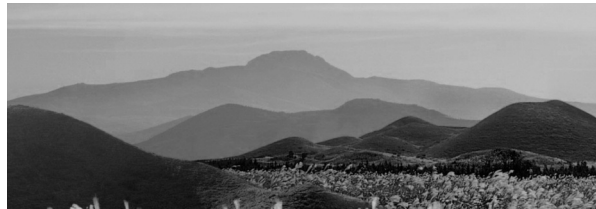


PROGRAM BOOK

JSSST 2017

**The 14th Joint Symposium of
Jeju National University and Nagasaki University
on Science and Technology**



Jeju National University, Jeju Island, Korea
May 24-26, 2017



제주대학교
JEJU NATIONAL UNIVERSITY



長崎大学
NAGASAKI UNIVERSITY



The 14th Joint Symposium of Jeju National University and Nagasaki University on Science and Technology

Jeju National University, Jeju Island, Korea

May 24-26, 2017

Co-organized by



제주대학교
JEJU NATIONAL UNIVERSITY



長崎大学
NAGASAKI UNIVERSITY

JSST2017

The 14th Joint Symposium of
Jeju National University and Nagasaki University
on Science and Technology



Contents

| | |
|------------------------------------|----|
| Committee of JSST2017 | 6 |
| Messages | 8 |
| Program Outline | 12 |
| Keynotes | 14 |
| Opening Ceremony | 17 |
| Welcome Ceremony & Reception | 18 |
| Conference Program | 19 |

Committee of JSST2017

{Organizing Committee}

Co-chairmen:

Kyungyoun Kim, College of Engineering, JNU

Sangkyu Kam, College of Ocean Sciences, JNU

Gyungleen Park, College of Natural Sciences, JNU

Yasuhiro Shimizu, Graduate School of Engineering, NU

Kimihiko Yamashita, Faculty of environmental science, NU

Katsuyasu Tachibana, Faculty of fisheries, NU

Tetsuji Muto, Graduate school of fisheries and environmental sciences, NU

Masaki Nakano, Graduate School of Engineering, NU

{Executive Committee}

Co-chairmen:

Chulung Kang, College of Engineering, JNU

Masaki Nakano, Graduate School of Engineering, NU

Secretary:

Yungcheol Byun, College of Engineering, JNU

Committee Members:

Gaemyoung Lee, College of Engineering, JNU

Namho Lee, College of Natural Sciences, JNU

Gyuyeob Jeon, College of Engineering, JNU

Jinho Bae, College of Ocean Sciences, JNU

Jinkeun Kim, College of Ocean Sciences, JNU

Sungsoo Park, College of Natural Sciences, JNU

Tomohiko Yamaguchi, Graduate School of Engineering, NU

Yoshinobu Matsuda, Graduate School of Engineering, NU

Yuichiro Shibata, Graduate School of Engineering, NU

Hiroyuki Nakahara, Graduate School of Engineering, NU

Susumu Ogawa, Graduate School of Engineering, NU

Gen Onodera, Graduate School of Engineering, NU

Akihide Tada, Graduate School of Engineering, NU

Naoki Gregory Nishihara, Graduate School of Fisheries and Environmental Sciences, NU

Toshikazu Suzuki, Graduate school of Fisheries and Environmental Sciences, NU

Takayuki Miyanishi, Graduate school of Fisheries and Environmental Sciences, NU

Takayuki Takeshita, Graduate school of Fisheries and Environmental Sciences, NU

Message from Chairman of Organizing Committee

Welcome to JSST2017!

Ladies and gentlemen,

It gives me great pleasure to extend to you all a very warm welcome to the 14th Joint Symposium of Jeju National University and Nagasaki University on Science and Technology (JSST) in Jeju, Korea. As a chairman of organizing committee, especially, I would like to express my deepest thanks to Prof. Yasuhiro Shimizu, Dean of College of Engineering, Nagasaki University for his unlimited efforts.

This Symposium started in 1992, by the engineers of Nagasaki and Jeju National University. The symposium takes place every two years alternately between Nagasaki and Jeju National University and grows quantitatively and qualitatively. This Joint Symposium committee has been arranged to focus on Science, engineering and technology. JSST gives new platform for the students to present their research works for both Jeju National University and Nagasaki University. A total of 77 papers will be presented and around 150 participants are expected to attend this symposium.

