452(88), NAP-2474(94)
Kim, Jae-Kwan	DBP-2-2531(99)	Kim, Jinsoo	DDP-1038(120), EB-2689(46), EB-2890(46)
		Kim, Jin-Tae	DAP-1446(97), DBP-1-0310(70)
		Kim, Jinwan	DB-2576(23), DBP-1-2555(71),

	DBP-2-2546(100)	Kim, Jung Ho	EE-1-2380(26), S15-3044(25)
Kim, Jinwoon	DAP-0935(97)	Kim, Jung Hwan	NC-2070(32), ND-2109(51)
Kim, Ji-Su	CCP-2797(84)	Kim, Jung Sik	MDP-1889(87), NC-2070(32), ND-2109(51)
Kim, Jiwan	DEP-2779(121)	Kim, Jung Sub	EA-1-1950(28)
Kim, Jiwon	EFP-3175(126)	Kim, Jung-Gil	EAP-2168(76), S25-2-3244(57), S25-2-3248(57)
Kim, Jon Pil	EBP-0764(101)	Kim, Jung-Sik	MDP-2149(88)
Kim, Jong Hak	EAP-3314(77)	Kim, Jungyeon	NAP-1530(93)
Kim, Jong Hun	ECP-1911(123)	Kim, JunHo	EEP-2-1369(103), EEP-2-1434(103)
Kim, Jong Hwan	DBP-2-1986(98), ECP-2119(124)	Kim, Junmo	NAP-3019(95)
Kim, Jong Kyu	S10-3189(21)	Kim, Ju-Young	MDP-1682(87), ND-1702(51), NDP-1020(115), NDP-1686(116), NDP-1708(116), S24-2-2443(54)
Kim, Jong Min	MAP-0353(63), NC-2006(33), NC-2143(32), NCP-2073(69)	Kim, Kang O	MB-0550(21)
Kim, Jong Su	DBP-2-2488(99), DBP-2-2490(99), DBP-2-2493(99), DBP-2-2494(99), DBP-2-2499(99), EAP-1410(75)	Kim, Kang-Pil	EEP-1-0800(79), EEP-1-0890(79)
Kim, Jong Tae	EEP-2-2512(107)	Kim, Keun-Soo	NAP-0830(90)
Kim, Jong-Hee	NDP-1513(116)	Kim, Ki Chul	NAP-0756(90)
Kim, Jong-Hoon	MBP-1-1011(65)	Kim, Ki Hyun	DCP-2325(73)
Kim, Jonghwan	ECP-1983(124), ECP-1990(124), ECP-2160(124)	Kim, Ki-Bok	ECP-0228(122), MDP-2711(88)
Kim, JongMin	NDP-2050(117)	Kim, Ki-Bum	MD-1206(36), NA-2-0438(50), NA-2-0778(50), NCP-2624(69), ND-1219(52), ND-1338(52), ND-1362(52), ND-2620(51), ND-2686(51), S27-1-3148(60)
Kim, Jongryoul	MEP-2126(112), MEP-2162(112), MEP-2710(113), MEP-2715(113), MEP-2725(113)	Kim, Ki-Chul	NAP-0830(90)
Kim, JongSoo	MBP-2-2631(85)	Kim, Ki-Ju	NA-2-0438(50), NA-2-0778(50)
Kim, Jong-Young	NA-2-0252(50)	Kim, Ki-Sub	CDP-0129(107), NAP-2646(94), NDP-0126(114)
Kim, Joong Il	S25-1-3207(56)	Kim, Kisun	NCP-1151(68)
Kim, Joongwon	MDP-1320(87), MDP-1321(87)	Kim, Ki-won	EAP-2157(75), EBP-2106(101)
Kim, Joon-Soo	EEP-1-0874(79)	Kim, Kiyoon	EAP-2750(76), EAP-2761(76)
Kim, Joo-Yeon	EEP-1-3078(82)	Kim, Kunsu	DC-0824(23), EE-2-1641(26)
Kim, Ju Seong	EDP-2887(103)	Kim, Kun-Su	NA-2-1175(50)
Kim, Jun Min	EEP-2-2260(106), EEP-2-2267(107)	Kim, Kwang Ho	EFP-3218(126), MAP-0353(63)
Kim, Jun Sung	S28-2-3357(61)	Kim, Kwang-Bum	EAP-2750(76), EBP-0478(100),
Kim, Jun-Beom	MBP-1-0294(64)		
Kim, June-Bum	MBP-1-1011(65)		
Kim, June-Seol	S22-2-1594(55)		

	EBP-1647(101)	Kim, Myeonggi	MAP-1350(63)
Kim, Kwang-Ho	EEP-1-3231(82)	Kim, Myeong-Ho	DD-0462(41), DDP-3294(121), MDP-2764(88)
Kim, Kwang-Seok	DA-2278(40), DB-2800(23), MB-2991(20)	Kim, Myung Hwa	EDP-1512(102)
Kim, Kwangyoon	EEP-1-2007(81)	Kim, Myung Ju	NCP-2557(69)
Kim, Kye Yeop	CFP-0804(84), CFP-0804(84)	Kim, Myung-Min	DDP-2746(120), DDP-2784(120)
Kim, Kyeong Nam	NDP-1020(115), NDP-1043(115)	Kim, Nam-Seog	MBP-1-1011(65)
Kim, Kyeounghak	CCP-1872(84)	Kim, Na-Rae	MDP-3173(89)
Kim, Kyongmin	DAP-0935(97)	Kim, Richard Hahnkee	DAP-2165(97)
Kim, Kyoung Min	EFF-0856(125)	Kim, S. W.	MA-2516(18)
Kim, Kyung Hwan	DCP-1479(73)	Kim, Sae-Wan	NDP-0766(114)
Kim, Kyung Rok	S4-1674(36)	Kim, Sang Hoon	ECP-1749(123), ECP-1918(123), NAP-2506(94), NAP-2743(94)
Kim, Kyungchul	ECP-1762(123)	Kim, Sang Ouk	EBP-3076(102), EEP-1-3094(82), NAP-3091(95), NCP-3079(70), NCP-3086(70), S5-0409(30)
Kim, Kyunghwan	ECP-0995(122)	Kim, Sang Sub	MDP-1667(87)
Kim, Kyung-Hyun	CDP-0898(108), DDP-0949(119), DDP-0967(119), DEP-1055(121)	Kim, Sang Woo	NDP-1043(115)
Kim, Kyungnam	NAP-1313(92)	Kim, Sangdeok	MB-3022(20)
Kim, Kyurin	DBP-1-2847(72)	Kim, Sangho	EEP-2-1921(105)
Kim, MaengJun	EEP-1-0123(77)	Kim, Sanghoon	ME-1078(37)
Kim, Man-Ho	NAP-2743(94)	Kim, Sangin	MDP-2865(89)
Kim, Mansu	DCP-2700(73)	Kim, Sangjo	DDP-0426(119), DDP-0597(119)
Kim, Mee-Ri	NAP-0830(90)	Kim, Sang-kon	CEP-1028(109)
Kim, Min Gyu	NCP-1180(68)	Kim, Sang-Min	NA-2-0257(50)
Kim, Min Jung	EEP-1-2792(81), NBP-2863(68)	Kim, Sangouk	NAP-3085(95)
Kim, Min Su	DBP-2-2488(99), DBP-2-2490(99), DBP-2-2493(99), DBP-2-2494(99), DBP-2-2499(99), NAP-2817(95), NAP-2826(95), NDP-2828(118), NDP-2894(118)	Kim, Sangwoo	DA-2659(40), S12-3108(38)
Kim, Min Sung	DA-2978(40), MB-2933(20)	Kim, Sang-Woo	EFF-1213(125), EFF-1215(125), EFF-1230(125), EFF-1235(125), EFF-1269(125), NAP-1229(92), NAP-1275(92), NDP-1020(115), S15-3358(25), S28-1-3359(61)
Kim, Minho	CEP-3279(110)	Kim, Se Hyun	DA-0187(40)
Kim, Min-Ho	MDP-3058(89)	Kim, Seil	NDP-1146(115), NDP-1185(115)
Kim, MinSun	EBP-0741(100)	Kim, Seon Hee	EEP-1-2792(81)
Kim, Miso	S26-2-2680(56)	Kim, Seong In	ND-2109(51), S25-1-3182(56),
Kim, Mok-Hwa	EBP-0478(100), EBP-0589(100), EBP-1647(101)		

