



The 14<sup>th</sup> International Symposium  
on Advanced Technology

# ISAT 14<sup>th</sup>

- Technology to Open a New Era -

Nov. 1 – Nov. 2, 2015  
Hachioji, Kogakuin Univ.

## *Welcome Message from the Chairperson*

*It is my great pleasure to welcome you to the 14<sup>th</sup> International Symposium on Advanced Technology (ISAT-14), which is sponsored by Kogakuin University (KU) and co-sponsored by Southern Taiwan University of Science and Technology (STUST), and Danang University of Science and Technology (DUT). This challenging symposium is held annually and consecutively by the collaborative universities to promote an understanding of the research activities being undertaken by the affiliated members and to foster practical collaborations.*

*The main theme of this year's symposium is "Technologies to Open a New Era". I hope this symposium will be successful in contributing to the advancement of knowledge, and I believe this annual symposium has become an important and valuable resource thanks to all of your positive contributions. I am delighted that Prof. Ei-ichi Negishi, the 2010 Nobel Laureate in Chemistry and an Honorary Professor of KU, is attending this ISAT-14. I believe that it is a great opportunity for us to discuss our future research ideas closely with such a distinguished scientist.*

*I wish you all a very pleasant stay here on the Hachioji campus of KU, and a productive and fruitful symposium. I would like to thank the organizing committee members, and also express my sincere appreciation to the collaborative universities.*



*Sincerely Yours,*

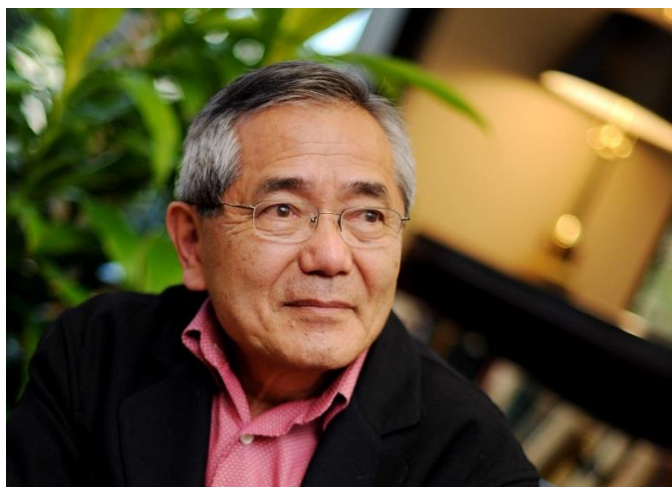
A handwritten signature in black ink that reads "M. Sato". The signature is written in a cursive style with a long horizontal stroke extending to the right.

*Mitsunobu Sato*

*President, Kogakuin University*

## **Infinite Possibility with**

### **Prof. Ei-ichi Negishi**



Professor Ei-ichi Negishi was awarded the 2010 Nobel Prize in Chemistry for developing palladium-catalyzed cross-coupling in the mid-1970s. Born in 1935, Negishi came to the United States in 1960 after graduating from the University of Tokyo.

In 1962, while studying for his doctorate at the University of Pennsylvania, he met Purdue chemistry professor Herbert C. Brown—a pioneer in synthetic organic chemistry. Negishi admired Brown's research and predicted, "Brown will change the whole world of organic chemistry and that is why I came to Purdue." With Brown as a mentor, Negishi arrived in West Lafayette as a postdoctoral researcher in 1966.

He then moved to Syracuse University where he served as an assistant professor (1972-76) and associate professor (1976-79).

Dr. Negishi joined the faculty at Purdue in 1979—the same year Brown was awarded the Nobel Prize in Chemistry—and has been a researcher in this building for more than thirty years.

In 1999, he was named the Inaugural Herbert C. Brown Distinguished Professor of Chemistry. Dr. Negishi has won many awards, authored several books, and published more than 400 research papers.

—Biography from the web-site of Purdue University—

## **Advisory and Committee members**

### **Organizing committee**

#### **Chairperson:**

Mitsunobu Sato                      President of Kogakuin University

#### **Co-chairperson:**

Chein Tai                              President of Southern Taiwan University of Science and Technology

Tran Van Nam                      President of the University of Danang

#### **Vice-chairperson:**

Ichiro Takano                      Vice President of Kogakuin University

Takashi Watanabe                      Vice President of Kogakuin University

Deng-Maw Lu                      Vice President of Southern Taiwan University of Science and Technology

Le Kim Hung                      Rector of Danang University of Science and Technology

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Makoto Hayashi                      Kogakuin University

## **Program committee**

### **Program Chairperson:**

Toshinori Okura                      Kogakuin University

### **Committee members:**

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Le Thi Kim Oanh                      Danang University of Science and Technology

Takatoshi Sugiyama                      Kogakuin University

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Kunitoshi Toyozumi                      Kogakuin University

Shunji Aoki                      Kogakuin University

Toshikazu Matsumoto                      Kogakuin University

Takahiro Yamashita                      Kogakuin University

Junko Usuki                      Kogakuin University

## **Correspondence**

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## **Preliminary ISAT-14 schedule**

The topics of ISAT-14 focus on “technologies to open a new era” which comes from one of the new slogans of Kogakuin University. The new president of Kogakuin University, Professor Sato plans to enhance the globalization of Kogakuin University in cooperation with Asian universities. We are welcoming presentations from various areas for active communication.

### ■ TOPICS of ISAT-14

Topics of interest include, but not limited to:

1. Biomedical Engineering and Biochemistry
2. Synthetic Organic Chemistry
3. Information and Communications Technology (ICT)
4. Energy and Transportation
5. Energy Conversion Eco-materials
6. Architectural Design
7. Education and Human Science

### ■ Language

English will be the official language during the conference.

### ■ Conference Venue

The Conference will be held at Hachioji campus of Kogakuin University.