This Symposium specially prepared to celebrate the 65th anniversary of Jeju National University. Jeju National University is committed to actively raising the quality of life for every student. I wish all students to achieve their full potential in the field of science and technology.

Through JSST 2017, I cordially wish we all enhance our mutual understanding in technical topics as well as share our friendship in beautiful Jeju Island.

Finally, I express my grateful appreciation to all executive committee members who made the symposium fruitful and useful event. Thank you.

Dr. Kyung Youn Kim

Dean of College of Engineering, Jeju National University

Message from Chairman of Organizing Committee

Welcome Address

Welcome all of you to JSST2017 in Jeju National University. On behalf of the Japanese members of the Organizing Committee of the 14th Joint Symposium of Jeju National University and Nagasaki University on Science and Technology (JSST2017), I would like to express my sincere gratitude to both Professor Kyungyoun Kim, who is the Dean of the College of Engineering, Jeju National University, and Professor Chulung Kang, who is the Chairman of the Executive Committee from Jeju National University, for their great efforts and contributions in organizing and preparing this Symposium. I also sincerely thank all the Organizing and Executive Committee members of both universities for their excellent work directed to elaborate preparations and successful management of this Symposium.

Two keynote lectures by Professor Choi and Professor Tanabe, 40 oral and 36 poster presentations mainly in the eight (8) science and engineering fields, such as applied mechanics, material science are scheduled to be presented in the Symposium. I believe the close future collaboration among all participants from both universities will be promoted through the fruitful discussion on mutual interests in each scientific and engineering field.

Dr. Yasuhiro Shimizu

Dean of Graduate School of Engineering, Nagasaki University

Message from the president of Jeju National University

Congratulate JSST 2017!

Welcome all of you to Jeju Island, and I would like to congratulate the 14th Joint Symposium of Jeju National University and Nagasaki University on Science and Technology in Jeju National University from my heart.

I remember the 12th JSST successfully held in Jeju National University two years ago and I am happy to have this event again in Jeju National University, especially, as one of the events to celebrate the 65th anniversary of the foundation of our university.

I heard around 80 outstanding papers have been selected and will be presented in JSST 2017, and I believe this symposium helps the professors and students to make their research results improved and to take a big step in the relationship of the two universities. In this regard, I would like to express my respect and gratitude to Dr. Shigeru Katamine who is the president of Nagasaki University, Dr. Yasuhiro Shimizu who is the dean of Engineering College of NU, and Dr. Masaki Nakano who is an executive co-chair of JSST2017 for their cooperation and efforts to make this symposium successful. Also, it is very exciting and wonderful to recognize that the two universities have been cooperating for 25 years in academic aspects, and I hope we continue this JSST symposium and make another big step for further higher cooperation.

I would like to express my special thanks to all the students, professors, and researchers from the two universities who present their outstanding research results in the symposium. Once again, congratulate the successful JSST 2017 in Jeju. Thank you so much.

Dr. Hyang Jin Hur
President, Jeju National University

Message from the president of Nagasaki University

Congratulations!

It is my great pleasure to have the opportunity to express congratulation on the 14th Joint Symposium of Jeju National University and Nagasaki University on Science and Technology (JSST). On behalf of Nagasaki University, I would like to express my sincere thanks to Dr. Hyangjin Huh, the President of Jeju National University, who has provided general support for the Symposium. I also appreciate the Organizing and Executive Committee members of both universities for the excellent work they have done in realizing the comprehensive scientific program.

In the 21st century, revolution in transportation and information technology has made the world closer and closer, resulting in universities and higher education system of every country as a part of network encompassing the globe. Now, the nature of knowledge and learning is border-less, and students and researchers are mobile around the world.

On this background, in order to challenge various cross-border regional issues including environmental issues, energy issues and health issues, we have to construct a Japan-Korea cross-border system for research collaboration and sharing a common educational program.

For Nagasaki University, Jeju National University is the most important Korean partner institution, with a long history of academic cooperation. The last 13 Joint Symposia (JSSTs) since 1992 have successfully provided us with chances to exchange information on science and technology and opportunities to establish and renew personal relationship among many participants of both universities. They also stimulated the research activities of both universities and academic cooperation between them.

Our continuous efforts have made mutual understanding and cooperation possible. For example, the double degree program for the graduate students between two universities have been started from 2011.

Finally, I sincerely hope that this 14th Joint Symposium will be as successful as the previous ones in fostering further scientific communication and friendship.