	S25-1-3207(56), S25-1-3210(57)		MEP-2262(113)
Kim, Seong Keun	MDP-1682(87), MF-1193(19)	Kim, Sung Soo	DAP-2810(98)
Kim, Seong Yeoul	NDP-0815(114)	Kim, Sung Su	EBP-1270(101)
Kim, Seong-Il	NAP-1530(93)	Kim, Sung Youb	S21-0251(47)
Kim, Seong-In	EAP-2168(76), S25-2-3238(57), S25-2-3244(57), S25-2-3248(57)	Kim, Sung-Dai	DBP-1-0310(70)
Kim, Seongjun	MAP-2654(64)	Kim, Sung-Ho	S4-1674(36)
Kim, Seongsu	EFP-1213(125)	Kim, Sung-Hoo	DDP-2746(120)
Kim, Seong-Woong	S24-2-2425(54)	Kim, Sung-Hyuk	MBP-1-0294(64)
Kim, SeongYeon	EEP-2-1369(103), EEP-2-1434(103)	Kim, SungJae	MDP-2115(87)
Kim, Seon-Min	EAP-0414(74)	Kim, Sungjoo	DCP-2156(73)
Kim, Serena	NA-2-0966(50)	Kim, Sungjun	DC-2135(23)
Kim, Seungchul	CDP-0153(108), CDP-0749(108), CDP-0755(108), EA-1-1457(27)	Kim, Sung-Soo	EAP-1405(75), EAP-1410(75)
Kim, Seungcho	S13-0573(39)	Kim, Sunjung	EA-2-0553(46), MB-0550(21)
Kim, Seung-Hyun	MBP-1-1011(65)	Kim, Sun-Young	CDP-0129(107), NDP-0126(114)
Kim, Seungtae	ECP-0996(122)	Kim, T.W.	DC-3156(22)
Kim, Shae K.	NAP-1074(91)	Kim, Tae Hyung	NAP-0441(90)
Kim, Shin-Hyun	S11-0240(22)	Kim, Tae Wan	DBP-1-0568(70)
Kim, Shin-Ik	MEP-1366(111)	Kim, Tae Whan	DCP-2325(73)
Kim, Si-Dong	MDP-2149(88)	Kim, Tae Yoo	EAP-1405(75)
Kim, Si-Hoon	NDP-1708(116)	Kim, Tae Yun	EFP-1235(125)
Kim, Soo Kyoung	EE-2-3257(27)	Kim, Taegeun	DEP-3080(121)
Kim, Soo Young	NA-2-0315(50), S28-2-3348(61)	Kim, Tae-Ho	NAP-1229(92)
Kim, Soohyun	MDP-0141(85), MDP-0304(86)	Kim, Taehoon	DA-2652(40), DD-2110(41), DD-2140(41), S12-3108(38)
Kim, Soo-Hyun	EEP-2-2176(106), MB-3022(20), MB-3030(20)	Kim, Taek Sung	NDP-1513(116)
Kim, Soo-Kil	CCP-0372(83)	Kim, Taek-Soo	DA-2978(40), MB-2933(20), S24-1-2867(53)
Kim, Soon Wook	NAP-0850(90), NAP-0878(90)	Kim, Taemin	S28-2-3348(61)
Kim, Soonhyun	EBP-0741(100)	Kim, Tae-Sik	MF-1435(19)
Kim, Su Hyo	MD-2692(36), ND-1424(51)	Kim, Taewan	MEP-2848(113), S25-1-3210(57)
Kim, Sun Mi	ECP-1813(123), ECP-1918(123), S7-1703(49)	Kim, Taewhan	EAP-2633(76)
Kim, Sunbo	EEP-2-1917(105), EEP-2-1925(105)	Kim, Tae-Won	EE-1-3161(25), EE-1-3165(25)
Kim, Sun-Chul	MB-1976(21), MBP-2-1967(85)	Kim, Taewoo	EDP-0985(102), NAP-0975(91), NAP-0987(91)
Kim, Sung Jae	MEP-2098(112), MEP-2147(112),	Kim, Tae-Wook	S9-3355(58)
		Kim, Taeyueb	MEP-1366(111)

Kim, Whangi	DAP-1010(97), ECP-0995(122), ECP-0996(122), ECP-1762(123)	Kim, Young Chul	DCP-2700(73), DCP-2707(73)
Kim, Won Jong	NBP-0829(67), S11-3066(22)	Kim, Young Keun	MD-2692(36), NB-2410(32), ND-1424(51), S22-2-2714(55), S22-2-2854(55)
Kim, Won June	CBP-3281(107)	Kim, Young Kuk	EEP-2-1554(104)
Kim, Won Keun	DEP-2779(121)	Kim, Young Kwan	DCP-0182(72), DCP-0183(72), DCP-0696(72)
Kim, Won Mok	CDP-0514(108), CDP-0530(108)	Kim, Young Min	MB-2088(20)
Kim, Woochul	S23-2-3301(59)	Kim, Young Rock	EEP-2-2260(106), EEP-2-2265(106)
Kim, Woo-Jun	EFF-1448(125)	Kim, Young Seok	ECP-2119(124)
Kim, Woong	EBP-0532(100), EBP-0589(100), NB-2410(32)	Kim, Young Sik	DCP-0841(72), DCP-0845(72)
Kim, Yang-Do	MEP-2204(112), NAP-1391(92), EEP-2-1554(104)	Kim, Young-Cheon	ND-1702(51), NDP-1708(116), S24-2-2443(54)
Kim, Yanghoo	MEP-2521(113)	Kim, Young-Gon	MDP-3058(89)
Kim, Yeon Sung	EE-2-1155(27), NBP-0919(67)	Kim, Younggyu	DBP-2-2493(99), DBP-2-2494(99)
Kim, Yeong-Cheol	CCP-2797(84), ECP-2744(124)	Kim, Young-Ho	MB-1976(21), MB-2088(20), MB-2322(20), MBP-2-1967(85), NA-1-2009(34)
Kim, Yeongseok	ECP-1983(124)	Kim, Youngkuk	NAP-1391(92)
Kim, Yong Bae	EEP-2-2195(106)	Kim, Young-Kuk	NAP-1422(92)
Kim, Yong Hun	MAP-2706(64)	Kim, Young-Min	DB-2518(23), MBP-2-1967(85)
Kim, Yong Hyun	DA-0187(40)	Kim, YoungRock	EEP-2-2209(106), EEP-2-2216(106)
Kim, Yong Hyup	EB-2890(46)	Kim, Young-Rok	ND-1338(52)
Kim, Yong Jeong	EC-2836(44)	Kim, Youngseok	ECP-1990(124), ECP-2160(124)
Kim, Yong Joo	NC-1850(33)	Kim, Youngshin	EFF-1134(125)
Kim, Yong Tae	MAP-2033(63)	Kim, Youngsun	DEP-1374(121)
Kim, Yong Yeon	DBP-2-2531(99)	Kim, Yu Jin	S22-2-2714(55)
Kim, Yongduk	S25-1-3210(57)	Kim, Yu-Jin	MA-1885(19)
Kim, Yong-Ho	MEP-0518(111)	Kim, Yun Ji	NA-1-2357(33)
Kim, Yonghun	ND-1810(51)	Kim, Yun-Hi	DDP-0262(119)
Kim, Yong-Hwan	S25-1-3182(56)	Kim, Yun-Hyun	S25-2-3244(57)
Kim, Yong-Hyun	CEP-1049(110), EEP-1-0926(79), NAP-1313(92), S21-1731(47)	Kim, Yunok	EA-1-2634(28), S16-1653(24)
Kim, Yongil	ECP-0228(122), MB-2590(20)	Klaui, Mathias	S22-2-1594(55)
Kim, Yong-Il	MDP-2711(88)	Kluge, Sebastian	EBP-0427(100)
Kim, Yong-Seog	DA-3007(40), DC-2929(23)	Km, Young-ho	MBP-1-0305(65)
Kim, Yong-Su	MDP-2865(89)	Ko, Byoung-Soo	EEP-1-1158(80)
Kim, Yoon-Hyun	S25-2-3248(57)		
Kim, You Seok	DEP-3080(121)		