### ■ Conference website

<http://www.kogakuin.ac.jp/isat14/index.html>

### ■ Important Dates

Deadline for Registration: August 31, 2015

Deadline for Abstracts (Two-pages): September 15, 2015

Notification of Acceptance: October 1, 2015

ISAT Symposium: November 1-2, 2015

November 1 : Presentation

November 2: Poster session

November 3: Excursion for the guests from overseas institutions

Program

**Nov. 1 (Sun)**

<b>Lecture Hall (1N-338)</b>				
08:30-09:15	Registration (IBUKI Hall)			
09:15-09:30	Opening	Prof. Mitsunobu Sato (Kogakuin University)		Chair: Prof. Yukio Nakajima
09:30-10:30	Infinite Possibility with Prof. Ei-ichi Negishi (Purdue University)			
10:30-10:40	Coffee Break			
10:40-11:20	Key-Note	Prof. Hong-Ru Lin (Southern Taiwan University of Science and Technology)		Chair: Prof. Tohru Honda
11:20-12:00	Key-Note	Prof. Mitsunobu Sato (Kogakuin University)		
12:00-13:00	Lunch (IBUKI Hall)			
13:00-13:40	Key-Note	Prof. Le Thi Kim Oanh (Danang University of Science and Technology)		Chair: Prof. Toshinori Okura
13:40-14:00	Invite	Prof. Lung-Hao Hu (Southern Taiwan University of Science and Technology)		
14:00-14:20	Invite	Prof. Satoshi Kamiyama (Meijo University)		
14:20-14:40	Invite	Prof. Takahiko Yoshino (Kurume Institute of Technology)		
14:40-15:00	Coffee Break			
	<b>Physics and Mechanical Engineering (1N-216)</b>		<b>Chemistry (1N-217)</b>	
15:00-15:20	Prof. Motoaki Iwaya (Invite)	Chair: Prof. T. Yamaguchi	Prof. Tomohide Takami	Chair: Prof. N. Yoshida
15:20-15:40	Dr. Masato Morita		Prof. Osamu Ohno	
15:40-16:00	Dr. Kenji Ohishi		Dr. Haruo Matsuyama	
16:00-16:20	Coffee Break			
16:20-16:40	Prof. Hiroyuki Kudoh	Chair: Prof. T. Onuma	Prof. Kazu Okumura	Chair: Prof. H. Hashimoto
16:40-17:00	Prof. Tetsuo Sakamoto		Prof. Hiromitsu Takaba	
17:30-19:30	Symposium Dinner (Dining Room @Student Center 2 F)			



**Nov. 2 (Mon)**

10:00-11:30	Poster Session (IBUKI Hall)	
11:30-13:00	Lunch	
13:00-13:20	Closing Ceremony (1N-338)	Chair: Prof. Yukio Nakajima
13:30-16:15	The 2 <sup>nd</sup> Innovation Forum of Advanced Engineering and Education (1N-338)	
18:00-20:00	Farewell Party (Invite Only)	

**Nov. 3 (Tue)**

	Excursion (Invite Only)	
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No.	Title of Paper, Author and Affiliation	Presenter
<b>Key-note Lecture</b>		
K1	<b>Chitosan Nano-carriers for Ophthalmic Drug Delivery</b> Hong-Ru Lin Southern Taiwan University of Science and Technology, Taiwan	Prof. Hong-Ru Lin (Southern Taiwan University of Science and Technology)
K2	<b>Molecular Precursor Method for Functional Thin Films</b> <b>— 20 Year's Challenges —</b> Mitsunobu Sato, Kogakuin University, Japan	Prof. Mitsunobu Sato (Kogakuin University)
K3	<b>Researching the Entrepreneurship in Engineering Students in Danang University of Science and Technology</b> Le Thi Kim Oanh, Danang University of Science and Technology	Prof. Le Thi Kim Oanh (Danang University of Science and Technology)
<b>Invited Lecture</b>		
I1	<b>Silicon Based Micro-biopsy Punch for Fast Pathological Examination</b> Lung-Hao Hu <sup>1</sup> , Yung-Cheng Lee <sup>2</sup> <sup>1</sup> Southern Taiwan University of Science and Technology, Taiwan, <sup>2</sup> University of Colorado Boulder, U.S	Prof. Lung-Hao Hu (Southern Taiwan University of Science and Technology)
I2	<b>Future Prospect of LED Technology</b> Satoshi Kamiyama Meijo University, Japan	Prof. Satoshi Kamiyama (Meijo University)
I3	<b>Improvement of Sideslip and Critical Cornering Performance to the Electric Vehicle Age</b> Takahiko Yoshino <sup>1</sup> , Hiromichi Nozaki <sup>2</sup> <sup>1</sup> Kurume Institute of Technology, Japan, <sup>2</sup> Kogakuin University, Japan	Prof. Takahiko Yoshino (Kurume Institute of Technology)
I4	<b>Electronic Properties of Externally High Si Doped AlGaN and Its Device Application</b> Motoaki Iwaya, Tetsuya Takeuchi, Satoshi Kamiyama, Isamu Akasaki Meijo University, Japan	Prof. Motoaki Iwaya (Meijo University)

