# PROGRAM

**ISCIU8 1st Day (November 10, 2012)**

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<tr>
<th>Time</th>
<th>Event</th>
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<tr>
<td>9:30~</td>
<td>Opening ceremony</td>
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<tr>
<td>10:00</td>
<td><strong>Keynote lecture</strong></td>
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<tr>
<td>10:00</td>
<td>Nanoscience and Engineering for Energy: Problems and Solutions</td>
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<tr>
<td>11:00</td>
<td>University of Illinois, Professor Andrew A. Gewirth</td>
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<tr>
<td>11:10</td>
<td><strong>Keynote lecture</strong></td>
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<tr>
<td>11:10</td>
<td>Electrodeposition of Through Silicon Via (TSV)</td>
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<tr>
<td>12:10</td>
<td>Osaka Prefecture University, Professor Kazuo Kondo</td>
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<tr>
<td>12:10</td>
<td>Lunch Time</td>
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<tr>
<td>13:10</td>
<td>*<em>Oral Session (<em>1)</em></em></td>
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<td>15:20</td>
<td><strong>E5 building (8F), Innovation room</strong></td>
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<td>15:00</td>
<td>*<em>Poster Session (<em>2)</em></em></td>
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<td>17:00</td>
<td><strong>Banquet</strong></td>
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<td>18:00</td>
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<td>20:00</td>
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| 10:00 | **Keynote lecture**  
The Rebirth of Rokkakudo |
| 11:00 | Ibaraki University, **Professor Emeritus** Isoji Miwa |
| 11:10 | **Keynote lecture**  
Friction stir welding and processing |
| 12:10 | Professor Sergey Minolve |
| 12:10 | Lunch Time |
| 13:10 | Oral Session (*1) |
| 16:00 | Closing ceremony & Awards ceremony |
(*1) Oral Session  Program
November 10
E1 building (1F),  No. 10 classroom
Chairman : Jin Onuki (10 : 00〜11:00)

1, Special Guest
   Nanoscience and Engineering for Energy: Problems and Solutions
   University of Illinois, Professor Andrew A. Gewirth

Chairman : Jin Onuki (11 : 10〜12 : 10)

2, Special Guest
   Electrodeposition of Through Silicon Via(TSV)
   Osaka Prefecture University, Professor Kazuo Kondo

Chairman : Shun Nakayama, Kouhei Taguchi (13 : 10〜14 : 10)

3,The behavior of hydrogen in aluminum alloy subjected to different heat-treatments
   Ibaraki University, Takahito Watakabe

4,A Trial Production on Multi-jointed Robot Finger as Part of Engineering Education
   Ibaraki National College of Technology, Yuki Sakuma

5,An Examination of the Adsorption of Basic Dye (Bromothymol Blue) from dye wastewater by
   Sri Lankan Montmorillonite nanoClay
   University of Kelaniya, Sri Lanka, S.P. Indika Pushpa Kumara

6,Computer Simulation of Precipitation Process in Si / (Ge+Cu) Amorphous Multilayer Films
   Ibaraki University, Ahmad Ehsan Bin Mohd Tamidi

Chairman : Ryosuke Nishimura (14 : 20〜15 : 20)

7,Deposition of Gold Nanoparticles on Glass Plates by Electroless Metal Plating Technique and
   Their Optical Absorption Properties
   Ibaraki University, Yuya Ishii

8,Development of Methods for Producing Silica-Coated Luminescent Semiconductor
   Nanoparticles and Their Fluorescence Imaging Ability
   Ibaraki University, Hiromu Matsudo

9,An application software for messaging in disaster-affected areas
   Ibaraki University, Takahiro Mizuo

10,Grain refinement of a Zn-Al eutectoid alloy by hot-rolling
   Ibaraki University, Toshiaki Manaka
November 11
E1 building (1F), No. 10 classroom
Chairman : Jin Onuki (10:00～11:00)
11, Special Guest
The Rebirth of Rokkakudo
Ibaraki University, Professor Emeritus Isoji Miwa