Ko, D. H.	MA-2516(18)		NAP-1525(93), NCP-1397(68)
Ko, Dae-Hong	MAP-2244(64)	Kornijcuk, Vladimir	MF-1193(19), MF-1285(19)
Ko, Doo-hyun	DAP-2437(98)	Kramer, Matthew J	S3-0197(35)
Ko, Eun-Hye	EEP-1-0711(78), EEP-1-0727(78), EEP-1-0771(78)	Kreyszig, Andreas	ME-1095(38)
Ko, HangJoo	MDP-2115(87)	Kroener, Michael	S8-2972(31)
Ko, Hyungduk	DAP-2437(98)	Kröner, Michael	S8-0555(31)
Ko, Jae-Hyeon	EEP-1-0926(79), NAP-1313(92)	Kruea-In, Chatchai	MBP-1-3206(66)
Ko, Jeonghyun	CCP-1845(83)	Ksapabutr, Bussarin	EBP-2301(101), EDP-2250(103)
Ko, Kyul	ND-2917(51)	Kuchi, Rambabu	MEP-2132(112)
Ko, Min-Kwan	MB-2590(20)	Kuddus Sheikh, Md. Abdul	EEP-1-0705(78)
Ko, RockKil	NDP-1521(116), NDP-1546(116)	Kumar, Ashvani	ND-1362(52)
Ko, Seok-Cheol	MD-0319(37)	Kumar, Y. Suneel	MDP-0792(86)
Ko, Tae-Jun	NAP-2439(94), NCP-2502(69)	Kumar, Yadevalli Suneel	EEP-1-0789(78)
Ko, Young Gun	EE-2-1155(27), NBP-0919(67)	Kuo, Chin-Guo	MDP-2018(87)
Ko, Young-ju	MB-1976(21)	Kwack, Young-Jin	DDP-0656(119)
Ko, Young-Seon	NBP-2449(67), NBP-2457(67)	Kwak, Dong-Kyu	ND-2686(51)
Ko, Young-wook	S25-2-3238(57)	Kwak, H Shaun	S20-0169(29)
Koh, Wonyong	MA-1885(19)	Kwak, H. Shaun	S18-0299(28), S20-0300(30)
Kojda, Danny	S8-0555(31), S8-2972(31)	Kwak, Junghyeok	NAP-0348(90)
Kolesnikov, Alexander	S22-1-3060(54)	Kwak, Rhokyun	NDP-1340(115)
Kolthammer, Joseph	ME-2629(37)	Kwak, Suk-Chul	EC-2916(44)
Kominami, Hiroshi	NAP-1436(92), S7-1451(49)	Kwak, Sung Soo	EEP-1215(125)
Komogortsev, Sergey	S22-2-3059(55)	Kwon, Dong Yuel	DCP-0841(72), DCP-0845(72)
Kong, Ki Chun	EAP-2901(77)	Kwon, Hae-Woong	MEP-2204(112), S3-3250(35)
Kong, Kijeong	S8-3111(31)	Kwon, Hyouk-Chon	NDP-1861(117), NDP-1867(117)
Kong, Ki-jeong	S23-2-2684(59)	Kwon, Hyuck-In	DDP-0967(119), DDP-1817(120)
Koo, Bon Heun	MEP-2098(112), MEP-2147(112), MEP-2262(113), MDP-2115(87)	Kwon, Hyuck-In	DEP-1055(121)
Koo, Eunhae	CDP-2642(109), CEP-2637(110)	Kwon, Hyuk-Min	MAP-2244(64)
Koo, Hyun Cheol	MEP-0466(111), MEP-1366(111)	Kwon, HyukSang	MAP-3053(64), MB-3048(20), MBP-2-2631(85)
Koo, Jae Bon	DAP-0701(97), DAP-1900(97), S13-1804(39)	Kwon, Hyunguk	CCP-1863(83)
Koo, Ja-kyung	ECP-1622(123)	Kwon, Ki Chang	NA-2-0315(50), S28-2-3348(61)
Koo, Ji-Hoon	ECP-0162(122)	Kwon, Min-Su	EEP-2-2176(106)
Koo, Sang-Mo	DDP-1789(120), EEP-2-1281(103),	Kwon, Sang Jik	EEP-2-1722(104), NAP-1720(93)
		Kwon, Seok Joon	EE-2-1588(27), S21-1586(47)
		Kwon, Soon Hyeong	DCP-1013(73)

Kwon, Taehoon	EAP-0536(74)	Lee, Changgu	NA-2-0252(50)
Kwon, Yong Jung	MDP-1025(86), MDP-1091(86), NAP-1057(91)	Lee, Changhwan	EEP-2-2002(105)
Kwon, Yongwoo	DA-3007(40)	Lee, Chan-Woo	S18-0636(29)
Kwon, Young-Kyun	MCP-1873(66)	Lee, Charles	S25-1-3207(56)
Kwon, Young-Tae	NDP-1185(115)	Lee, Cheul Ro	NDP-3031(118), DBP-1-3020(72)
		Lee, Chi Hwan	EEP-2-2260(106), EEP-2-2265(106)
		Lee, ChiHwan	EEP-2-2209(106), EEP-2-2216(106)
		Lee, Chi-Hwan	NDP-1867(117)
		Lee, Chiyoung	MAP-1350(63), MBP-1-0523(65)
		Lee, Chongmu	MDP-0141(85), MDP-0304(86)
		Lee, Choong-Kwang	NA-2-0257(50)
		Lee, Chul-Ho	S28-1-3337(61)
		Lee, Da Young	DBP-1-1346(71)
		Lee, Deuk Yeon	ND-2109(51), S25-1-3182(56)
		Lee, Deuk Yong	EDP-0236(102)
		Lee, Do Kyoung	EEP-2-2273(107)
		Lee, Do Kyung	EEP-2-2273(107), MEP-2272(113)
		Lee, Doh C.	NAP-1313(92)
		Lee, Dohyung	NAP-1275(92)
		Lee, Do-Joong	MD-1206(36), NA-2-0438(50)
		Lee, DoKyung	EEP-2-2216(106)
		Lee, Dong Ic	DAP-0701(97)
		Lee, Dong Jae	NBP-1258(67)
		Lee, Dong Nyung	DB-2518(23), MEP-2521(113)
		Lee, Dong Uk	EEP-2-2027(105)
		Lee, Dongheon	MD-0501(37)
		Lee, Donghun	EEP-2370(126), S28-1-3373(61)
		Lee, Dong-Jin	MDP-3056(89)
		Lee, Dong-Seon	S10-1542(21)
		Lee, Dong-Yeol	EBP-0475(100)
		Lee, Duk Haeng	EEP-1-3231(82)
		Lee, Eok Kyun	CBP-3281(107)
		Lee, Eui-Sup	CEP-1049(110)
		Lee, Eun Jin	EEP-2-1554(104)
		Lee, Eung-Sug	NCP-2603(69)
		Lee, Eunjin	NAP-1391(92)
Lai, Chun-Feng	DBP-2-2513(99)		
Lan, Chou-Wei	NDP-2061(117)		
Le, Anh Huy Tuan	EEP-2-1921(105), EEP-2-1925(105)		
Le, Quoc Bao	EEP-2-2216(106)		
Le, Quyet Van	NA-2-0315(50)		
Le, The Son	NBP-2457(67)		
Le Kim, Trang Huyen	NBP-0939(67)		
Lebegue, Sebastien	S19-3305(48), S19-3305(48)		
Lee, A.R.	DC-3156(22)		
Lee, Ae Na	EEP-1-3220(82), EEP-2-1467(104)		
Lee, A-Ran	EAP-0422(74)		
Lee, A-Ri	EE-1-3165(25)		
Lee, Beom-Seok	MDP-2857(88)		
Lee, Bo Seul	DBP-1-0568(70)		
Lee, Boram	CEP-2616(110)		
Lee, Brian	S25-2-3238(57)		
Lee, Byeongmoon	DA-2659(40), DA-2668(40)		
Lee, Byeong-Rok	MBP-1-0294(64)		
Lee, Byoung Hun	EEP-2-1960(105), EEP-2-2014(105), MA-2011(18), MA-2041(18), MAP-2706(64), MD-2042(36), NA-1-2357(33), ND-1810(51)		
Lee, Byunggwan	EBP-0471(100), EBP-2211(101)		
Lee, Byungho	EE-2-1641(26), EEP-1-0645(78)		
Lee, Byungju	EB-2689(46)		
Lee, Chanbin	DAP-2937(98)		
Lee, Chang Hwan	ECP-1813(123)		
Lee, Chang Hyoung	EBP-1270(101)		