Oral		
No.	Title of Paper, Author and Affiliation	Presenter
L01	<b>Study of Imaging Analysis for Aerosol Particles</b> Masato Morita, Shojiro Tagata, Tetsuo Sakamoto Kogakuin University, Japan	Dr. Masato Morita (Kogakuin University)
L02	<b>Development of a microchip laser for sputtered neutral mass spectrometry</b> Kenji Ohishi <sup>1</sup> , Tetsuo Sakamoto <sup>1</sup> , Takunori Taira <sup>2</sup> , Yasunori Furukawa <sup>3</sup> <sup>1</sup> Kogakuin University, Japan, <sup>2</sup> Institute for Molecular Science, Laser Research Center, Japan, <sup>3</sup> Oxide Corporation, Japan	Dr. Kenji Ohishi (Kogakuin University)
L03	<b>Glass Nanopipette Exploring Nanoworld</b> Tomohide Takami Kogakuin University, Japan	Prof. Tomohide Takami (Kogakuin University)
L04	<b>Isolation and Functional Analysis of Novel Compounds with Selective Cytotoxicity under Glucose-restricted Conditions</b> Osamu Ohno <sup>1</sup> , Ami Ito <sup>1</sup> , Shuntaro Obata <sup>1</sup> , Arihiro Iwasaki <sup>2</sup> , Kiyotake Suenaga <sup>2</sup> , Kenji Matsuno <sup>2</sup> <sup>1</sup> Kogakuin University, Japan, <sup>2</sup> Keio University, Japan	Prof. Osamu Ohno (Kogakuin University)
L05	<b>Asymmetric Conjugate Addition of Cyclic Hydrazine to <i>N-(E)</i>-cinnamoyl-(1S)-2,10-camphorsultam: Synthesis of Polyamine Alkaloids</b> Haruo Matsuyama <sup>1</sup> , Masafumi Hirama <sup>2</sup> , Chigusa Seki <sup>2</sup> , Takeshi Sato <sup>2</sup> , Koji Uwai <sup>2</sup> , Hiroto Nakano <sup>2</sup> <sup>1</sup> Kogakuin University, Japan, <sup>2</sup> Muroran Institute of Technology, Japan	Dr. Haruo Matsuyama (Kogakuin University)
L06	<b>A Novel 3-Dimensional Alignment Layer Composed of Electro-spun Microscopic Fibers for Liquid Crystal Displays with Memory Function</b> Yukihiro Kudoh, Hiroki Watanabe, Yusuke Watado, Taiju Takahashi Kogakuin University, Japan	Prof. Yukihiro Kudoh (Kogakuin University)

L07	<p><b>Individual Analysis of Aerosol Particles using a High-Resolution TOF-SIMS</b></p> <p>Tetsuo Sakamoto<sup>1</sup>, Masato Morita<sup>1</sup>, Akinori Takami<sup>2</sup>, Shiro Hatakeyama<sup>3</sup>, Kentaro Murano<sup>4</sup>, Hisao Ogawa<sup>5</sup>, Kayo Ueda<sup>6</sup></p> <p><sup>1</sup> Kogakuin Univ., <sup>2</sup> NIES, <sup>3</sup> Tokyo Univ. of Agriculture and Tech., <sup>4</sup> Hosei Univ., <sup>5</sup> Kumamoto Univ. Hospital, <sup>6</sup> Kyoto Univ.</p>	Prof. Tetsuo Sakamoto (Kogakuin University)
L08	<p><b>Structure and Catalysis of Layered NbW Oxide Constructed by the Self-assembly of Nanofibers</b></p> <p>Kazu Okumura</p> <p>Kogakuin University, Japan</p>	Prof. Kazu Okumura (Kogakuin University)
L09	<p><b>Multi-Scale Modeling of Lithium-Air Batteries</b></p> <p>Hiromitsu Takaba, Wataru Yamamoto</p> <p>Kogakuin University, Japan</p>	Prof. Hiromitsu Takaba (Kogakuin University)

<b>Poster</b>		
<b>No.</b>	<b>Title of Paper, Author and Affiliation</b>	<b>Presenter</b>
PA01	<b>Effect of Electric Current Stimulation on Cell on Titanium Thin Film</b> Tomokazu Takada, Shigehiro Hashimoto Kogakuin University, Japan	Mr. Tomokazu Takeda
PA02	<b>Measurement of Intercellular Force Using a Micropattern</b> Tomoaki Katano, Shigehiro Hashimoto Kogakuin University, Japan	Mr. Tomoaki Katano
PA03	<b>Effect of Micropattern on Cell Orientation</b> Kenta Sugimoto, Shigehiro Hashimoto Kogakuin University, Japan	Mr. Kenta Sugimoto
PA04	<b>Micro Structure of Solid Surface for Cell Sorting</b> Tatsuki Azuma, Shigehiro Hashimoto Kogakuin University, Japan	Mr. Tatsuki Azuma
PA05	<b>Micro-Fabricated Device for Measurement of Cell Membrane Potential</b> Akira Hiraoka, Shigehiro Hashimoto Kogakuin University, Japan	Mr. Akira Hiraoka
PA06	<b>Behavior of Nerve Cell on Vibrating Micro Ridge</b> Hiromi Sugimoto, Shigehiro Hashimoto Kogakuin University, Japan	Mr. Hiromi Sugimoto
PA07	<b>Accelerated Orientation of Cells by Flow Stimulation</b> Shusuke Nakano, Shigehiro Hashimoto Kogakuin University, Japan	Mr. Shusuke Nakano
PA08	<b>Behavior of Muscle Cells by Gravity Stimulus</b> Shoki Miura, Shigehiro Hashimoto Kogakuin University, Japan	Mr. Shoki Miura