Dr. Shigeru Katamine
President of Nagasaki University

Program Outline

| | | | | |
|-----------------------------------|---|--|---|---|
| May 24th, 2017 (Wednesday) | | | | |
| 18:00 | Welcome Dinner | | | |
| May 25th, 2017 (Thursday) | | | | |
| 09:00 | <p>Plenary Session: Keynote 1, 2 (Conference Hall) <i>Chair: Prof. Yungcheol Byun</i></p> <p>Title 1: Control of the Characteristics of the Surface on Nano Particles and Application for Heterogeneous Catalysis <i>Prof. S. Tanabe, Nagasaki University</i></p> <p>Title 2: Highly reliable and flexible memristive device fabricated by all printed approach with an advanced 2D nanocomposite as the functional material <i>Prof. Kyung-hyun Choi, Jeju National University</i></p> | | | |
| 09:50~ 10:20 | Opening Ceremony (Conference Hall) | | | |
| 10:20~ 10:30 | Coffee Break | | | |
| Session 1 | | | | |
| 10:30~ 11:20 | <p>Session 1A (Room) Applied Mechanics <i>Chair: Prof. Jinho Bae and A. Saimoto</i></p> | <p>Session 1B (Room) Applied Science and Engineering <i>Chair: Prof. T. Masada and Myung-houn Jang</i></p> | <p>Session 1C (Room) Control, System, and Energy Engineering <i>Chair: Prof. Sang-Jae Kim and M. Nakano</i></p> | <p>Session 1D (Room) Material Science <i>Chair: Prof. H. Murakami and Taehoon Kim</i></p> |
| 11:20~ 11:30 | Coffee Break | | | |
| Session 2 | | | | |
| 11:30~ 12:20 | <p>Session 2A (Room) Marine, Bio, and Environmental Science <i>Chair: Prof. S. Ogawa and Yunkyung Lee</i></p> | <p>Session 2B (Room) Bio/Material Science and System <i>Chair: Prof. Jong-Kwan Woo and H. Murakami</i></p> | <p>Session 2C (Room) Environmental and Energy System <i>Chair: Prof. T. Yamaguchi and Jinkeun Kim</i></p> | <p>Session 2D (Room) Chemistry and Chemical Engineering <i>Chair: Prof. Min Chan Kim and G. Onodera</i></p> |
| Session 3 (Poster) | | | | |
| 10:30~ 12:20 | <p>Session 3P (Lobby) Science & Technology <i>Chair: Prof. Yungcheol Byun and M. Nakano</i></p> | | | |
| 12:30~ 18:00 | Lunch & Technical Tour | | | |
| 19:00~ 21:00 | Welcome Ceremony & Reception (Ora Country Club & Resort) | | | |

Program Outline

| May 26th, 2017 (Friday) | |
|-------------------------|--|
| 10:00 | Committee Meeting (Headquarters) - Plan for JSST2019 - |

Keynote 01

Title : Control of the Characteristics of the Surface on Nano Particles and Application for Heterogeneous Catalysis

Speaker: Prof. Shuji TANABE, Division of Chemistry and Materials Science, Graduate School of Engineering, Nagasaki University, Japan.



Abstract:

Nano-sized metal and metallic oxide particles have been developed and investigated in the research field of heterogeneous catalysis. Catalyst can accelerate the reaction rate via adsorption and desorption processes during chemical reactions. Nano particles can provide huge surface area which strongly affects the catalytic reaction rate. Many kinds of preparation procedure have been proposed to obtain nano-sized metal and metallic oxide particles until now. There are two kinds of preparation system, physical and chemical system in general. Chemical process is easier than the physical process that uses huge vacuum system and high temperature to make a vapor of metal. In this presentation, some chemical processes which can prepare nano particles will be introduced.

Fatty acid methyl ester (FAME) is focused recently because FAME can be used as an alternative diesel fuel and can save fossil fuel. FAME can be made from vegetable oil via transesterification reaction, which is called "biodiesel fuel". Diesel fuel in Europe already contains small quantity of FAME which is manufactured by the transesterification of vegetable oil with homogeneous basic catalysts such as KOH, NaOH, etc. New heterogeneous basic catalyst has been developed to make biodiesel fuel in our laboratory. In this presentation, characteristics of the surface on the heterogeneous basic catalyst for biodiesel production will also be introduced as an example of catalysis using nano particles.

Biography:

Shuji TANABE is a Full Professor at the Division of Chemistry and Materials Science in Graduate School of Engineering of Nagasaki University from 2009.