Lee, Ga-Won	MA-2158(18)	Lee, Hyun Jun	NAP-0887(90)
Lee, Geon Hyeong	DCP-0841(72), DCP-0845(72)	Lee, Hyunjoo	S7-0231(48)
Lee, Geon-Woong	S5-1745(30)	Lee, Hyunjung	NDP-3031(118), S26-2-2563(56)
Lee, Gwan-Hyoung	DE-3144(41)	Lee, Hyun-Jung	MB-3022(20)
Lee, Gyu-Tae	MEP-2126(112), MEP-2162(112), MEP-2710(113), MEP-2715(113)	Lee, HyunSeok	EAP-2568(76), EAP-2750(76), EAP-2761(76)
Lee, H. W.	S23-1-3293(58)	Lee, Hyunsuk	EAP-0536(74)
Lee, Hae Moo	ECP-0228(122)	Lee, Ilbok	EAP-1030(75)
Lee, Haeshin	S25-2-3228(57)	Lee, Ilhwan	DC-2135(23)
Lee, Hayoon	S13-0573(39)	Lee, In-Geun	MAP-2244(64)
Lee, Hee Chul	DAP-1170(97), EAP-1240(75), MDP-1182(86), NDP-1415(115)	Lee, InJoon	MDP-2865(89)
Lee, Hee-Woong	EF-0413(44), EF-0862(43)	Lee, J. E.	S23-1-3293(58)
Lee, Heon	EDP-1512(102)	Lee, J. K.	S23-2-2684(59)
Lee, Heon Ju	ED-1794(45), NCP-2833(70)	Lee, J. M.	MA-2516(18)
Lee, Ho Jun	EBP-0475(100)	Lee, Jae Uk	NC-2070(32), ND-2109(51)
Lee, Ho Nyun	ECP-0734(122), MDP-1182(86)	Lee, Jae Won	EDP-1512(102)
Lee, Ho Seong	EEP-1-0795(79), MDP-0801(86)	Lee, Jae Woo	DCP-0696(72)
Lee, Ho Won	DCP-0182(72), DCP-0183(72), DCP-0696(72)	Lee, Jae-Chan	MDP-3173(89)
Lee, Ho-Nyun	NAP-0750(90)	Lee, Jaechul	CDP-0965(109)
Lee, Hoo-Jeong	EF-0788(44), NAP-2844(95)	Lee, Jaegab	DAP-0529(96), EEP-1-0705(78), MAP-1350(63), MBP-1-0523(65), NCP-1342(68), S1-3264(17)
Lee, Hwackjoo	NDP-3400(118), NDP-3401(118)	Lee, Jae-Ho	ECP-1622(123), EDP-1617(102), MBP-2-1620(85)
Lee, Hwa-Yong	DA-3007(40), DC-2929(23)	Lee, Jae-Hun	MEP-1299(111)
Lee, Hye Jung	NCP-1180(68)	Lee, Jaehyeong	EEP-2-1925(105), NAP-3266(96), NAP-3329(96)
Lee, Hye Ri	EAP-0417(74)	Lee, Jaehyun	S13-0573(39)
Lee, Hyejin	EA-1-2634(28)	Lee, Jaemyeon	S12-3108(38)
Lee, Hye-Min	EEP-1-0711(78), EEP-1-0727(78), EEP-1-0771(78)	Lee, Jae-Sung	EEP-1-0914(79), NDP-0766(114)
Lee, Hyeong-Rag	EEP-1-0123(77), EEP-1-1190(80), EEP-2-1584(104)	Lee, Ja-Min	DCP-2287(73)
Lee, Hyo-Soo	ECP-2389(124), NAP-1275(92), NDP-1838(116)	Lee, Jang-Ju	DAP-2883(98)
Lee, Hyosug	S16-2347(24)	Lee, Ja-Yeon	MB-1976(21)
Lee, Hyosun	ECP-1749(123), ECP-1813(123), EEP-2-2002(105)	Lee, Jea Uk	NAP-2921(95)
		Lee, Jeong Hoon	MDP-1292(87), MDP-2452(88), NAP-2474(94), NDP-1340(115),

	NDP-2436(117)	Lee, Joohee	CAP-0895(82), CAP-1335(82), S20-1593(30)
Lee, Jeong Hwan	EFF-1213(125)	Lee, Joong Kee	DAP-1953(97), DDP-1984(120), EA-1-1947(28), EA-1-1950(28), EAP-1848(75), EAP-1855(75)
Lee, Jeong Hyun	MBP-1-1165(65)		
Lee, Jeong-Hyun	MBP-1-1069(65)		
Lee, Jeongmin	NAP-1720(93)	Lee, Joongkee	EBP-1776(101)
Lee, Jeongno	DEP-2779(121)	Lee, Joo-Sin	ECP-0159(122), ECP-0162(122)
Lee, Jeongyeon	EAP-1855(75)	Lee, Ju Min	EEP-1-3094(82)
Lee, Jeongyeop	MB-3022(20)	Lee, Jubok	NAP-2817(95), NDP-2828(118), NDP-2894(118)
Lee, Ji Eun	EFP-1784(126), NDP-1767(116)		
Lee, Ji Ung	S4-0167(35)	Lee, Ju-hyuck	EFF-1269(125)
Lee, Ji Young	DBP-1-0568(70)	Lee, Jun Bae	NBP-1258(67)
Lee, Jieun	EAP-1848(75)	Lee, Jung Hye	NC-2143(32)
Lee, Ji-Eun	EF-0413(44), EF-0862(43), NAP-1491(92)	Lee, Jung Woo	EAP-1405(75)
Lee, Ji-Hwan	CCP-1116(83)	Lee, Jung-Goo	MEP-2204(112), S3-2430(35), S3-3250(35)
Lee, Jihye	EEP-1-2792(81), MD-2358(37), MDP-2154(88), NBP-2863(68), NCP-2603(69)	Lee, Jung-Ho	NCP-1397(68)
Lee, Ji-Hyun	MBP-2-1967(85)	Lee, Jung-Il	DBP-1-0568(70), MEP-0561(111)
Lee, Ji-Myon	DBP-2-2531(99)	Lee, Jung-Woo	DBP-1-0793(70), MEP-1299(111)
Lee, Jin Hee	ECP-2759(124)	Lee, Jun-Kyu	EEP-1-0874(79)
Lee, Jin Hong	DBP-1-3020(72)	Lee, Junwoo	MDP-1292(87), NDP-2436(117)
Lee, Jin Su	EEP-1-1135(80), EEP-1-1176(80)	Lee, Jun-Yeob	S10-1542(21)
Lee, Jinh yuk	S27-2-3099(60)	Lee, Kang Hyuck	NAP-1229(92)
Lee, JinJu	MDP-3270(89)	Lee, Kang Min	EE-2-1155(27), NBP-0919(67)
Lee, Jin-Seok	EEP-1-0874(79)	Lee, Kang Soo	EA-2-1912(46), EAP-2878(76), EAP-2882(76)
Lee, Jong Geol	DAP-2810(98)	Lee, Kang-Bong	EEP-1-2792(81)
Lee, Jongbeom	MCP-0367(66), NAP-2313(94)	Lee, Keon Jae	EFF-2570(126), EFF-2701(126), MBP-2-2872(85), NAP-2699(94), S10-0201(21), S15-0155(25)
Lee, Jong-Bum	NAP-1074(91)		
Lee, Jong-Ho	DDP-1817(120), S2-0618(17)	Lee, Keun Young	EFF-1215(125), NDP-1020(115)
Lee, Jong-Hyun	MBP-1-0380(65)		
Lee, Jongkyu	EBP-2211(101)	Lee, Keunho	S24-1-2673(53)
Lee, Jong-Lam	DB-2235(24), DBP-2-2055(99), DC-2135(23), DCP-2156(73), EE-1-2184(26), EEP-2-2264(106), MDP-2249(88), NCP-2253(69)	Lee, Ki Sun	NAP-2646(94)
		Lee, Kidan	ND-2620(51)
		Lee, Ki-Dan	ND-2686(51)
Lee, Joo Yul	EEP-1-3231(82), EFP-3175(126)	Lee, Kilbuck	EEP-2-2221(106)