Chairman : Jin Onuki (11:10～12:10)
12, Special Guest
Friction stir welding and processing
Professor Sergey Minolve

Chairman : Yasuhiro Shiroki, Shinichiro Yokoyama (13:10～14:10)
13, Report of Overseas Science Seminar Tour in the USA
Hitachi first Senior High School, Kazuma Sato

14, Observing the Mysterious Ecology of Hikarimo
Hitachi first Senior High School, Miki Sato

15, Tangential coefficient effects on the temperature of the wire bonding operation reliability
Ibaraki University, Shusuke Kamo

16, Numerical estimation of Ohmic loss of high power wideband diplexer for ECCD system
Ibaraki University, Kohei Atsumi

Chairman : Hiroki Hasegawa, Kouhei Taguchi (14:20～15:05)
17, Research and development of high power wide-band polarizer for ECCD system in JT-60SA
Ibaraki University, Naoya Sugiyama

18, Research of under water sensing system using electrolocation
Ibaraki University, Yuusuke Watanabe

19, Three-dimensional Measurement of Snake Locomotion Using Stereovisin
Ibaraki University, Kouya Hirayama

Chairman : Keisuke Ohnuma, Shinichiro Yokoyama (15:15～16:00)
20, Mg2Si Thin Film Prepared by Annealing in Noble Gas Atmosphere
Ibaraki University, Tatsuya Ando

21, Analysis of mixed pesticide by laser mass spectrometry
Ibaraki University, Hiroki Nakanishi
A high-power pulsed sputtering device with modified penning geometry

Ibaraki University, Takamitsu Kikuchi
(*2)Poster Session Program

November 10 (15:00～17:00)

E5 building (8F), Innovation room

1) Electronic & Information Materials

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<tr>
<th>No.</th>
<th>Title</th>
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<tr>
<td>1-1</td>
<td>The power generation properties of p-type Mg$<em>2$Si$</em>{0.25}$Sn$_{0.75}$</td>
<td>Mitsuba Corporation, Satoki Tada</td>
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<td>1-2</td>
<td>Effect of applied field direction on magnetic cluster state of perpendicular recording media</td>
<td>Ibaraki University, Shohei Sato</td>
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<td>1-3</td>
<td>Effect of interlayer magnetization reversal process in ECC media with high coercivity</td>
<td>Ibaraki University, Akihiro Oyama</td>
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<td>1-4</td>
<td>Dependence of critical current density on domain wall width for current-induced domain wall motion in nanowires</td>
<td>Ibaraki University, Makoto Ito</td>
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<td>1-5</td>
<td>Numerical study of effect of scattering process on transport properties in Bi nanowire</td>
<td>Ibaraki University, Tetsuya Horie</td>
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<td>1-6</td>
<td>Influence of Pt content on magnetic domain structure of CoPt films</td>
<td>Ibaraki University, Ryusuke Tojo</td>
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<td>1-7</td>
<td>First principle study of hcp Co with stacking faults</td>
<td>Ibaraki University, Kazuki Iwai</td>
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<td>1-8</td>
<td>Observation of chip damage caused directly under the Al-Cu thick wire bonding</td>
<td>Ibaraki University, Mitsuru Gunji</td>
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<tr>
<td>1-9</td>
<td>Evaluation of nano structure and Cu wiring formation using Diallylamine Additives</td>
<td>Ibaraki University, Takuya Arayama</td>
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<td>1-10</td>
<td>Influence of heating rate and the ratio of the plating thickness and the depth of the wire on the nanostructure of fine copper wire</td>
<td>Ibaraki University, Hisashi Siraishi</td>
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<tr>
<td>1-11</td>
<td>Development of Al-Mg-Cu wire bonding technology for the high-temperature power semiconductor</td>
<td>Ibaraki University, Wenzhe Li</td>
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1-12 Crystal nano structure evaluation of Cu wiring material produced by high-speed repetition heat-treatment