Dr. TANABE also served as a Vice Dean of Graduate School of Engineering, Nagasaki University from 2011 to 2013. His current research interests include preparation of nano-particles with core-shell structure and with unique shape like as cubic, rod, plate, etc, and its application for heterogeneous catalysis.

Dr. TANABE was a chair of executive committee of JSST 2015 which was held in Nagasaki University, Japan.

Dr. TANABE is a member of Japan Chemical Society, Catalysis Society of Japan, and American Chemical Society.

Keynote 02

Title: Highly reliable and flexible memristive device fabricated by all printed approach with an advanced 2D nanocomposite as the functional material

Speaker: Prof. Kyung Hyun Choi, Division of mechatronics engineering, Jeju National University, Republic of South Korea



Abstract:

Memristive devices have been under intensive research since its physical realization in 2008¹, owing to its high scalability, low power consumption and extremely simple device structure. In this study we have proposed an advanced 2D nanocomposite functional material synthesized by blending hexagonal boron nitride (hBN) flakes and graphene quantum dots (GQDs). The fabricated device has a sandwiched structure with the configuration of Ag/hBN-GQDs/Ag. The whole device fabrication was carried out by using highly controllable printing technology such as reverse offset, electrohydrodynamic atomization (EHDA) and electrohydrodynamic patterning as shown in figure 1. The as fabricated device was tested both electrically and mechanically under several bending cycles. Our device has shown attractive memory characteristics of high endurance, switching ratio and retention time as illustrated in figure 2. Extremely high flexibility was recorded owing to the extraordinary mechanical strength of 2D materials. All the necessary chemical, electrical, morphological and mechanical characterization are performed for high quality analysis.

Biography:

Prof. Kyung Hyun Choi did his B.S. and M.S. from Pusan National University, Korea and moved to University of Ottawa, Canada, for his PhD. He has been leading the Advanced Micro Mechatronics (AMM) Lab in Jeju National University since 2005 working on printed electronics based fabrication of devices like OLED, Sensors, OPV, TFT, Memristors, and RFID etc.

Opening Ceremony

May 25, 2017 (Thursday) 10:00~10:30 — Ara Convention Hall, JNU

Presidents

Hyang Jin Hur, Shigeru Katamine

Keynote Speakers

S. Tanabe, Kyung-hyun Choi

Co-chairs of Organizing Committee

*Kyungyoun Kim, Sangkyu Kam, Gyungleen Park, Yasuhiro Shimizu,
Kimihiro Yamashita, Katsuyasu Tachibana, Tetsuji Muto, Masaki Nakano*

Co-chairs of Executive Committee

Chulung Kang, Masaki Nakano

Session Chairs

*Jinho Bae, A. Saimoto, T. Masada, Myung-houn Jang, Sang-Jae Kim, M. Nakano,
H. Murakami, Taehoon Kim, S. Ogawa, Yunkyung Lee, Jong-Kwan Woo,
H. Murakami, T. Yamaguchi, Jinkeun Kim, Min Chan Kim, G. Onodera,
Yungcheol Byun, M. Nakano*

Welcome Ceremony & Reception

May 25, 2017 (Thursday) 19:00~21:00 ----- Ora Country Club

Co-chairs of Organizing Committee

*Kyungyoun Kim, Sangkyu Kam, Gyungleen Park, Yasuhiro Shimizu,
Kimihiro Yamashita, Katsuyasu Tachibana, Tetsuji Muto, Masaki Nakano*

Co-chairs of Executive Committee

Chulung Kang, Masaki Nakano

Secretary

Yungcheol Byun

Committees

*Gaemyoung Lee, Namho Lee, Gyuyeob Jeon, Jinho Bae, Jinkeun Kim, Sungsoo Park,
Tomohiko Yamaguchi, Yoshinobu Matsuda, Yuichiro Shibata, Hiroyuki Nakahara,
Susumu Ogawa, Gen Onodera, Akihide Tada, Naoki Gregory Nishihara,
Toshikazu Suzuki, Takayuki Miyanishi, Takayuki Takeshita*