Lee, Ki-Tae	ECP-0162(122)	Lee, Myung-Jin	NCP-1151(68)
Lee, Kuan-Wei	EEP-1-2898(81)	Lee, Na-Ri	MBP-1-2405(66)
Lee, Kwang-Don	EEP-1-0914(79), EEP-2-1929(105)	Lee, Pooi See	DA-2672(40), S12-0454(38)
Lee, Kwang-Pill	EEP-1-0914(79), EEP-2-1929(105)	Lee, Sang Hee	EEP-1-0605(77), EEP-1-0962(80)
Lee, Kwang-Ryeol	CCP-0820(83), CDP-0153(108), CDP-0749(108), CDP-0755(108), EA-1-1457(27), NDP-2536(117)	Lee, Sang Jun	EEP-1784(126)
Lee, Kwangyeol	DBP-2-2460(99)	Lee, Sang Kyung	EEP-2-2014(105), MA-2011(18), MA-2041(18), NA-1-2357(33)
Lee, Kwanhoon	DBP-2-1694(98)	Lee, Sang Seok	DAP-0701(97), DAP-1900(97)
Lee, KwanHun	MBP-2-2598(85)	Lee, Sang Wha	NBP-1773(67)
Lee, Kwanjae	DBP-1-3020(72), NDP-3031(118)	Lee, Sang Yeon	MAP-0909(63)
Lee, Kwan-Young	CCP-1833(83)	Lee, Sangchul	MA-2011(18), MA-2041(18), ND-1810(51)
Lee, Kyoung Su	EEP-2-2027(105)	Lee, Sangheon	EAP-1289(75), EE-2-1641(26), EEP-1-0645(78), S18-0799(28)
Lee, Kyu Hwan	EEP-3218(126)	Lee, Sang-Ju	EEP-2-2512(107)
Lee, Kyu-Dong	NCP-1151(68)	Lee, Sangmin	S15-1084(25)
Lee, Kyuha	EA-1-1947(28)	Lee, Sang-Min	EAP-0414(74), MDP-2963(89)
Lee, Kyu-Hang	EAP-2168(76), S25-2-3244(57), S25-2-3248(57)	Lee, Sangwha	EAP-1858(75), EAP-2376(76), NAP-2375(94)
Lee, Kyu-Hwan	EEP-1-3231(82)	Lee, Sang-Won	EEP-1-0914(79), EEP-2-1929(105), NDP-0766(114)
Lee, Kyuhyoung	S23-1-3290(59)	Lee, Sang-Woo	DAP-0172(96)
Lee, Kyuhyun	CAP-0895(82), S20-1593(30)	Lee, Sang-Youn	DD-0462(41)
Lee, Kyungjae	DB-2576(23), DBP-1-2555(71), DBP-2-2546(100)	Lee, Sangyoung	ECP-0995(122)
Lee, Kyungmin	DD-1161(41)	Lee, Seockheon	ED-1794(45), NCP-2833(70)
Lee, Kyung-Min	CEP-1919(110)	Lee, Seon Jea	DCP-1013(73)
Lee, Kyuseung	DBP-1-2771(71), NC-2735(32)	Lee, Seoung-Q	EEP-1-3078(82)
Lee, Malrey	CEP-2616(110)	Lee, Seul Bee	DCP-0182(72), DCP-0183(72)
Lee, Mijung	DDP-0408(119), S26-1-3124(55)	Lee, Seung Cheol	EC-1888(45)
Lee, Minbaek	EEP-3319(126)	Lee, Seung Min	NC-2070(32), ND-2109(51)
Lee, Min-Hyun	NA-2-0438(50)	Lee, Seung Muk	NAP-1894(93), NDP-0973(115)
Lee, Min-jae	EAP-2157(75), EBP-2106(101)	Lee, Seung Rok	MEP-2147(112)
Lee, Moonsuk	DDP-0597(119)	Lee, Seung Yong	EEP-1-2822(81)
Lee, Moonwon	S25-1-3223(57)	Lee, Seung-Cheol	EC-1937(45)
Lee, Myongssoo	S6-1598(49)	Lee, Seunghak	ED-1794(45)
Lee, Myoung-Sun	S2-0618(17)	Lee, Seung-Hwan	MBP-1-1069(65), MBP-1-1165(65)
Lee, Myoung-Hyun	EDP-0236(102)		

Lee, Seung-Hyoun	EE-1-3161(25), EE-1-3165(25)	Lee, Wan-Gyu	MA-2158(18)
Lee, Seung-Joon	MB-3022(20)	Lee, Won Young	S25-2-3239(57)
Lee, Seung-Mo	MD-2358(37), NA-2-0257(50)	Lee, Won-Jun	MA-1885(19), MAP-1883(63), MCP-1873(66), NDP-1879(117)
Lee, Seung-Yoon	EE-2-1759(26)	Lee, Wonjune	DAP-1173(97), S1-1315(17)
Lee, Siwon	EC-1284(44)	Lee, Wonoh	NAP-2921(95)
Lee, Song Eun	DCP-0696(72)	Lee, Wontae	EAP-2633(76)
Lee, Soo Hong	EEP-1-0605(77), EEP-1-0962(80)	Lee, Woojin	EE-2-1759(26)
Lee, Soogil	ME-1078(37)	Lee, Wookbin	DBP-2-2499(99)
Lee, Soonho	ECP-0995(122), ECP-0996(122), ECP-1762(123)	Lee, WooYoung	MBP-2-2598(85)
Lee, So-Young	NAP-2844(95)	Lee, Ye-ji	EAP-3027(77)
Lee, Su Yeon	MDP-1182(86)	Lee, Yeonhee	EEP-1-2792(81), NBP-2863(68)
Lee, Subin	NBP-2958(68)	Lee, Yong Wook	MDP-0357(86)
Lee, Su-Han	MDP-2154(88), NCP-2603(69)	Lee, YongHee	EEP-2-2209(106)
Lee, Sukhan	S4-1629(36)	Lee, Yongho	EAP-1848(75)
Lee, Sung Bo	DB-2518(23), MEP-2521(113)	Lee, Yongjoon	NDP-2894(118)
Lee, Sung Ho	EEP-1-0123(77), MEP-2272(113)	Lee, Yongjun	NAP-2817(95), NDP-2828(118)
Lee, Sung Pil	MDP-0769(86)	Lee, You Na	EA-2-1912(46), EAP-2878(76), EAP-2882(76)
Lee, Sung-Gap	MDP-3056(89), MDP-3058(89)	Lee, You-jin	EAP-2866(76)
Lee, Sungho	NDP-0525(114), NDP-1840(117)	Lee, Youn Su	S25-1-3207(56)
Lee, Sungkwun	DAP-1010(97)	Lee, Young Gon	MA-2011(18), NA-1-2357(33)
Lee, Sungkyu	DCP-0696(72)	Lee, Young Keun	ECP-1813(123), ECP-1918(123), EEP-2-2002(105)
Lee, Sung-Man	S25-2-3244(57)	Lee, Young-Ahn	DD-0462(41)
Lee, Sung-Min	NA-2-0252(50)	Lee, Young-Hie	MBP-1-1069(65), MBP-1-1165(65)
Lee, Sung-Nam	DBP-1-1279(71)	Lee, Young-Hwan	DBP-1-0310(70)
Lee, Sung-Youp	EEP-1-0123(77), EEP-1-1190(80), EEP-2-1584(104)	Lee, Young-In	MEP-2597(113)
Lee, Taehoon	MAP-2068(64), NCP-2214(69)	Lee, Young-Moo	EAP-0268(74)
Lee, Tae-ik	DA-2978(40), MB-2933(20)	Lee, Young-Sang	ECP-0647(122)
Lee, Taek-Sung	CDP-0514(108), CDP-0530(108), DE-0917(41)	Lee, Young-Su	EC-2836(44)
Lee, Taeseop	NAP-1525(93)	Lee, Youngwoo	DAP-0324(96)
Lee, Tae-Woo	MF-1435(19)	Lee, Youn-Jung	EEP-2-1925(105)
Lee, Takhee	S4-1692(36)	Lee, Yun Jung	S26-1-2500(56)
Lee, Uk Jae	CCP-0372(83)	Lee, Yuna	DBP-1-0816(70)
Lee, W. H.	ME-0836(38)	Lee, Yun-Hee	ECP-0228(122), MDP-2711(88)