PA09	<b>Micro Groove for Trapping of Flowing Cell</b> Yusuke Takahashi, Shigehiro Hashimoto Kogakuin University, Japan	Mr. Yusuke Takahashi
PA10	<b>Behavior of Cell on Vibrating Micro Ridge</b> Haruka Hino, Shigehiro Hashimoto Kogakuin University, Japan	Mr. Haruka Hino
PA11	<b>Analytical Study on Irregular Wear of Tire</b> Takeshi Hanzaka, Yukio Nakajima Kogakuin University, Japan	Mr. Takeshi Hanzaka
PA12	<b>Responsivity of the Vehicle Fueled with an Ammonia Decomposition Hydrogen Supply System</b> Kenichi Matsuno, Shogo Otsuka, Takashi Saika Kogakuin University, Japan	Mr. Kenichi Matsuno
PA13	<b>Theoretical Study of the Influence of the Tread Pattern on the Rolling Resistance of the Tire</b> Jumpei Oishi, Yukio Nakajima Kogakuin University, Japan	Mr. Junpei Oishi
PA14	<b>Deformation of Cell Passing through Micro Slit</b> Atsushi Mizoi, Shigehiro Hashimoto Kogakuin University, Japan	Mr. Atsushi Mizoi
PA15	<b>Culture of Myoblast on Conductive Film with Electric Pulses</b> Kenta Noda, Shigehiro Hashimoto Kogakuin University, Japan	Mr. Kenta Noda
PA16	<b>Effect of Ultrasonic Vibration on Proliferation of Cultured Cell</b> Hiroaki Nakajima, Shigehiro Hashimoto Kogakuin University, Japan	Mr. Hiroaki Nakajima
PA17	<b>Aluminum Foams in Additive Manufacturing Process</b> Toshimitsu Hayakawa, Masanori Shiomi Kogakuin University, Japan	Mr. Toshimitsu Hayakawa

PA18	<b>Rotating Disk to Apply Wall Shear Stress on Cell Culture at Microscopic Observation</b> Masashi Ochiai, Haruka Hino, Yusuke Takahashi, Shigehiro Hashimoto Kogakuin University, Japan	Mr. Masashi Ochiai
PA19	<b>Development of Fundamental Technology of Sponge Tires for Radio Control Car -Comparison of Soft Sponge Tires and Hard Sponge Tires in Maneuverability-</b> Yusuke Shinoyama, Yukio Nakajima, Seiichiro Takayama Kogakuin University, Japan	Mr. Yusuke Shinoyama
PA20	<b>Flow Characteristics Inside a Cylindrical Tank with a Rotating Cylinder</b> Yasutoshi Osawa <sup>1</sup> , Keiichi Ochiai <sup>1</sup> , Tomoaki Ishizawa <sup>1</sup> , Kotaro Sato <sup>1</sup> , Hirofumi Yoshida <sup>2</sup> <sup>1</sup> Kogakuin University, Japan, <sup>2</sup> Air-Conditioning and Cold Chain Development Center, Panasonic Co., Ltd, Japan	Mr. Yasutoshi Osawa
PA21	<b>Study of Hydrogen Supply System Using the Organic Hydride</b> Makoto Ogasawara, Yuki Hoshi, Takashi Saika Kogakuin University, Japan	Mr. Makoto Ogasawara

No.	Title of Paper, Author and Affiliation	Presenter
PB01	<p><b>Reduction in Number of Ultrafine Particles Formed from Laser Printers by Air Ion Feeding and Air Filter Installation</b></p> <p>Yuki Nishino<sup>1</sup>, Norikazu Namiki<sup>1</sup>, Naoki Kagi<sup>2</sup>, Yoshiro Muramoto<sup>3</sup>  <sup>1</sup> Kogakuin University, Japan, <sup>2</sup> Tokyo Institute of Technology, Japan, <sup>3</sup> Industrial Materials Division, Japan Vilene Co, Ltd., Japan</p>	Mr. Yuki Nishino
PB02	<p><b>Development of Simultaneous Removal System of VOCs and Particles Using Ultrasonic Atomization</b></p> <p>Kimito Nishishita<sup>1</sup>, Satsuki Suzuki<sup>1</sup>, Norikazu Namiki<sup>1</sup>, Kazuhiko Sekiguchi<sup>2</sup>, Susumu Nii<sup>3</sup>  <sup>1</sup> Kogakuin University, Japan, <sup>2</sup> Saitama University, Japan, <sup>3</sup> Kagoshima University, Japan</p>	Mr. Kimito Nishishita
PB03	<p><b>Improvement in Particle Classification Performance of a Virtual Impactor for PM2.5/10 Mass Concentration Measurements in Stacks and Its Application to Field Surveys</b></p> <p>Sho Okamoto<sup>1</sup>, Norikazu Namiki<sup>1</sup>, Hidehiro Kamiya<sup>2</sup>, Mayumi Tukada<sup>2</sup>  <sup>1</sup> Kogakuin University, Japan, <sup>2</sup> Tokyo University of Agriculture &amp; Technology, Japan</p>	Mr. Sho Okamoto
PB04	<p><b>Comparison of Degradation Products from Various Substrates by <i>Listeria Chitinases</i></b></p> <p>Shotaro Honda, Yasusato Sugahara, Fumitaka Oyama, Masayoshi Sakaguchi  Kogakuin University, Japan</p>	Mr. Shotaro Honda
PB05	<p><b>Evaluation of the Gas Permeation Property of Silica Membranes Synthesized by Counter Diffusion CVD Method on the <math>\gamma</math>-Alumina or Silica Intermediate Layer</b></p> <p>Kenta Sato, Kazuki Akamatsu, Shin-ichi Nakao  Kogakuin University, Japan</p>	Mr. Kenta Sato
PB06	<p><b>Study on Limiting Flux in Cross-Flow Microfiltration of Colloidal Suspensions</b></p> <p>Ryo Makabe, Kazuki Akamatsu, Shin-ichi Nakao  Kogakuin University, Japan</p>	Mr. Ryo Makabe
PB07	<p><b>Adhesion by Intermixing of Polystyrene Brushes without Glue</b></p> <p>Yujin Aoki, Kazuo Yamaguchi, Motoyasu Kobayashi  Kogakuin University, Japan</p>	Mr. Yujin Aoki