Keynote Speakers

S. Tanabe, Kyung-hyun Choi

Conference Program

May 25th, 2017 (Thursday)

| | |
|--|----|
| Session 1A (Room1) Applied Mechanics | 20 |
| Session 1B (Room2) Applied Science and Engineering | 21 |
| Session 1C (Room3) Control, System, and Energy Engineering | 22 |
| Session 1D (Conference Hall) Material Science | 23 |
| Session 2A (Room1) Marine, Bio, and Environmental Science | 24 |
| Session 2B (Room2) Bio/Material Science and System | 25 |
| Session 2C (Room3) Environmental and Energy System | 26 |
| Session 2D (Conference Hall) Chemistry and Chemical Engineering | 27 |
| Session 3P (Lobby) Science & Technology | 28 |



Conference Program

May 25th, 2017 (Thursday)

| | | |
|-------------------|--|--------|
| Session 1A | Applied Mechanics | Room 1 |
| 10:30~11:20 | Session Chair: <i>Prof. Jinho Bae and A. Saimoto</i> | |

10:30~10:40

1A-1 Comparison of Mesh-free and Mesh-based Analyses in 3D Crack Problems

A. Saimoto, Y. Sonobe, G. Shatil

10:40~10:50

1A-2 Composite Piezoelectric Nanogenerator as Self-Powered Acceleration Sensor

Nagamalleswara Rao Alluri, Arunkumar Chandrasekhar, Sang-Jae Kim

10:50~11:00

1A-3 Stress analysis of general inclusion problem by mesh free body force method

Y. Sonobe, A. Saimoto, G. Shatil

11:00~11:10

1A-4 Blue Energy Scavenging Smart Buoy using Hybrid Triboelectric Nanogenerator

Kim Gwan Yong, Arunkumar Chandrasekhar, Oh Gil Seop, Kim Tae Beom, Kim Woo Joong, Sang-Jae Kim

11:10~11:20

1A-5 Numerical Simulation of bubble flow in the complex boundary of wick by Lattice Boltzmann Method

T. Yamaguchi

May 25th, 2017 (Thursday)

| | | |
|-------------------|---|--------|
| Session 1B | Applied Science and Engineering | Room 2 |
| 10:30~11:20 | Session Chair: <i>Prof. T. Masada and Myung-houn Jang</i> | |

10:30~10:40

1B-1 Stochastic Gradient Variational Bayes for Topic Modeling

Tomonari Masada

10:40~10:50

1B-2 Case of an Engineering Design Class in Architectural Engineering

Myunghoun Jang

10:50~11:00

1B-3 Collapse of Aso Big Bridge by Kumamoto Earthquake

Y. Taniguchi, S. Ogawa, S. Otsubo, G. Yamada

11:00~11:10

1B-4 Regular matrices and generalized inverse matrices over max algebra

S. Z. Song

11:10~11:20

1B-5 FPGA Implementation of a Particle Filter for Stream Image Processing

Theint Theint Thu, Yoshiki Hayashida, Akane Tahara, Yuichiro Shibata, Kiyosi Oguri

May 25th, 2017 (Thursday)

| | | |
|-------------------|--|--------|
| Session 1C | Control, System, and Energy Engineering | Room 3 |
| 10:30~11:20 | Session Chair: <i>Prof. Sang-Jae Kim and M. Nakano</i> | |

10:30~10:40

1C-1 The Construction Plan and The Present Status of Electric Vehicle Charging Infrastructure in Jeju Island

Hee-Jeong Ko, Jae-Won Jung, Je-Gyun Ko, Ankhzaya Baatarbileg, Gae-Myoung Lee

10:40~10:50

1C-2 Diamond fly cutting applied to ultra-precision plane surface

Jinhui Wang, Yosuke Hattori, Takanori Yazawa

10:50~11:00

1C-3 Detecting fetal movements during pregnancy using dynamic electrical impedance tomography

Sravan Kumar Konki, Anil Kumar Khambampati, You Jung Han, Sung Yob Kim, Kyung Youn Kim

11:00~11:10

1C-4 All-printed L-band antenna based on silver nanoparticles

Arshad Hassan, Jinho Bae, Chong Hyun Lee

11:10~11:20

1C-5 PEDOT:PSS/PVP composite and methyl red based heterojunction memristor

Gul Hassan, Jinho Bae, Chong Hyun Lee

May 25th, 2017 (Thursday)

| | | |
|-------------------|---|-----------------|
| Session 1D | Material Science | Conference Hall |
| 10:30~11:20 | Session Chair: <i>Prof. H. Murakami and Taehoon Kim</i> | |

10:30~10:40

1D-1 Nano-composite film magnets prepared using PLD with a multi target

A. Yamashita, K. Takashima, T. Yanai, M. Nakano and H. Fukunaga

10:40~10:50

1D-2 Structural and piezoelectric analysis of flexible (1-x)KNN-xBTO/PVDF composite films for energy harvesting applications