Leem, Jae Young	NDP-3031(118)		NDP-1867(117)
Leem, Jae-Young	DBP-1-3020(72), DBP-2-2488(99), DBP-2-2490(99), DBP-2-2493(99), DBP-2-2494(99), DBP-2-2499(99), NAP-2817(95)	Lim, Yeongjin	MDP-1979(87), NCP-0857(68), NCP-1962(69)
Leenakul, Wilaiwan	MBP-1-3206(66)	Lim, Yong-beom	S6-0811(49)
Lei, Chien-Ming	MEP-1601(112)	Lim, Yongjin	DDP-0426(119), DDP-0597(119)
Leo, Karl	S27-1-3185(60)	Lin, Jianjian	EE-1-2380(26)
Leportier, Thibault	DEP-3080(121)	Lindorf, Marc	S8-2225(31)
Lertcumfu, Narumon	ME-0342(38), MEP-1062(111)	Liu, Chengyan	S27-1-3143(59)
Lewis, Laura H	S3-0197(35)	Liu, HongLing	ME-2082(37), S22-2-2854(55)
Li, Hong	EBP-0872(101)	Liu, Shu	MEP-2204(112)
Li, Wei	S3-3204(35)	Luan, Van Hoang	NAP-0191(89)
Liang, Shan-Chien	MDP-1559(87), MEP-1601(112)	Lyeo, Ho-Ki	CEP-1049(110)
Lim, Dong Chan	EEP-1-3231(82)	M	
Lim, Donghwan	MAP-2706(64)	Ma, Byungjin	DBP-2-1694(98)
Lim, Dongwook	EDP-0985(102), NAP-0987(91)	Ma, Yanming	S20-0206(29)
Lim, Hana	ECP-0734(122), NAP-0750(90)	Ma, Yong Won	NCP-2557(69)
Lim, Hee-Dae	EB-2689(46), EB-2890(46)	Maeda, Kazuhiko	S14-0565(42)
Lim, Hyungkwang	MF-1193(19), MF-1285(19), S2-1033(18)	Maeng, Wan-Young	NA-1-1806(34), NB-1790(32)
Lim, Jae-Hong	EEP-1-3231(82), EFP-3175(126), EFP-3218(126)	Magyari-Köpe, Blanka	MA-1394(19)
Lim, Ji-Eun	CCP-0372(83)	Mahmud, Farhanahani	MDP-2968(89)
Lim, Jinseong	ECP-1762(123)	Maiti, Uday Narayan	EBP-3076(102), NAP-3091(95)
Lim, Joonwon	EBP-3076(102)	Maniruzzaman, Md	EEP-1-0705(78)
Lim, Jun Hyung	NAP-1894(93), NDP-0973(115)	Martínez, Javier	NA-1-2009(34)
Lim, Min-Cheol	ND-1338(52)	Mayangsari, Tirta R.	NDP-1879(117)
Lim, Myungsoo	S28-1-3373(61)	McCallum, R. William	ME-1095(38), S3-0197(35)
Lim, Myung-Soo	EFP-2370(126)	Meerholz, Klaus	S27-1-3185(60)
Lim, S.H.	DAP-1953(97)	Mejia, Israel	S1-2338(17)
Lim, Sang Chul	DAP-0701(97), DAP-1900(97)	Mi, Zetian	S14-0479(42)
Lim, Seong-joo	NAP-0948(91)	Miao, Lei	S27-1-3143(59)
Lim, Seung-Min	MB-3169(20)	Miara, Lincoln	S16-2347(24)
Lim, Sung Kwan	MAP-2706(64)	Min, B. K.	S23-1-3293(58)
Lim, Sung-Chul	NDP-1838(116), NDP-1861(117),	Min, Bok-Ki	EF-0413(44), EF-0862(43)
		Min, Byoung-Chul	MAP-2788(64)
		Min, Daehong	NC-2735(32)
		Min, Ji Hyun	S22-2-2854(55)

Min, Jung-Hong	S10-1542(21)	Mun, Bongjin Simon	ECP-1911(123)
Min, Kyeong-Sik	S2-1616(18)	Mun, Jeong Ho	NCP-3079(70), NCP-3086(70)
Min, Sung-Yong	MF-1435(19)	Murali, Bissannagari	DAP-0324(96)
Min, Yuho	NAP-0348(90)	Murphy, John	S1-2338(17)
Miskon, Azizi	MD-2942(36), MDP-2968(89)	Museok, Go	DDP-0408(119)
Mitdank, Rüdiger	S8-0555(31)	Myoung, Jae In	EAP-3027(77)
Mitdank, Ruediger	S8-2972(31)	Myung, Nosang (Vincent)	EFP-3175(126)
Mizuseki, Hiroshi	CCP-2696(84), EA-1-1457(27), CEP-1379(110)	Myung, Nosang V.	NDP-1146(115)
Mo, Yifei	S16-2347(24)	Myung, Woo-Ram	MB-2590(20)
Mogilatenko, Anna	S8-0555(31)	N	
Mohd Tawil, Siti Nooraya	MD-2942(36), MDP-2968(89)	Na, Bock Soon	DAP-0701(97), DAP-1900(97)
Moon, Cheol-Hee	DC-0484(23)	Na, Han Gil	MDP-1025(86), MDP-1091(86), NAP-1057(91)
Moon, Chul-Hyun	MAP-2788(64)	Na, Sekwon	EF-0788(44)
Moon, Daeyoung	S10-2420(21)	Nabeya, Shunichi	MB-3022(20)
Moon, Gun-hee	S14-1139(42)	Nadi, Masoum	S22-2-3059(55)
Moon, Janghyuk	EAP-0611(74)	Nadi, Samia A	EEP-2-1557(104)
Moon, Jiyun	DBP-2-2490(99), DBP-2-2493(99)	Nagashima, So	NDP-2536(117)
Moon, Jong Woo	NAP-1422(92)	Nahm, Ho-Hyun	CDP-1370(109), S20-1593(30)
Moon, Jong-woo	NAP-1391(92)	Nahm, Sahn	DDP-2768(120), EF-2730(43)
Moon, Ki Woong	MEP-2126(112), MEP-2162(112), MEP-2710(113), MEP-2715(113)	Nahm, Seung Hoon	NAP-3138(95)
Moon, Myoung-Woon	NA-1-2444(33), NAP-2439(94), NAP-2506(94), NCP-2502(69), NCP-2860(70), NDP-2536(117)	Naik, Brundabana	ECP-1672(123), ED-1663(45), EDP-1932(102), EDP-2000(103)
Moon, Seung-Hyun	MEP-1299(111)	Najib Hasan, Syed Mohammad	MA-2041(18)
Moon, Song Yi	ECP-1749(123), ED-1663(45), EDP-1932(102), EDP-2000(103)	Nakayama, Masanobu	S20-0359(29)
Moon, Sung	MDP-2865(89)	Nam, Chunghee	MEP-2470(113)
Moon, Sungmin	NBP-2958(68)	Nam, Chunhgee	MAP-2465(64)
Moon, Taeho	EE-2-1759(26)	Nam, Dae-Hyun	MDP-3173(89)
Moorthy, Alagu Anbanantha	MF-1765(19)	Nam, Giwoong	DBP-2-2488(99), DBP-2-2494(99), NAP-2817(95)
Moosavi, Hoda	S8-2972(31)	Nam, Ki Tae	S14-0366(42), S24-1-2673(53), S27-2-3369(60)
Moraes, Carlos	MBP-1-1648(65)	Nam, Kitae	ED-3033(45)
Muhammad, Shoaib	EAP-2633(76)	Nam, Okhyun	DB-2576(23), DBP-1-2555(71), DBP-1-2771(71), DBP-2-2546(100),
Muhmud, Imtiaz	DAP-1446(97)		