Ibaraki University, Takahiro Yokoyama

1-13 Grain size and texture investigation of Cu wire formed with additive-free plating by EBSD

Ibaraki University, Yiqing Ke

1-14 Effect of the impurity elements addition to resistibility of the high purity Cu wires and nanostructure

Ibaraki University, Haruka Takagi

1-15 Visible Light Communication of Sound Signal using Flip-Flop

Ibaraki University, LI ZIYING

2) Precision Machinery Engineering & MEMS

2-1 Development of Portable CO\textsubscript{2} monitoring System

Ibaraki University, CHILIN LIU

2-2 Portable spectroscopic measurement system for water monitoring

Ibaraki University, LIANG WANG

2-3 Human activity measurement system using Arduino

Ibaraki University, LU ZHAI

2-4 Estimation of Affinity of impurity elements in (100) grain of Very Narrow Cu Wires

Ibaraki University, Tetsunori Tsumuraya

2-5 Molecular dynamics simulation of grain growth of Cu film

Ibaraki University, Yuki Kimura

3) Nano Process & Device Engineering

3-1 Effect of surface relief on behavior of hydrogen in a tensile-deformed Al-9%Mg alloy

Ibaraki University, Ryoto Koyama

4) Life science & Bio-molecular Science

4-1 Biphenyl degradation with Synechocystis sp. PCC6803 containig NADPH-specific BphA protein genes

Ibaraki University, Akari Ohtsuka
5) Nano Scale Analysis of Materials and Devices
5-1 Visualization of hydrogen in electrolytically charged aluminum alloys under stress loading
   Ibaraki University, Masahiko Nakano

5-2 Assessment of the resistance to hydrogen embrittlement of some 6000 series aluminum
   alloys with excess Si by internal pressure type and moist air
   Ibaraki University, Hiroaki Hayase

5-3 Behavior analysis of diffusible hydrogen in a stainless steel with the use of hydrogen
   microprint technique
   Ibaraki University, Katsuhiro Saitou

5-4 Visualization of hydrogen in electrolytically charged SUS304 steel
   Ibaraki University, Nobuhiro Miyata

5-5 Visualization of hydrogen in electrolytically charged stainless steels under stress loading
   Ibaraki University, Genya Sekimura

5-6 Behavior analysis of hydrogen in an SUS430J1L steel by hydrogen microprint technique
   Ibaraki University, Yuya Masuda

5-7 Molecular dynamics simulation of fast particle irradiation to the single crystal CeO2
   Ibaraki University, Naoki Ajima

5-8 Computer simulation of high-energy-beam irradiation of uranium dioxide
   Ibaraki University, Takuya Osada

5-9 Estimation of microstructure and hardness during cold forging
   Ibaraki University, Kyotaro Kurata

5-10 Examination of the tempering conditions by the difference in a hardening behavior
    Ibaraki University, Kensuke Tanaka

6) Nano Scale Structure Controlled Material
6-1 High temperature internal friction and mechanical properties of gold nanocrystalline
    Ibaraki University, Kyohei Yamamoto

6-2 The situation of He bubbles in Au nanocrystalline that annealed at high temperature
    Ibaraki University, Junki Idei
6-3 The micro-hardness and thermal stability of nanocrystalline gold prepared by gas deposition method
Ibaraki University, Youhei Takada

6-4 Evaluation of microstructure during plastic deformation
Ibaraki University, Kouji Shiba

6-5 Estimation of microstructure in Stack-bonded Copper plate produced by using Friction Stir Processing Technology
Ibaraki University, Yuuta Itou

6-6 Anisotropic behavior of strain age hardening in IF steel
Ibaraki University, Ryosuke Sekine

6-7 Stack Bonding of Copper Plates by Friction Stir Processing
Ibaraki University, Takashi Shioi

6-8 Nano structure evaluation of a low resistivity Ru film which carried out low-temperature formation
Ibaraki University, Atsushi Sato

