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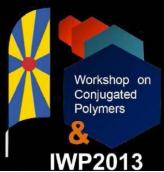
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# Workshop on Science and Patents 2013

## **IWP2013**

Hiromasa Goto gotoh@ims.tsukuba.ac.jp Aohan Wang s-awang@ims.tsukuba.ac.jp





### **1.Opening Ceremony 9:15-9:20 (University Hall)**

Declaration of IWP2013 opening Rafaël H. L. Kiebooms

### **<u>2. Plenary Lecture</u>**

Chairman: de SILVA A. Prasanna

L1, 9:20-9:40

**HIROKI, Kazuaki**, Tsuyama National College of Technology, Japan What Conductive polymers have taught us about the Meaning of Education: Education before Innovation

L2, 9:40-9:55

NAKAO, Reiko, AIST, Japan

Chronopharmacology: the Use of Endogenous Circadian Rhythm to Reduce the Side Effect of Glucocorticoid Administration

Reiko Nakao<sup>1</sup>, Saori Yamamoto<sup>1</sup>, and Katsutaka Oishi<sup>1,2,3</sup>

1)Biological Clock Research Group, Biomedical Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), 2)Department of Medical Genome Sciences, Graduate School of Frontier Sciences, The University of Tokyo, 3)Department of Applied Biological Science, Graduate School of Science and Technology, Tokyo University of Science

### L3, 9:55-10:15

UCHIDA, Natsuko, University of Tsukuba, Japan

Molecular Design of Small  $\Delta E_{ST}$  for Delayed Fluorescence Materials: Azacalix[n](2,6)pyridines and its Linear Analog

Natsuko Uchida, Junpei Kuwabara, and Takaki Kanbara

Tsukuba Research Center for Interdisciplinary Materials Science (TIMS), Graduate School of Pure and Applied Sciences, University of Tsukuba



#### Chairman: KIEBOOMS, Rafaël H. L.

#### L4, 10:15-10:35 YODA, Satoshi, AIST, Japan

#### Polymer foam-silica nanocomposites via high pressure phase control

Satoshi Yoda<sup>1</sup>, Toshiko Harimoto<sup>1</sup>, Katsuto Otake<sup>2</sup>

1)Nanosystem Research Institute, National Institute of Advanced Industrial Science and Technology (AIST),

2)Department of Industrial Chemistry, Faculty of Engineering, Tokyo University of Science,

#### L5, 10:35-10:55

# **BUNZ, Uwe H. F.**, Ruprecht-Karls-Universität Heidelberg, Germany Conjugated Polymer-Gold Nanoparticle Constructs for Sensing Applications

Uwe H. F. Bunz<sup>1</sup>, and Vincent M. Rotello<sup>2</sup>

1)Organisch-Chemisches Institut, Ruprecht-Karls Universität Heidelberg

2)Department of Chemistry, University of Massachusetts at Amherst

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#### Chairman: YODA, Satoshi

#### L6, 10:55-11:15

# **MORI, Takeshi**, Industrial Tech. Center of Wakayama Prefecture, Japan **Design of Pyrazoline Dyes for Dye-Sensitized Solar Cells**

<u>Takeshi Mori<sup>1</sup></u>, Hitoshi Saomoto<sup>1</sup>, Koji Machitani<sup>1</sup>, Kaname Inoue<sup>2</sup>, Takeshi Koshitani<sup>2</sup>, Yasunori Aoki<sup>2</sup> 1)Industrial Technology Center of Wakayama Prefecture, 2)Nippon Chemical Works Co., Ltd.

#### L7, 11:15-11:45

#### KIHARA, Hideyuki, AIST, Japan

# Reversible Phase Change of New Anthracene Compounds Triggered by the Action of Light and Heat

Hideyuki Kihara and Masaru Yoshida

Nanosystem Research Institute, National Institute of Advanced Industrial Science and Technology (AIST)



#### Chairman: GOTO, Hiromasa

L8, 11:45-12:05 MOCHIDA, Madoka KEK, Japan Materials and Life Science on Accelerator

PM------

Chairman: KOIZUMI, Hiroyasu

L9, 13:00-14:00 de SILVA A. Prasanna, Queens Univ., UK Molecular Logic-based Computation <u>A. Prasanna de Silva</u>, Bernadine O. F. McKinney, David C. Magri and Sheenagh M. Weir

<u>A. Prasanna de Silva</u>, Bernadine O. F. McKinney, David C. Magri and Sheenagn M. v School of Chemistry and Chemical Engineering, Queen's University

Chairman: KIHARA, Hideyuki

L10, 14:00-15:00 KIEBOOMS Rafaël H. L., European Patent Office, The Netherlands Protecting your intellectual property by means of patents