Venkateswaran Vivekananthan, Nagamalleswara Rao Alluri, Arunkumar Chandrasekhar, Yuvasree Purusothaman, Sang-Jae Kim

10:50~11:00

1D-3 Nd-Fe-B thick-film magnets applied for MEMS

D. Shimizu, Y. Yamaguchi, A. Yamashita, K. Takashima, T. Yanai, M. Nakano, H. Fukunaga

11:00~11:10

1D-4 Determining the micro-optical element surfaces profiles using transmission deflectometry with liquids

Silin Na, Doocheol Kim, Younghun Yu

11:10~11:20

1D-5 Fe-Ni films prepared in ammonium-chloride-based plating baths with organic additives

K. Koda, J. Kaji, H. Aramaki, K. Eguchi, K. Takashima, T. Yanai, M. Nakano, H. Fukunaga

May 25th, 2017 (Thursday)

| | | |
|-------------------|---|--------|
| Session 2A | Marine, Bio, and Environmental Science | Room 1 |
| 11:30~12:20 | Session Chair: <i>Prof. S. Ogawa and Yunkyung Lee</i> | |

11:30~11:40

2A-1 Biological Activities of Kombucha by Stater Culture Fermentation with Gluconoacetobactor Spp
Hye-Myoung Ko, Seung-Shick Shin, and Sung-Soo Park

11:40~11:50

2A-2 Primary and secondary pollution from Fukushima nuclear power plant
Susumu Ogawa, Keisuke Saito

11:50~12:00

2A-3 Functional characterization of two MyD88 isoforms identified from disk abalone (*Haliotis discus discus*)
Thanthrige Thiunuwan Priyathilaka, S.D.N.K. Bathige, Jehee Lee

12:00~12:10

2A-4 Preliminary Survey of Kumamoto Earthquakes in Japan
H.Nakahara

12:10~12:20

2A-5 Long Wave Runup over a Sloping Beach Induced by a Solitary Wave and A Transient-Focused Wave Group
H. S. Ko

May 25th, 2017 (Thursday)

| | | |
|-------------------|---|--------|
| Session 2B | Bio, Material Science, and System | Room 2 |
| 11:30~12:20 | Session Chair: <i>Prof. Jong-Kwan Woo and H. Murakami</i> | |

11:30~11:40

2B-1 Development of Cleaning Protocol for New Chlorine Resistance NF membrane

Moe Ma Ma Tin, Takahiro Fujioka, Osamu Nakagoe, Guobin Zheng, Hideaki Sano, Shuji Tanabe

11:40~11:50

2B-2 Preparation of Co-Pt magnet films by electroplating

R. Hamamura, J. Honda, H. Yamada, N. Fujita, K. Takashima, T. Yanai, M. Nakano, H. Fukunaga

11:50~12:00

2B-3 Multi-Band Sonar System for Buried Object Detection

Kibae Lee, Chong Hyun Lee, Jinho Bae

12:00~12:10

2B-4 Effects of an additive in DES-based plating baths on magnetic properties of Fe-Ni films

T. Yamaguchi, T. Akiyoshi, K. Takashima, T. Yanai, M. Nakano, H. Fukunaga

12:10~12:20

2B-5 Multifunctional NE-TENG for Biomechanical Energy Scavenging and Self-Powered Health Monitoring System

Arunkumar Chandrasekhar, Nagamalle

May 25th, 2017 (Thursday)

| | | |
|-------------------|--|--------|
| Session 2C | Environmental and Energy System | Room 3 |
| 11:30~12:20 | Session Chair: <i>Prof. T. Yamaguchi and Jinkeun Kim</i> | |

11:30~11:40

2C-1 Power Generation Characteristics of MW Photovoltaic Power Plants in Jeju Island

Hyeon-Seong Yoon, Seung-Beom Kim, Se-Woong Kang, Su-Wan Kim, Ankhzaya Baatarbileg, Gae-Myoung Lee

11:40~11:50

2C-2 Hydrological change of the Mekong Delta

Tran Thanh Dan, Susumu Ogawa

11:50~12:00

2C-3 Penetration and Operation of the Wind Power Generation in Mongolian Central Power System