6-9 Preparation of a Surface Porous Polymer Film Templated by Gold Nanoparticles
Fukushima National College of Technology, Haruka Suzuki

8) Others

8-1 Computer Experiments on Generation and Propagation of Toda Soliton in the One-dimensional Nonlinear lattice and Two-dimensional square lattice
Ibaraki University, Yuki Yamada

8-2 Degradation of molybdenum electrodes for fusing joining affected their microstructure
Ibaraki University, Syuhei Iijima

8-3 3D microstructure evaluation in Inconel/low alloy steel walded component using a serial section method
Ibaraki University, Shin Daikuhara

8-4 Evaluation of strength and measurement of working strain on press forming of steel sheet
Ibaraki University, Tomohiro Hasegawa

8-5 Measurement and analysis of sensitivity distribution in thermal diffusivity measurement of planar material by periodic laser spot heating
Ibaraki University, Wataru Nakano
8-6 Thermal Conductivity Measurements of Some Synthetic CaO-Na$_2$O-SiO$_2$ Slags
Ibaraki University, Takaya Kowatari

8-7 THERMAL DIFFUSIVITY MEASUREMENT METHOD FOR PERIODIC LASER SPOT HEATING TO CONSIDERING THE LASER DIAMETER AND SENSITIVITY DISTRIBUTION OF THE PLANAR MATERIAL.
Ibaraki University, Shun Nakayama

8-8 Study on Structure of Silicate Melt Containing CaF2 at High Temperature by Measuring Thermal Conductivity
Ibaraki University, Hiroki Hasegawa

8-9 Magnetization of High Tensile Strength Steel Sheet in Tensile Test
Ibaraki University, Machi Iwabuchi

8-10 Magnetization of Sheared Edges in High-Tensile Steel Sheet
Ibaraki University, shuto Watanabe

8-11 Ab initio calculation of interface segregation at a-SiGe/SiGe
Ibaraki University, Shousei Yamada

8-12 Estimation of Affinity of impurity elements in (111) grain of Very Narrow Cu Wires
Ibaraki University, Daiki Eguchi

8-13 Ab-initio calculation of (101) and (100) surface forβ-FeSi2
Ibaraki University, Ryo Nemoto

8-14 Computer Simulation of Precipitation Process in Si / Ge Amorphous Multilayer Films
Ibaraki University, Junya Murakami

8-15 Acceleration of Ferrite Transformation by TMCP Studied with In Situ Neutron Diffraction.
Ibaraki University, Kazuki Takahashi

8-16 In situ characterization of tempering behavior for high nitrogen martensite stainless steel using neutron scattering
Ibaraki University, Haruki Kamada

8-17 Effect of Si addition and grain size on the plastic deformation of Fe-Si alloy
Ibaraki University, Luo Hongyan

8-18 pH/pD-dependent decay signaling state in blue-light photoreceptor AppA
Ibaraki University, Takahiro Kojima
8-19  Action to the minute abrasive dispersion using the PELID method
      Ibaraki University,  Tatsuya Watahiki

8-20  DERIVING OF THERMAL DIFFUSIVITY OF LAYER STACK SAMPLE USING AREAL HEAT
      DIFFUSION TIME METHOD
      Ibaraki University,  Keisuke Ohnuma

8-21  Measurement of thermal effusivity of borosilicate melt
      Ibaraki University,  Yasuhiro Shiroki

8-22  Analysis of Three-Dimensional Heat Flow by Modulated Spot Heating Using a Phase Lag Matrix with
      a Combination of Thermal Effusivity and Volumetric Heat Capacity
      Ibaraki University,  Shinichiro Yokoyama

8-23  DETERMINATION PROCEDURE OF THERMAL EFFUSIVITY USING MOLYBDENUM THIN
      FILM WITH LOW THERMAL CONDUCTIVITY FOR THERMAL MICROSCOPE
      Ibaraki University,  Kouhei Taguchi