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| | NC-2735(32) | Noh, Yeoung Ah | NAP-0756(90) |
| Nam, S. U. | MA-2516(18) | Noh, Yong-Ho | MAP-1883(63) |
| Nam, Sang Hun | EEP-1-1135(80), EEP-1-1176(80) | Noh, Yong-Young | DDP-0262(119), DDP-1493(120) |
| Nam, Seokhyun | NAP-3215(95) | | |
| Nam, Seunghoon | EA-2-1651(46), EAP-1289(75),
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| Nam, Soo Ah | EEP-1-3094(82) | Oda, Takuji | S21-0699(47) |
| Nam, Suk-Woo | ECP-2759(124) | Ognev, Alexey | S22-1-3060(54), S22-2-3059(55) |
| Nam, Tae Won | NC-1850(33) | Oh, Il Kwon | S5-2527(30) |
| Nam, Taehyun | EAP-0536(74) | Oh, Il Soo | EEP-1-3220(82), EEP-2-1467(104) |
| Nam, Yoon Sung | DEP-1374(121), NBP-0939(67),
NBP-1258(67), S6-0177(49) | Oh, Jae Yong | NCP-2557(69) |
| Namkung, Han-Sol | DCP-2287(73) | Oh, Jeong-Pyo | NAP-2283(93), NAP-2286(94) |
| Namsar, Orapim | MAP-0723(63) | Oh, Jeungpyo | DAP-2292(98), DAP-2294(98) |
| Nasirpour, Farzad | S22-2-3059(55) | Oh, Ji Hyun | NAP-2439(94) |
| Nattestad, Andrew | EE-1-2380(26) | Oh, Ji Young | DAP-0701(97) |
| Nayak, Jhasaketan | EE-1-1891(26) | Oh, Jihun | ED-2256(45) |
| Nayak, Pradipta | S1-2076(17) | Oh, Ji-Young | DAP-1900(97) |
| Nedrygailov, levgen | EEP-2-2002(105) | Oh, Ju Hee | EEP-2-2509(107) |
| Nedrygailov, levgen I. | ECP-1813(123) | Oh, Jungwoo | MA-1267(19), NC-1344(33) |
| Neupane, Guru Prakash | NAP-2826(95) | Oh, Kyu Hwan | NAP-2506(94), NCP-2502(69) |
| Nguyen, Thi Hai | EEP-2-2226(106) | Oh, Manju | S23-2-3298(59) |
| Nguyen, Thuy An | EAP-1858(75) | Oh, Mi Hwa | DEP-1374(121) |
| Nguyen-Huy, Chinh | NAP-0887(90) | Oh, Miae | NAP-0227(90) |
| Nguyen-Phan, Thuy-Duong | NAP-0887(90), NAP-1200(92) | Oh, Min Seok | DBP-1-3071(72) |
| Nho, Chu Won | DE-0917(41) | Oh, Min Suk | DEP-2779(121) |
| Niensch, Kornelius | EEP-2998(126), NDP-2997(118),
S8-0555(31), S8-2972(31) | Oh, Minwook | S8-3111(31) |
| Nishi, Yoshio | MA-1394(19) | Oh, Min-Wook | EF-0413(44), EF-0862(43),
S23-1-3293(58) |
| Nishino, Yuri | NAP-1436(92) | Oh, Munsik | DBP-1-2671(71) |
| Noh, Jae-Kyo | EAP-3310(77) | Oh, Sang Ho | NBP-2958(68), ND-2953(51),
S24-2-2434(54) |
| Noh, Jinwoo | EEP-2-1960(105), MA-2011(18) | Oh, Se Young | EEP-1-3220(82), EEP-2-1467(104) |
| Noh, Jun Hong | EDP-2887(103) | Oh, Sunyoung | EDP-2000(103) |
| Noh, Jung-Jung | NA-1-1806(34) | Oh, Tac-Keun | MBP-1-1011(65) |
| Noh, Jungpil | EAP-0536(74) | Oh, Tae Sung | EPF-1448(125), MBP-1-1437(65),
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| Noh, Pan-jin | EAP-2157(75), EBP-2106(101) | Oh, Teresa | DD-1125(41) |

Oh, Won-Jae	MEP-1299(111)	Park, Dongwoo	NDP-3031(118)
Oh, Woong	EA-1-2634(28)	Park, Geun Chul	NAP-1894(93), NDP-0973(115)
Oh, Ye Ji	S23-2-1543(59)	Park, Gyeong Bae	NAP-0348(90)
Oh, Yong-Jun	NCP-1180(68)	Park, Gyeong-Tae	DAP-1446(97)
Oh, Yoon-Suk	NA-2-0252(50)	Park, Gyu-Tae	MBP-1-1011(65)
Oh, Young Seok	NAP-2921(95)	Park, Ha-Neul	EEP-1-0711(78), EEP-1-0727(78), EEP-1-0771(78)
Oh, Youngtak	NAP-3091(95)	Park, Hanna	NDP-1767(116)
Olthof, Selina	S27-1-3185(60)	Park, Hee-Gyum	MAP-2788(64)
Ong, Shyue Ping	S16-2347(24)	Park, Ho Seok	S5-2475(30)
P		Park, Hwa-sun	DBP-1-0793(70), NDP-2821(117)
Paek, Sang-Hyon	DAP-2883(98)	Park, Hyeon Joon	ECP-2119(124)
Palanisamy, Kowsalya	EA-1-2634(28)	Park, Hyeon Jung	NDP-2828(118)
Panapoy, Manop	EBP-2301(101), EDP-2250(103)	Park, Hyeongsik	EEP-2-1917(105), EEP-2-1925(105)
Pandey, Rina	MD-2722(37)	Park, Hyeonjoon	ECP-1983(124)
Pandey, Tribhuwan	S19-0808(48), S19-0808(48)	Park, Hyun Jun	DBP-2-1986(98)
Park, Bum Chul	ND-1424(51), S22-2-2714(55)	Park, Hyun Min	EFP-1784(126)
Park, Bum-Geun	DA-2278(40), DB-2800(23)	Park, Hyun Woong	EDP-1512(102)
Park, Bumsu	ND-2953(51)	Park, Hyung Il	EEP-1-3094(82)
Park, Byungwoo	EA-2-1651(46), EAP-1289(75), EE-2-1641(26), EE-2-1759(26), EEP-1-0645(78)	Park, Hyunjoon	ECP-1990(124)
Park, Chan	NCP-2557(69)	Park, Hyun-Min	EF-2730(43)
Park, Chan Woo	DAP-0701(97), DAP-1900(97)	Park, Hyunwoong	S14-0196(42)
Park, Chanhee	DDP-0426(119), DDP-0597(119)	Park, Il-Song	DAP-0172(96)
Park, Cheol-Joon	NDP-2828(118), NDP-2894(118)	Park, Inchul	EA-1-2618(28), EB-2689(46)
Park, Cheolmin	DAP-2165(97), MD-2358(37), NAP-2179(93)	Park, In-Kyu	NBP-0829(67), S11-0362(22)
Park, Chulmin	NAP-3266(96), NAP-3329(96)	Park, In-Sung	DB-2518(23), MAP-2068(64), NCP-2214(69)
Park, Chun Ho	NBP-1258(67)	Park, Inyeong	NAP-0975(91), NAP-0977(91), NAP-0987(91)
Park, Chung Hee	NAP-2439(94)	Park, J. H.	MA-2516(18)
Park, Dae Yong	EFP-2701(126)	Park, J. K.	ME-0836(38)
Park, Dae-Woong	MBP-1-1437(65)	Park, J.C.	DC-3156(22)
Park, Dong-Hee	MDP-3270(89)	Park, Jae Chul	DEP-1374(121)
Park, Dong-Hyeon	MBP-1-1648(65)	Park, Jae Hyo	MB-1383(21)
Park, Dong-Kyu	DCP-2287(73)	Park, Jae Yong	DB-2235(24), DBP-2-2055(99), MB-2088(20), NCP-2253(69)

Park, Jae-Cheol	EE-1-3161(25)	Park, Jongwook	S13-0573(39)
Park, Jae-Chul	EE-1-3165(25)	Park, Joonmo	EDP-1512(102)
Park, Jae-Gwan	EE-2-1588(27), S21-1586(47)	Park, Jung Kab	EBP-1270(101)
Park, Jaehoon	DCP-0696(72)	Park, Jung Soo	EBP-0741(100)
Park, Jae-Hoon	EEP-2370(126), S28-1-3373(61)	Park, Jung-Ho	NDP-2821(117)
Park, Jaehyung	DDP-3013(121)	Park, Junghwan	NAP-2699(94)
Park, Jae-Min	MA-1885(19), MAP-1883(63), MCP-1873(66), NDP-1879(117)	Park, Jung-Kab	DBP-1-0793(70)
Park, Jaewoo	S23-2-3298(59)	Park, Junsung	S7-0231(48)
Park, Jang-Ung	S12-0970(39)	Park, Juntae	EEP-1-2007(81)
Park, Jeong Young	ECP-1672(123), ECP-1749(123), ECP-1813(123), ECP-1911(123), ECP-1918(123), ED-1663(45), EDP-1932(102), EDP-2000(103), EEP-2-2002(105), S7-1703(49)	Park, Kee-Ryung	NDP-1146(115)
Park, Ji Hun	DDP-1984(120), EEP-2-1467(104)	Park, Keun Young	MEP-2098(112), MEP-2147(112), MEP-2262(113)
Park, Ji Sun	EEP-1-3094(82)	Park, KeunYoung	MDP-2115(87)
Park, Ji Young	EEP-2-2267(107), EEP-2-2273(107)	Park, Kisun	DAP-2437(98)
Park, Jihoon	S3-1697(35)	Park, Kwang Hun	DDP-0262(119)
Park, Ji-Hoon	ECP-0162(122)	Park, Kwan-Ho	EEP-0219(125)
Park, Jihun	DAP-1953(97)	Park, Kweonha	NDP-3400(118), NDP-3401(118)
Park, Jimin	ED-3033(45)	Park, Kyeong Beom	ND-1362(52)
Park, Jin-Woo	DA-2079(41), NA-1-2089(33), NA-1-2101(33), NA-2-1175(50), S26-1-2057(55)	Park, Kyeongbeom	ND-1219(52)
Park, Ji-Sub	DAP-1446(97)	Park, Kyeong-Beom	ND-2686(51)
Park, JiYoung	EEP-2-2226(106), EEP-2-2241(106)	Park, Kyoung Wan	EEP-0856(125)
Park, Jong Chul	MBP-1-0305(65), MBP-1-0687(65)	Park, Kyunggho	MDP-2865(89)
Park, Jong Geun	NCP-1180(68)	Park, Kyung-Ho	MAP-2244(64)
Park, Jong Ku	EEP-1-2822(81)	Park, Kyung-Soo	EAP-0389(74)
Park, Jong Yul	S4-1674(36)	Park, Kyu-Young	EA-1-2618(28), EB-2689(46)
Park, Jongho	S8-3111(31)	Park, Mi Sun	EEP-1-0842(79)
Park, Jong-Jin	MBP-1-1011(65)	Park, Min Jung	ECP-2759(124)
Park, Jong-Myeong	MBP-1-0294(64)	Park, Min-Chul	DEP-3080(121)
Park, Jong-Oh	S11-0362(22)	Park, Minho	NAP-3215(95)
Park, Jongwan	DDP-3013(121)	Park, Minjeong	MDP-1979(87), NA-1-1963(34), NA-1-2032(34), NCP-1962(69)
		Park, Min-Sik	S25-2-3244(57)
		Park, Min-Woo	ECP-0162(122)
		Park, Mi-Ri	S25-1-3207(56)
		Park, MiSeok	MBP-2-2631(85)
		Park, Mi-Seok	MAP-3053(64), MB-3048(20)