PB08	<p><b>Characterization of <i>Escherichia Coli</i>-Produced Mouse Chitotriosidase</b></p> <p>Masahiro Kimura, Satoshi Wakita, Kotarou Ishikawa, Kazutaka Sekine, Satoshi Yoshikawa, Kazuaki Okawa, Akinori Kashimura, Masayoshi Sakaguchi, Yasusato Sugahara, Fumitaka Oyama Kogakuin University, Japan</p>	Mr. Masahiro Kimura
PB09	<p><b>Evaluation of Ionic Conductivity of Narpsio Glass-Ceramics with Mixed Alkaline Carriers</b></p> <p>Yuki Ota<sup>1</sup>, Naoya Yoshida<sup>1</sup>, Kimihiro Yamashita<sup>2</sup>, Toshinori Okura<sup>1</sup> <sup>1</sup> Kogakuin University, Japan, <sup>2</sup> Tokyo Medical and Dental University, Japan</p>	Mr. Yuki Ota
PB10	<p><b>Effects of Viscosity and Polar Interaction of Liquid on Dynamic Hydrophobicity of Self-Assembled Monolayer Surface</b></p> <p>Yuki Okutomi, Naoya Yoshida, Toshinori Okura Kogakuin University, Japan</p>	Mr. Yuki Okutomi
PB11	<p><b>Carrier Ion Exchange Behavior of Narpsio Solid Electrolytes: Effects of Frame Substitution</b></p> <p>Yoshiko Takahashi<sup>1</sup>, Naoya Yoshida<sup>1</sup>, Kimihiro Yamashita<sup>2</sup>, Toshinori Okura<sup>1</sup> <sup>1</sup> Kogakuin University, Japan, <sup>2</sup> Tokyo Medical and Dental University, Japan</p>	Ms. Yoshiko Takahashi
PB12	<p><b>Study on the Effect of High Pressure Hydrogen on the Higher Order Structures of NBR Rubber Materials Cross-Linked by Sulfur and Peroxide by Using FT-IR Spectroscopy</b></p> <p>Y. Itoh<sup>1</sup>, K.Okano<sup>1</sup>, R.Naganuma<sup>1</sup>, T. Kawai<sup>1</sup>, H.Fujiwara<sup>2</sup>, S. Nishimura<sup>2,3</sup> <sup>1</sup> Kogakuin University, Japan, <sup>2</sup> The Research Center for Hydrogen Industrial Use and Storage, AIST, Japan<sup>3</sup> Kyushu University, Japan</p>	Mr. Kazuki Okano
PB13	<p><b>Decomposition and Recovery Technology of Multi Function Type PCB with Substrate a Biodegradable Resin</b></p> <p>Arashi Ohmukai, Takayoshi Yagasaki, Hitoshi Kohri, Ichiro Takano Kogakuin University, Japan</p>	Mr. Arashi Ohmukai
PB14	<p><b>Structural Chemical Study on High Thermal Conductivity Mechanism of the Phenylbenzoate Twin-Mesogen Epoxy Polymer</b></p> <p>Y. Itoh, N. Nishimura, T. Kawai Kogakuin University, Japan</p>	Mr. Naoto Nishimura

PB15	<b>Study on High Thermal Conductivity Mechanism of Biphenyl Benzoate Twin-mesogen Epoxy Polymer</b> Y. Itoh, T. Suzuki, T.Kawai Kogakuin University, Japan	Mr. Takuto Suzuki
PB16	<b>Influence of Heating in the Air on Thermoelectric Properties of BiCuSeO</b> Toshiharu Sato, Hitoshi Kohri, Takayoshi Yagasaki Kogakuin University, Japan	Mr. Toshiharu Sato
PB17	<b>Recovery of Suspended Metal Particles by Blowing Micro- and Nano- Bubbles into Flotation</b> Yoshio Inoue, Takayoshi Yagasaki, Hitoshi Kohri, Minori Kamaya Kogakuin University, Japan	Mr. Yoshio Inoue
PB18	<b>Development of Cocultivation Systems with Cell Clusters Formed by Cells of Aerial Microalga and Nitrogen-Fixing Bacterium</b> Sota Sekiguchi, Nobuhiro Aburai, Katsuya Abe Kogakuin University, Japan	Mr. Sota Sekiguchi
PB19	<b>Production of Fatty Acids by the Aerial Microalga <i>Coccomyxa</i> sp. on Filter Membrane</b> Kyo Ohkubo, Nobuhiro Aburai, Katsuya Abe Kogakuin University, Japan	Mr. Kyo Ohkubo
PB20	<b>Plasmin Cleaves Von Willebrand Factor Multimer That Has an Unfolded Conformation in Human Plasma</b> Kenshi Togashi, Yogchol Shin, Haruki Miyake, Yasutada Imamura Kogakuin University, Japan	Mr. Kenshi Togashi
PB21	<b>An Attempt to Improve Thermoelectric Properties of Aurivillius Phase Bi-V-O</b> Mizuki Segawa, Hitoshi Kohri, Takayoshi Yagasaki Kogakuin University, Japan	Mr. Mizuki Segawa
PB22	<b>Characterization of VOC Removal by Atomizing Acrylamide Polyampholyte (APA) Solution Using Spray Nozzles</b> Tetsuya Yamada <sup>1</sup> , Norikazu Namiki <sup>1</sup> , Naoki Kagi <sup>2</sup> , Tatsuo Moriya <sup>3</sup> , Shunsuke Kobayashi <sup>4</sup> <sup>1</sup> Kogakuin University, Japan, <sup>2</sup> Tokyo Institute of Technology, Japan, <sup>3</sup> Techno Medical Co., Ltd., Japan, <sup>4</sup> ESPO Chemicals Corp., Japan	Mr. Tetsuya Yamada