Ankhzaya Baatarbileg, Bayasgalan Dugarjav, Gae-myoung Lee

12:00~12:10

2C-4 Field survey with UAV

H. Hidaka, UYS. Ogawa

12:10~12:20

2C-5 Contributiveness of Large Scale PV Plants on Electric Power during Summer Peak Times in Jeju Island

Suk-Young Ko, Jae-Hee Kim, Hyung-Hoon Yang, Ankhzaya Baatarbileg, Gae-Myoung Lee

May 25th, 2017 (Thursday)

| | | |
|-------------------|---|-----------------|
| Session 2D | Chemistry and Chemical Engineering | Conference Hall |
| 11:30~12:20 | Session Chair: <i>Prof. Min Chan Kim and G. Onodera</i> | |

11:30~11:40

2D-1 Development of Highly Emissive Host-Guest Complexes via Self-assembly and Encapsulation

S. Horiuchi, H. Tanaka, E. Sakuda, Y. Arikawa, K. Umakoshi

11:40~11:50

2D-2 Pradol, an O-Methylated Flavone, Induces Melanogenesis in B16F10 Melanoma Cells by Tyrosinase Upregulation

You Chul Chung, Seoyeon Kim, Jin Hwa Kim, Geun Soo Lee, Jung No Lee, Nam Ho Lee, Chang-Gu Hyun

11:50~12:00

2D-3 White Emission of Dinuclear Pt(II) Complexes bearing Cyclometalated Pyridyl-NHC Ligand

S. J. Moon, S. Horiuchi, A. Ito, E. Sakuda, Y. Arikawa and K. Umakoshi

12:00~12:10

2D-4 Theoretical and numerical analyses on the onset of the double diffusive mixed-mode instability in a Hele-Shaw cell

Min Chan Kim

12:10~12:20

2D-5 Ni(0)-Promoted Hydrocarboxylation of Conjugated Diene with DIBAL-H and Carbon Dioxide

Ying Luo, Yasuyuki Mori, Gen Onodera, Masanari Kimura

May 25th, 2017 (Thursday)

| | | |
|-------------------|--|-------|
| Session 3P | Science & Technology | Lobby |
| 10:30~12:20 | Session Chair: <i>Prof. Yungcheol Byun and M. Nakano</i> | |

3P-1 NMR Signal of a Fe₃O₄ Ferrofluid on Different Volume Concentrations

T. Matsuzaki, K. Tokuda, H. Matsuo, T. Yamaguchi

3P-2 Study on Spring-back Effect in Roll Forming Process

Dong-Won Jung

3P-3 A study on reconstruction method in optical skid

T. Otsubo, T. Yazawa, R. Yamada

3P-4 Study on Functional Surface Creation by Micro Unevenness

Y. Matsuo, S. Nakadeguchi, T. Yazawa, S. Momoki, R. Yamada, H. Moritaka, T. Otsubo

3P-5 Examination of The Steam-reforming Process of Biomass over Transition Metal Catalysts

Nway Nay Hlaing, Kazuya Kawahara, Osamu Nakagoe, Guobin Zheng, Hideaki Sano, Shuji Tanabe

3P-6 Variation Characteristics of Atmospheric Radon-222 and Gaseous Pollutants in Background Area of Korea

Jun-Oh Bu, Jung-Min Song, Won-Hyung Kim, Chang-Hee Kang

3P-7 Three-Component Coupling Reaction of 4-Methylene-2-oxazolidinone, Alkyne, and Organoaluminum Using Nickel Catalyst

T. Yamahira, R. Ninokata, G. Onodera, M. Kimura

3P-8 A Study on the placement of the public library building's egress stairs And the improvement of criteria for separation

Kim Bo-Jung, Jeon Gyu-Yeob

3P-9 Palladium-Catalyzed Direct Allylic Amination by Using Phosphine-Borane Ligand

G. Onodera, G. Hirata, M. Kimura

3P-10 The survey study about influencing factors in recognizing fire during egress from buildings

Jeon Sang-Min, Kim Bo-Jung, Jeon Gyu-Yeob

3P-11 Development of Novel Polyurethanes with Mechanical Crosslinks

J. Lim, N. Tabata, H. Murakami

3P-12 Photophysical properties of dipyrromethene zinc complexes having donor-acceptor units

K. Takaki, N. Oshima, E. Sakuda, S. Horiuchi, Y. Arikawa, K. Umakoshi

3P-13 Time Synchronized Measurement System of Ultrasound Imaging with Internal Pressure in the Mock Pulsatile Blood Circulation System