Park, Nae-Man	CDP-0898(108), DDP-0949(119), DDP-0967(119), DEP-1055(121)	Park, Won-Tae	DDP-1493(120)
Park, S. D.	S23-1-3293(58), S23-2-2684(59)	Park, Woojin	MA-2011(18)
Park, Sangbo	MDP-0141(85), MDP-0304(86)	Park, Woon Ik	MAP-0353(63)
Park, Sang-Jun	NAP-0830(90)	Park, Yiseul	EBP-0741(100)
Park, Se Yong	DAP-1170(97)	Park, Yong Seob	NAP-3266(96), NAP-3329(96)
Park, Se-Hoon	MB-2322(20), MBP-1-0305(65), MBP-1-0687(65)	Park, Yong-Jin	MB-3169(20)
Park, Sehyeok	EAP-1603(75)	Park, Yongjo	S10-2420(21)
Park, Seki	NAP-2817(95), NDP-2828(118), NDP-2894(118)	Park, Youn Ho	MEP-0466(111)
Park, Seon Young	NDP-0815(114)	Park, Young-Bae	MBP-1-0294(64), MBP-1-1011(65), S24-1-2397(53)
Park, Seonhee	DBP-2-2493(99), DBP-2-2499(99)	Park, Youngbin	DBP-2-2488(99), DBP-2-2494(99)
Park, Si-Nae	EEP-1-0738(78)	Park, Youngho	CEP-2637(110)
Park, Soo Na	DCP-0182(72), DCP-0183(72)	Park, Yujin	S4-1629(36)
Park, Soo Young	S27-2-3184(60)	Park, Yunjae	MDP-1979(87), NA-1-1963(34), NA-1-2032(34), NAP-0920(91)
Park, Soobin	DBP-1-1373(71)	Patil, Arun	EA-1-2734(27)
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Park, Sora	MCP-1873(66)	Pattarinee, Klumdong	ME-1567(38)
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		Yoon, Chang Won	ECP-1753(123), ECP-2759(124)
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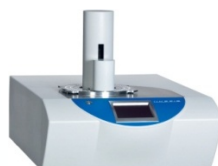
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Yu, Byung-Kyu	DAP-0324(96)		

Note

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메탈-그래핀 융합체, 2개의 원천물질특허 등록

일반 exfoliated graphite sheet

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세계 최고의 나노복합기술이 국내의 대표적인 하든벨파온 소재기업인 (주)창성, (주)아모그린텍, (주)엘엘에스, (주)코오롱글로벌 등에 의해 철원에서 새로운 창조적인 소재 부품으로 상용화 개발 중에 있습니다. 그 외에 여러 개의 창조적 중소기업들이 나노소재산업의 꿈을 키우고 있습니다.

○ 나노분말 생산/공정기술 기업군



- 현재 (12)개의 나노융합특허기업이 철원플라즈마산업기술연구원의 (30)여개의 특허를 기반으로 유지
- (중소기업) - (중견기업) - (대기업)의 상생의 생태계
- 나노소재 (생산) - (공정) - (활용)의 생태계

○ 산업단지 조성과 대지현황

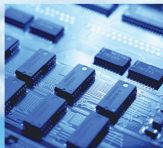


서울-수도권 최척의 접근성과 도로망

철원 입주 기업에게
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연구단장

김광호(부산대학교)

연구배경

21세기 6T분야에서의기초·원천기술을 비롯한 세계1등 기술과 국가산업경쟁력의 핵심은 원천 소재기술에 달려 있어 하이브리드소재 기술로 다양한 미래소재개발이 필요함

연구목표

하이브리드 인터페이스 기술을 기반으로 미래 혁신 제품을 개발할 수 있는 세계 1등 원천기술을 확보하고 이를 사업화하여 미래소재/부품/제품을 개발함

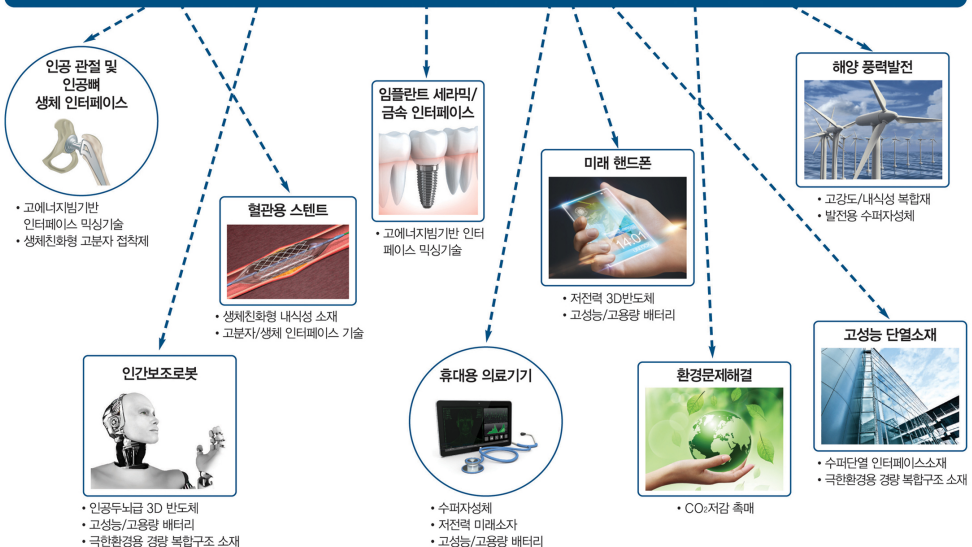
주요 연구내용

IT기술과의 융합을 통해 고분자·금속·세라믹 등 이종소재간의 인터페이스에서 발현되는 물리·화학·전기적 특성들을 규명하고, 신기능성·고기능성을 가지는 혁신적인 하이브리드 인터페이스 소재의 설계 및 합성기술을 개발함

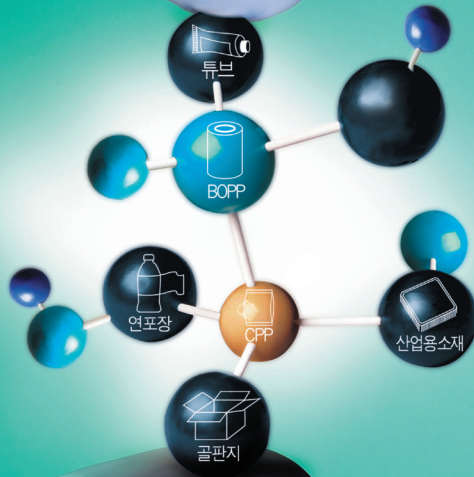
기대효과

고용량·고수명 및 안전성을 확보한 배터리와 현재 대비 4배 이상의 성능을 갖는 슈퍼자석, 한국형 발사체 등 우주항공 산업의 핵심부품에 적용될 수 있는 초고강도 복합구조체 및 가스 자원을 효율적으로 합성하고, 에너지화할 수 있는 신 촉매기술 등이 개발되어 국가산업경쟁력을 크게 높일 수 있을것으로 기대됨

하이브리드 인터페이스 기반 미래소재 플랫폼



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하나에서 열까지 고객의 큰 힘이 됩니다!

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