Chairman: de SILVA A. Prasanna

L11, 15:00-15:30 KOIZUMI, Hiroyasu, University of Tsukuba, Japan Quantum computer using high Tc cuprate



## 3.Poster Session: 15:30-17:20

#### **IWP005**

Preparation of Chiroptical Polyisocyanides from Achiral Monomer in a Cholesteric Liquid Crystal Medium

<u>Tomokazu Iseki</u>, Kohsuke Kawabata and Hiromasa Goto Graduate School of Pure and Applied Sciences, University of Tsukuba

#### **IWP006**

#### Synthesis and Properties of Polysaccharide/Polyaniline Composite

Kuniharu Nakajima, Hiromasa Goto

Division of Materials Science, Faculty of Pure and Applied Sciences, University of Tsukuba

#### **IWP007**

### Designing Efficient Glucose Anodes Based on MgO-Templated Carbon Electrode <u>Aimi Suzuki<sup>U1</sup></u>, Seiya Tsujimura<sup>2</sup>

 College of Engineering Science, University of Tsukuba,
 Division of Materials Science, Faculty of Pure and Applied Sciences, University of Tsukuba

#### **IWP008**

### Preparation and Properties of Stretch-Oriented Poly(*p*-phenyleneviylene) Films Bearing Conjugated Side Chains

Hirotsugu Kawashima<sup>1</sup>, Takeshi Yasuda<sup>2</sup>, and Hiromasa Goto<sup>1</sup>

1)Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba

2)Organic Thin-Film Solar Cells Group, Photovoltaic Materials Unit, National Institute for Materials Science (NIMS)



#### **IWP009**

# Preparation of Conjugated Polymer Film with Catalytic Polymerization and Electrochemical Polymerization

#### Fan Yang, Hiromasa Goto

Division of Materials Science, Faculty of Pure and Applied Sciences, University of Tsukuba

#### **IWP010**

#### Synthesis of Conjugated Polymers Bearing a-Tocopheryl Moiety

Yoshifumi Maruyama, Kohsuke Kawabata, Hiromasa Goto

Division of Materials Science, Faculty of Pure and Applied Sciences, University of Tsukuba

#### **IWP011**

#### Photosterilizing Properties of Pheophorbide a

<u>Yuhta Sorimachi<sup>1</sup></u>, Yuichi Hotota<sup>a</sup>, Toru Yamamoto<sup>2</sup>, Katsuaki Taira<sup>2</sup>, Takanori Iriuchishima<sup>2</sup>, Junpei Saito<sup>3</sup>, Yu Nagai<sup>2</sup>, Masataka Nakazato<sup>4</sup>, Hiroshi Sentsui<sup>5</sup>, Akiyoshi Saito<sup>2</sup>, Masami Kobayashi<sup>1</sup>

<sup>1</sup> Division of Materials Science, Faculty of Pure and Applied Sciences, University of Tsukuba, Tsukuba, JAPAN

<sup>2</sup> School of Medicine, Nihon University, Kanda, JAPAN

<sup>3</sup> Department of Matsudo Dentistry, Nihon University, Matsudo, JAPAN

<sup>4</sup> Chlorophyll Research Institute, Fuefuki, JAPAN

<sup>5</sup> Department of Veterinary Medicine, Nihon University, Fujisawa, JAPAN

### **IWP012**

#### Synthesis of cholesteric liquid crystals having menthol

<u>Hiroki Hayashi<sup>u</sup></u>, Tomokazu Iseki, and Hiromasa Goto *College of Engineering Sciences, University of Tsukuba* 

#### **IWP013**

#### Conjugated polymers deposited on metal surface

Yuki Kudo, Hiromasa Goto

Graduate School of Pure and Applied Sciences, University of Tsukuba,



#### **IWP014**

Synthesis of Chiral Polyaniline Derivatives <u>Yuki Kaitsuka<sup>u</sup></u> and Hiromasa Goto College of Engineering Sciences, Univ*ersity of Tsukuba* 

#### **IWP015**

Polythiophenes Bearing Borneol as a Side-chain Prepared by Electrochemical Polymerization and Chemical Polymerization

<u>Atsushi MATSUMURA</u>, Kohsuke KAWABATA, and Hiromasa GOTO Division of Materials Science, Faculty of Pure and Applied Sciences, University of Tsukuba,

#### **IWP016**

Synthesis and Properties of Pyrimidine-type Chiral Inducer Containing Fluorine Atom

<u>Tomoaki Jo<sup>u1</sup></u>, Aohan Wang<sup>2</sup>, Hiromasa Goto<sup>2</sup>

1) College of Engineering Sciences, University of Tsukuba

2) Division of Materials Science, Faculty of Pure and Applied Sciences, University of Tsukuba