SooHong Min, Changzhu Jin, Dong-Guk Paeng

3P-14 Molecular characterization of two peroxiredoxin isoforms from Korean Black Rockfish *Sebastes schlegelii*

G. I. Godahewa, N. C. N. Perera, Jehee Lee

3P-15 Corrosivity in Korean Tap Water

J. Lee, J. Kim

3P-16 Spatial distributions of NDVI and NDWI for Onigi rice terrace in Hasami using UAV

Masayuki Tsutsui, Susumu Ogawa

3P-17 Electric Load Consumption using Neural Networks

Hyewon Song, J. T. Lalis, B. D. Gerardo, Yungcheol Byun

3P-18 Discussion on High Level Synthesis of Camera Calibration

Kazuya Uetsuhara, Hiroki Nagayama, Yuichiro Shibata, Kiyosi Oguri

3P-19 New OTP Algorithm approach based on Table Pattern Sequence Schedule

Kihoon Baek, Benedicto B. Balilo Jr, Ruji P. Medina, Bobby D. Gerardo, Yungcheol Byun

3P-20 Preparation of Nd-Fe-B film magnets using a vacuum arc deposition

K. Takashima, K. Iwashita, A. Yamashita, T. Yanai, M. Nakano and H. Fukunaga

3P-21 Accuracy of satellite composite and model reanalysis daily SST at the seas adjacent to the Korean peninsula

You-Hyun Baek, Il-Ju Moon

3P-22 Improvement in magnetic properties of Nd-Fe-B film magnets deposited on Si substrates

Y. Yamaguchi, D. Shimizu, Y. Chikuba, A. Yamashita, K. Takashima, T. Yanai, M. Nakano, H. Fukunaga

3P-23 Accuracy of the KMA global ocean data assimilation system (NEMO/NEMOVAR) for the upper-ocean simulation over the tropical Pacific and western North Pacific

Eun Byeol Ko, Il-Ju Moon, Yeong Yun Jeong, Pil-Hun Chang

3P-24 Preparation of electroplated Fe-Pt film magnets with high coercivity

J. Honda, R. Hamamura, H. Yamada, N. Fujita, K. Takashima, T. Yanai, M. Nakano, H. Fukunaga

3P-25 Submarine groundwater discharge (SGD) and SGD-driven nutrient fluxes in Geoje Bay, Korea

Tae-Hoon Kim, Dong-Woon Hwang, Minkyu Choi

3P-26 Pacific sea level changes from altimeters and sea level reconstructed data

Sang-Chul Cha, Jae-Hong Moon

3P-27 Anti-oxidative and Anti-inflammatory activities for the Extract from Branches of *Carpinus turczaninowii*

Ha Na Ko, Nam Ho Lee

3P-28 Anti-inflammatory effect of 6',7'-dihydroxybergamottin on lipopolysaccharide-stimulated RAW 264.7 macrophage cells

Min-Jin KIM, Ji-Seon HYUN, Nam Ho LEE, Chang-Gu HYUN

3P-29 Effect of Microfluidization and Ultrasonification on Commercial Milks Qualities

H.B. Shin, J.Y. Chun

3P-30 Big data analysis for an electric vehicle charging infrastructure using open data and software

Junghoon Lee, Yeonju Han, Seunghee You

3P-31 Anti-diabetic effects of *Laminaria japonica* and *Hizikia fusiforme* in skeletal muscle by using in vitro and in vivo model

S. Kang, E. Kim, Y. Lee

3P-32 Morphological characteristics as a long-term monitoring tool for calculating individual biomass in kelp species (*Ecklonia cava*)

Kim Sangil, Kang Yun Hee, Park Sang Rul

3P-33 A comparison of the bioremediation potential of five seaweed species in a land-based aquaculture

Kang Yun Hee, Park Sang Rul

3P-34 Stacked Nanogenerator Based on ZnSnO₃ for Resonance Power Buoy

Muhammad Umair Khan, Yohan Choi, Gul Hassan, Chong Hyun Lee, Jinho Bae

3P-35 Comparison of Floccs Formed by Inorganic and Organic Coagulants for the Removal of Humic Acid in Water

Samg-Kyu Kam, Mei-Lan Xu, Min-Gyu Lee

3P-36 Characteristics of nano-vesicle liposome powder from lecithin by spray drying

J. Y. Chun, F.C. Godoi, M. Morand, N. Bansal, B. Bhandari