PB23	<b>Fabrication of Photovoltaic Lithium-ion Battery with Various Cathodes</b> Yoshihisa Takahashi, Hiroki Nagai, Tatsuya Suzuki, Mitsunobu Sato Kogakuin University, Japan	Mr. Yoshihisa Takahashi
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No.	Title of Paper, Author and Affiliation	Presenter
PC01	<b>A Fundamental Study on Load-Balancing Methods for Network Congestion Avoidance During Disaster using Degree Centrality and Available Bandwidth</b> Yuuki Udagawa, Takeshi Oowari, Osamu Mizuno Kogakuin University, Japan	Mr. Yuuki Udagawa
PC02	<b>Fundamental Study of Energy Saving Methods for ICN-based Wireless Sensor Network</b> Masafumi Koike, Takahiro Kaida, Osamu Mizuno Kogakuin University, Japan	Mr. Masafumi Koike
PC03	<b>Fundamental Study on Local Surface Plasmons in Ag-nanocrystallites ZnO films toward Future Applications in Nitride-based LEDs</b> Daichi Taka, Takeyoshi Onuma, Takashi Shibukawa, Hiroki Nagai, Tomohiro Yamaguchi, Mitsunobu Sato, Tohru Honda Kogakuin University, Japan	Mr. Daichi Taka
PC04	<b>Mist-CVD Growth of In<sub>2</sub>O<sub>3</sub></b> Takuya Kobayashi, Keisuke Tanuma, Tomohiro Yamaguchi, Takeyoshi Onuma, Tohru Honda Kogakuin University, Japan	Mr. Takuya Kobayashi
PC05	<b>Adaptive Control CRE with Three Different Values of CSOs in HetNet</b> Norihiro Naganuma, Sho Nakazawa, Hiroyuki Otsuka Kogakuin University, Japan	Mr. Norihiro Naganuma
PC06	<b>Throughput Performance of 3D Beamforming in Mobile Systems</b> Ryota Nakao, Sho Nakazawa, Hiroyuki Otsuka Kogakuin University, Japan	Mr. Ryota Nakao
PC07	<b>The Routing Method Focused on the Cache Function for ICN-based Sensor Network</b> Takahiro Kaida, Osamu Mizuno Kogakuin University, Japan	Mr. Takahiro Kaida
PC08	<b>Impact of Nitridation on GaN Growth on Sapphire with an Al layer as a Sacrifice Layer by RF-MBE</b> Yuya Hoshikawa, Shinya Osawa, Yudai Matsumoto, Takeyoshi Onuma, Tomohiro Yamaguchi, Tohru Honda Kogakuin University, Japan	Mr. Yuya Hoshikawa

PC09	<b>AR-XPS Measurement of AlOx/AlN/GaN Heterostructure</b> Daiki Isono, Shota Takahashi, Yohei Sugiura, Takeyoshi Onuma, Tomohiro Yamaguchi, Tohru Honda Kogakuin University, Japan	Mr. Daiki Isono
PC10	<b>Comprehensive Study on GaN and InN Etching by Inductively Coupled Plasma Reactive Ion Etching</b> Kento Narutani, Tomohiro Yamaguchi, Takeyoshi Onuma, Tohru Honda Kogakuin University, Japan	Mr. Kento Narutani
PC11	<b>The Context Estimation Method for the Mitigation Information Providing System</b> Wataru Izuka, Osamu Mizuno Kogakuin University, Japan	Mr. Wataru Izuka
PC12	<b>Proposition and Evaluations of the Resolution Methods of Home Network Service Interaction</b> Shintaro Kawamura, Osamu Mizuno Kogakuin University, Japan	Mr. Shintaro Kawamura
PC13	<b>Evaluation of a Multipath Routing Method on OpenFlow Networks</b> Tomoyuki Kamiyama <sup>1</sup> , Koichi Asatani <sup>2</sup> , Osamu Mizuno <sup>2</sup> <sup>1</sup> Kogakuin University, Japan, <sup>2</sup> Nankai University, China	Mr. Tomoyuki Kamiyama
PC14	<b>Correlation Between Green Fluorescent Emission and Pits Formed on Surface of GaInN Films</b> Naoki Toyomitsu <sup>1, 2</sup> , Yoshitomo Harada <sup>3</sup> , Jianyu Wang <sup>2</sup> , Liwen Sang <sup>2, 4</sup> , Tomohiro Yamaguchi <sup>1</sup> , Tohru Honda <sup>1</sup> , Yoshitaka Nakano <sup>5</sup> , Masatomo Sumiya <sup>2, 4</sup> <sup>1</sup> Kogakuin University, Japan, <sup>2</sup> Wide Bandgap Group, National Institute for Materials Science(NIMS), Japan, <sup>3</sup> Hosei University, Japan, <sup>4</sup> Japan Science and Technology Agency (JST-ALCA), Japan, <sup>5</sup> Chubu University, Japan	Mr. Naoki Toyomitsu
PC15	<b>The OpenFlow Controller Redundancy Scheme for the Disaster Mitigation Information Network</b> Ayumu Yoshine, Osamu Mizuno Kogakuin University, Japan	Mr. Ayumu Yoshine
PC16	<b>Machine Learning Approach for Systematic Drug Repositioning Based on the Similarity of Drugs</b> Kohei Adachi, Yutaka Fukuoka Kogakuin University, Japan	Mr. Kohei Adachi