#### **IWP017**

# Synthesis and Characterisation of Thieno[3,2-b]thiophene-based Linear Shaped Liquid Crystals

Jiuchao Dong, Kohsuke Kawabata, Takahiro Seino, Fan Yang, Hiromasa Goto Graduate School of Pure and Applied Sciences, Institute of Material Science, University of Tsukuba

#### **IWP019**

### Silver Hexagonal Nanoplate Formation In SilverCitrate Solution By Visible Light Irradiation

Kazuhiro Hashiguchi and Hisanori Tanimoto

Division of Materials Science, Faculty of Pure and Applied Sciences, University of Tsukuba



#### **IWP020**

# Characteristic Mechanical Behavior and Grain Boundary State of Nanocrystalline Gold

Takatoshi Kimura, Kosuke Suzuki and Hisanori Tanimoto

Division of Materials Science, Faculty of Pure and Applied Sciences, University of Tsukuba

#### **IWP022**

Elastic Anomaly and Order-Disorder Nature of Multiferroic Barium Sodium Niobate Studied by Broadband Brillouin Scattering

Shiori Ohta, Kazuya Matsumoto, Kohei Suzuki, and Seiji Kojima,

Division of Materials Science, University of Tsukuba, Tsukuba, Ibaraki 305-8573, Japan

#### **IWP024**

#### Fabrication of Organic Bilayer Solar Cells inserting Gold Nanodots

<u>Takayuki Sasaki<sup>1</sup></u>, Kenichi Tabata<sup>1</sup>, Kazuhito Tsukagoshi<sup>3</sup>, Yohei Yamamoto<sup>1,2</sup> 1)Division of Materials Science, 2)Tsukuba Research Center for Interdisciplinary Materials Science (TIMS), University of Tsukuba, 3) National Institute for Materials Science

#### IWP025

#### Spherical Assemblies from Low-Bandgap Donor–Acceptor Copolymers

<u>Soh Kushida<sup>u1</sup></u>, Liang Tong<sup>1</sup>, Junpei Kuwabara<sup>1,2</sup>, Takaki Kanbara<sup>1,2</sup>, Yohei Yamamoto<sup>1,2</sup>

1) Division of Materials Science and 2) Tsukuba Research Center for Interdisciplinary Materials Science

(TIMS), Faculty of Pure and Applied Sciences, University of Tsukuba.



#### **IWP026**

### Thermo-optical and Temperature Modulated DSC Measurements of Organic Glass Forming Liquids

<u>Shota Koda<sup>1</sup></u>, Haruki Takayama<sup>2</sup>, Tomohiko Shibata<sup>2</sup>, Yuto Kuroda<sup>1</sup>, and Seiji Kojima<sup>2</sup> *1)College of Engineering Science, University of Tsukuba, 2)Graduate School of Pure and Applied Sciences, University of Tsukuba*

#### **IWP027**

### Control of Secondary Structures of Norbornene-Appended Charged Oigopeptides by Ring-Opening Metathesis Polymerizationa

<u>Akira Kaneko<sup>1</sup></u>, Toru Nakayama<sup>1</sup>, and Yohei Yamamoto<sup>1,2</sup> 1) Facility of Pure and Appl. Sci., Univ. of Tsukuba, 2) TIMS, Univ. of Tsukuba

#### **IWP028**

## Nanocrystallization And Macroscopic Deformation Of AmorphousAlloys By Electropulsing

<u>Keisuke Takeuchi</u>, Kento Inodaand Hisanori Tanimoto Division of Material Science, Faculty of Pure and Applied Science, University of Tsukuba,

#### IWP030

#### Single Crystal Growth of High-Temperature Superconductor Ca

Takuma Enomoto<sup>1</sup>, Yusuke Suzuki<sup>2</sup>, and Kazuo Kadowaki<sup>2</sup>

1)Colledge of Engineering Science, University of Tsukuba, 2)Graduate School of Pure and applied Sciences, University of Tsukuba

#### **IWP031**

# $\beta$ -Phase Transformation of Poly(Vinylidene Fluoride) Nanospheres and their colloidal crystallization

Daichi Okada<sup>u1</sup>, Hideki Kaneko<sup>1</sup>, Katsuhiro Kato<sup>1</sup>, Yohei Yamamoto<sup>1,2</sup> 1) Division of Materials Science and 2) Tsukuba Research Center for Interdisciplinary Materials Science (TIMS), Faculty of Pure and Applied Sciences, University of Tsukuba.



