

PROGRAM

ISCIU8 1st Day(November 10,2012)

	E1 building (1F), No. 10 classroom
9:30~	Opening ceremony
10:00 11:00	Keynote lecture Nanoscience and Engineering for Energy: Problems and Solutions University of Illinois, Professor Andrew A. Gewirth
11:10 12:10	Keynote lecture Electrodeposition of Through Silicon Via(TSV) Osaka Prefecture University, Professor Kazuo Kondo
12:10 13:10	Lunch Time
13:10 15:20	Oral Session (*1)
	E5 building (8F), Innovation room
15:00 17:00	Poster Session (*2)
18:00 20:00	Banquet

ISCIU8 2st Day(November 11,2012)

	E1 building (1F), No. 10 classroom
10:00 11:00	Keynote lecture The Rebirth of Rokkakudo Ibaraki University, <i>Professor Emeritus</i> Isoji Miwa
11:10 12:10	Keynote lecture Friction stir welding and processing Professor Sergey Minolve
12:10 13:10	Lunch Time
13:10 16:00	Oral Session (*1)
16:20~	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 Stereovision

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

(*2)Poster Session Program

November 10 (15 : 00~17 : 00)

E5 building (8F), Innovation room

1) Electronic & Information Materials

1-1 The power generation properties of p-type $\text{Mg}_2\text{Si}_{0.25}\text{Sn}_{0.75}$

Mitsuba Corporation, Satoki Tada

1-2 Effect of applied field direction on magnetic cluster state of perpendicular recording media

Ibaraki University, Shohei Sato

1-3 Effect of interlayer magnetization reversal process in ECC media with high coercivity

Ibaraki University, Akihiro Oyama

1-4 Dependence of critical current density on domain wall width for current-induced domain wall motion in nanowires

Ibaraki University, Makoto Ito

1-5 Numerical study of effect of scattering process on transport properties in Bi nanowire

Ibaraki University, Tetsuya Horie

1-6 Influence of Pt content on magnetic domain structure of CoPt films

Ibaraki University, Ryusuke Tojo

1-7 First principle study of hcp Co with stacking faults

Ibaraki University, Kazuki Iwai

1-8 Observation of chip damage caused directly under the Al-Cu thick wire bonding

Ibaraki University, Mitsuru Gunji

1-9 Evaluation of nano structure and Cu wiring formation using Diallylamine Additives

Ibaraki University, Takuya Arayama

1-10 Influence of heating rate and the ratio of the plating thickness and the depth of the wire on the nanostructure of fine copper wire

Ibaraki University, Hisashi Siraishi

1-11 Development of Al-Mg-Cu wire bonding technology for the high-temperature power semiconductor

Ibaraki University, Wenzhe Li

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 CO₂ 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 welded 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-Na₂O-SiO₂ 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 for β -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