PC17	<p><b>Development of Breath Detection Algorithm for Non-invasive Sleep Apnea Screening by Capacitive Sensing</b></p> <p>Shinsuke Yamagishi<sup>1</sup>, Hidenori Sakai<sup>2</sup>, Yutaka Fukuoka<sup>1</sup>, Akinori Ueno<sup>2</sup>  <sup>1</sup> Kogakuin University, Japan, <sup>2</sup> Tokyo Denki University, Japan</p>	Mr. Shinsuke Yamagishi
PC18	<p><b>Observation of Fraunhofer Diffraction of Retro-reflective Sheet</b></p> <p>Erina Ogida, Yosuke Kimura, Kazuaki Harashima, Mikio Maeda  Kogakuin University, Japan</p>	Ms. Erina Ogida
PC19	<p><b>Relationship of the Accelerating/Braking Performance of Trains and the Whole System Performance of the Power Supply Network under a Small-scale Disruptive Operating Condition on a Railway Line with a Very High Frequency Timetable</b></p> <p>Masaso Watanabe, Ryo Takagi  Kogakuin University, Japan</p>	Mr. Masao Watanabe
PC20	<p><b>Fuzzy Charge/Discharge Control of Stationary Energy Storage Systems for DC Electric Railways Using Line Receptivity Estimation</b></p> <p>Takuya Kikuchi, Ryo Takagi  Kogakuin University, Japan</p>	Mr. Takuya Kikuchi
PC21	<p><b>Application of the Mimic Panel State Model to the Typical Train Rescheduling Optimization for Urban Railways</b></p> <p>Masayuki Yamada, Ryo Takagi  Kogakuin University, Japan</p>	Mr. Masayuki Yamada
PC22	<p><b>A New Method for the Analysis of Water-containing Biological Samples by TOFSIMS</b></p> <p>Keita Kanenari, Masato Morita, Takahiro Onozawa, Tetsuo Sakamoto  Kogakuin University, Japan</p>	Mr. Keita Kanenari
PC23	<p><b>Study on the Phase Transition Temperature of <math>\alpha</math>-(AlGa)<sub>2</sub>O<sub>3</sub> Grown by Mist CVD</b></p> <p>Mikio Takahashi, Takumi Hayakeyama, Takeyoshi Onuma, Tomohiro Yamaguchi, Tohor  Honda Kogakuin University, Japan</p>	Mr. Mikio Takahashi

PC24	<p><b>Investigation of In-situ X-ray Reciprocal Space Mapping Measurements in GaInN Growth on GaN by RF-MBE</b></p> <p>M. Sawada<sup>1</sup>, T. Yamaguchi<sup>1</sup>, T. Sasaki<sup>2</sup>, K. Narutani<sup>1</sup>, R. Deki<sup>3</sup>, T. Onuma<sup>1</sup>, T. Honda<sup>1</sup>, M. Takahashi<sup>2, 3</sup>, Y. Nanishi<sup>4</sup>  <sup>1</sup> Kogakuin University, Japan, <sup>2</sup> Japan Atomic Energy Agency (JAEA), Japan, <sup>3</sup> University of Hyogo, Japan, <sup>4</sup> Ritsumeikan University, Japan</p>	Mr. Masataka Sawada
PC25	<p><b>Technique of Operating Shorter Trains at Ultra-high Frequency Under the Moving Block Signalling System</b></p> <p>Takahiro Shimizu, Ryo Takagi  Kogakuin University, Japan</p>	Mr. Takahiro Shimizu
PC26	<p><b>Combinatorial Optimization for CSO on CRE and Pico-eNB Transmission Power in HetNet</b></p> <p>Shingo Matsuoka, Hiroyuki Otsuka  Kogakuin University, Japan</p>	Mr. Shingo Matsuoka
PC27	<p><b>Design of Mobile System Parameters in Small Cell Strategy</b></p> <p>Sho Nakazawa, Hiroyuki Otsuka  Kogakuin University, Japan</p>	Mr. Sho Nakazawa
PC28	<p><b>New Entry of OFDM with 256- and 1024-QAM in Mobile Systems</b></p> <p>Mitsutoshi Nakamura, Hiroyuki Otsuka  Kogakuin University, Japan</p>	Mr. Mitsutoshi Nakamura
PC29	<p><b>Discussion of ZnO Based Film by Mist CVD Method Using Molecular Precursor Solution</b></p> <p>Ryosuke Goto, K. Tanuma, T. Hatakeyama, H. Nagai, T. Yamaguchi, M. Sato, T. Honda  Kogakuin University, Japan</p>	Mr. Ryosuke Goto
PC30	<p><b>Experimental Results of Wireless Sensor Network Using ZigBee</b></p> <p>Yuuta Torimoto, Hiroyuki Otsuka  Kogakuin University, Japan</p>	Mr. Yuuta Torimoto
PC31	<p><b>Privacy Preserving and Anonymous Authentication Protocol for VANET</b></p> <p>Narn-Yih Lee, Li-Sin Hsu  Southern Taiwan University of Science and Technology, Taiwan</p>	Prof. Narn-Yih Lee

PC32	<p><b>The Female Dick and the Female Clown: A Comparison between American and Japanese Women Detectives in Television</b></p> <p>Jun-Nan Chou Southern Taiwan University of Science and Technology, Taiwan</p>	Prof. Jun-Nan Chou
PC33	<p><b>A Study of Improving Error Rate Performances of a Network Coding Scheme Using the Maximum Likelihood Algorithm</b></p> <p>Naoaki Harada, Hidetoshi Saito Kogakuin University, Japan</p>	Prof. Hidetoshi Saito
PC34	<p><b>An Erasure-Coded Distributed Storage System by Using a Convolutional Code</b></p> <p>Naoaki Harada, Hidetoshi Saito Kogakuin University, Japan</p>	Prof. Hidetoshi Saito
PC35	<p><b>A Study of Evaluating Capacities of Two-Dimensional (0, G/I) Codes for Two-Dimensional Magnetic Recording</b></p> <p>Hiroataka Fukawa, Sho Uesugi, Hidetoshi Saito Kogakuin University, Japan</p>	Prof. Hidetoshi Saito
PC36	<p><b>A Study of Improving Compression Ratio of the Lempel-Ziv-Welch Compression Encoding Algorithm by Using a Variable-length Code</b></p> <p>Noritaka Narita, Hidetoshi Saito Kogakuin University, Japan</p>	Prof. Hidetoshi Saito



## **Presentation Guidelines**

### **ORAL PRESENTATIONS:**

The time allotted to each presentation will be:

Key-note: 35 minutes talk and 5 minutes for discussion

Invited & contributed talks: 15 minutes talk and 5 minutes for discussion

Oral presentation will be given using a PC projector. ISAT will prepare a PC and a projector at each session room. Presenters may bring your own PCs.

### **POSTER PRESENTATION:**

Poster presentation session is scheduled on November 2, Monday at Ibuki Hall. A board (approximately 90 cm width, 120 cm height) will be available for posting each presentation. All posters will preferentially be placed on the viewing boards from the Monday morning, so that they will be available for viewing during coffee break. On the poster board, only the paper number will be labeled. The paper title, author names, and affiliations should be prepared by the authors. Necessary tools for pinning the posters will be provided. The presenter should be available to explain his/her work in front of the poster when referees visit the poster (approximately 3mins).

## 第2回 IFAEE 発表プログラム

【11月2日（月）】

13:30-	開会挨拶	
13:40-13:43	大腸菌で発現したヒトとマウス酸性哺乳類キチナーゼキメラ体の解析 生物医化学研究室 大川一明	
13:43-13:46	高圧水素下におけるゴム材料の高次構造変化の FT-IR を用いた振動分光学的検討 機能性高分子研究室 長沼 瞭介	
13:46-13:49	大気雰囲気下における加熱が BiCuSeO の熱電特性におよぼす影響 エコシステム工学研究室／機能材料工学研究室 佐藤 利春	
13:49-13:52	プラズモンによる青色 LED の高輝度化に向けた研究 固体物性研究室 高 大地	
13:52-13:55	アンモニア分解・水素供給システムの応答性 グリーンエネルギーシステム研究室 大塚将五	
13:55-13:58	走査型マイクロインジェクション顕微鏡の要素技術開発 ナノ化学研究室 高見 知秀	
13:58-14:01	血漿中で plasmin は ADAMTS13 の VWF 切断活性を低下させる 生体機能化学研究室 三宅晴軌	
14:01-14:04	ポリイミドフィルムの表面改質と流体抵抗の評価 有機高分子化学研究室 小林 佳弘	
14:04-14:07	中尾・赤松研究室の研究、および膜を利用した粒子分級技術の開発 水環境工学研究室／エネルギーシステム工学研究室 真壁 良	
14:07-14:10	GaN 系 LED 製作へ向けた結晶成長とデバイスプロセス 結晶成長研究室 鳴谷建人	
14:10-14:13	磁性材料の放電・電解加工特性の比較 生産工学研究室 平川尚輝	
14:13-14:16	Cortistatin 類の合成研究 有機合成化学研究室 室伏城治	

- 14:16-14:19 機能性セラミックス化学研究室紹介  
機能性セラミックス化学研究室 粕谷 葉月
- 14:19-14:22 環境マネジメント工学研究室の研究と活動  
環境マネジメント工学研究室 阪西 達矢
- 14:22-14:25 情報化社会の快適化に向けた GaN 系デバイス製作に関する研究  
フォトニクス研究室 磯野大樹
- 14:25-14:28 発泡アルミニウムの成形加工  
材料加工研究室 早川敏光
- 14:28-14:31 量子ドットセルオートマトンを用いた次世代コンピュータの可能性  
理論化学研究室 大舘 史弥
- 14:31-14:34 気生微細藻類 *Vischeria helvetica* の生物機能を利用したカゼイン由来の生理活性ペプチドの生産  
生物資源化学研究室 丸山紗世
- 14:34-14:36 ウェットプロセスによる半導体のマイクロファブリケーション  
無機表面化学研究室 今井 涼太
- 14:36-14:40 室内環境における二次有機エアロゾル生成の研究に関する大気環境工学  
大気環境工学研究室 鈴木 恵
- 14:40-15:10 休憩
- 15:10-15:13 分子プレカーサー法による p 型酸化銅薄膜の空气中形成  
ナノ・バイオ材料研究室 鈴木達也
- 15:13-15:16 輸液ポンプの送液機構の研究  
医療工学研究室 石射天道
- 15:16-15:19 素粒子標準模型を超える理論の探求  
素粒子論研究室 進藤哲央
- 15:19-15:22 海洋シアロバクテリア由来栄養飢餓選択的細胞死誘導物質の単離と機能解析  
医薬化学研究室 大野修
- 15:22-15:25  $\text{Ru}^0/\text{Al}_2\text{O}_3$  触媒によるアルコールの酸化反応  
触媒化学研究室 沼 堯氏

15:25-15:28	高効率リチウム空気電池の理論的設計基盤の確立	環境計算化学工学研究室	山本 航
15:28-15:31	TOF-SIMS におけるエアロゾルの冷却分析に関する研究	物質計測制御研究室	金成啓太
15:31-15:34	IT 技術の観光産業・養豚産業・車載機器への適用	知能機械研究室	平山智之
15:34-15:37	次世代シークエンサー、ナノポアを用いた肺腺癌変異遺伝子（融合遺伝子）の解析	ゲノム制御医科学研究室	水島純子
15:37-15:40	アミノ酸添加レジスタントスターチを配合した小麦粉パンのグリセミック指数の評価	食品化学工学研究室	林 優樹
15:40-15:43	超高濃度オゾン水の生成	環境衛生工学研究室	長島 啓司
15:43-15:46	大容量 HDD のためのマイクロ波アシスト磁気記録の研究	磁性応用研究室	古賀 理樹
15:46-15:49	サーボプレス機のエンジニアリング解析	技術経営研究室	井手健太
15:49-15:52	星・惑星と銀河から探る宇宙の歴史	宇宙物理学研究室	小麥真也
15:52-15:55	粘土物質類へのセシウム吸脱着機構の評価	環境分析化学研究室	上原 正尚
15:55-15:58	西豪州塩害・湛水害地域での大規模植林による土壌特性及び炭素固定評価	環境修復工学研究室	赤城 亮太
15:58-16:01	可変長符号を用いた LZW 符号の圧縮率向上に関する検討	物理情報システム研究室	草野 修
16:01-16:04	複合材料力学グループの研究	複合材料力学研究室	大石潤平
16:05-	閉会挨拶		