#### **IWP032**

### Development of High Power THz Oscillators Using High-Temperature Superconducutor Bi2212 And Its Applications

<u>Yoshihiko Saiwai<sup>1</sup></u>, Takanari Kashiwagi<sup>2</sup>, Takeo Kitamura<sup>2</sup>, Kazuya Ishida<sup>2</sup>, Shunsuke Sekimoto<sup>2</sup>, Kurama Nakade<sup>2</sup>, Kenataro Asanuma<sup>2</sup>, Takaki Yasui<sup>2</sup>, Yuki Shibano<sup>1</sup>, Ryo Kaneda<sup>1</sup>, Hidetoshi Minami<sup>2</sup>, Kazuo Kadowaki<sup>2</sup>

Colledge of Engineering Science, University of Tsukuba
 Graduate School of Pure an Applied Sciences, University of Tsukuba

#### **IWP034**

Single Crystal Growth of Novel Insulators with Topologically Protected Surface States

<u>Fumiya Kimizuka<sup>1</sup></u>, Yusuke Suzuki<sup>2</sup>, Masashi Komatsu<sup>2</sup>, Takanari Kashiwagi<sup>2</sup>, Kazuo Kadowaki<sup>2</sup>

Colledge of Engineering Science, University of Tsukuba,
 Graduate School of Pure and Applied Sciences, University of Tsukuba

#### **IWP035**

# An *ex vivo* Model for the Study of Central Circadian Clock as a Reflection of *in vivo*Circadian Rhythm

Daisuke Kondoh<sup>1</sup>, Koyomi Miyazaki<sup>1</sup>, Katsutaka Oishi<sup>1,2,3</sup>

1) Biological Clock Research Group, Biomedical Research Institute, National Institute of Advanced

Industrial Science and Technology (AIST), 2) Department of Medical Genome Sciences, Graduate School of Frontier Sciences, The University of Tokyo, 3) Department of Applied Biological Science, Graduate School of Science and Technology, Tokyo University of Science

#### IWP036

# Electron spin resonance study on accumulated charge states in ion gel-gated RR-P3HT thin film transistors

<u>Y. Sakurai<sup>1</sup></u>, D. Matsumoto<sup>1</sup>, T. Takenobu<sup>2</sup>, Y. Iwasa<sup>3</sup>, K. Marumoto<sup>1,4</sup> 1)Univ. of Tsukuba, 2)Waseda Univ., 3)Univ. of Tokyo, 4)JST PRESTO



#### **IWP037**

#### **Mn Doping into Si**

<u>Takashi Kanazawa<sup>1</sup></u>, Koichi Murata<sup>2</sup>, "Satoshi Tsubomatsu<sup>1</sup>, and Kazushi Miki<sup>1,2</sup> 1)University of Tsukuba, 2)National Institute for Material Science (NIMS),

#### **IWP038**

Transient Fano Resonance for Coherent Phonon Generation in an Ultrashort-PulseIrradiated Semiconductor

Yohei Watanabe<sup>1</sup>, Yuya Nemoto<sup>1</sup>, Ken-ichi Hino<sup>2.3</sup>, and Nobuya Maeshima<sup>2.3</sup>

1) Graduate School of Pure and Applied Sciences, University of Tsukuba,

2)Division of Materials Science, Faculty of Pure and Applied Science, University of Tsukuba

3)Center for Computational Science, University of Tsukuba

#### IWP039

# Collapse of Fractal Structure in Dynamic Fractional Stark Ladder Driven by a THz Laser

<u>Fumitaka Ohno<sup>1</sup></u>, Yuya Nemoto<sup>1</sup>, Nobuya Maeshima<sup>2, 3</sup>, and Ken-ichi Hino<sup>2, 3</sup> 1)Graduate School of Pure and Applied Sciences, University of Tsukuba 2)Division of Materials Science, Faculty of Pureand Applied Sciences, University of Tsukuba

3) Center for Computational Sciences, University of Tsukuba

#### **IWP040**

# Magnetic fields effects on the radiation characteristics of high *Tc superconductor* Bi2212 single crystal THz emitter

<u>Yuuki Shibano<sup>1</sup></u>, Takeo Kitamura<sup>2</sup>, Yoshihiko Saiwai<sup>1</sup>, Kazuya Ishida<sup>2</sup>, Shunsuke Sekimoto<sup>2</sup>,

Chiharu Watanabe<sup>2</sup>, Kentaro Asanuma<sup>2</sup>, Kurama Nakade<sup>2</sup>, Takaki Yasui<sup>2</sup>, Ryo Kaneda<sup>1</sup>, Hidetoshi Minami<sup>2</sup>, Takanari Kashiwagi<sup>2</sup>, Kazuo Kadowaki<sup>2</sup>

1)Colledge of Engineering Science University of Tsukuba

2) Graduate School of Pure and Applied Sciences University of Tsukuba



#### **IWP042**

The Mechanism of Nano Membrane VesiclesFormation in Bacteria Masaharu Kurosawa, Masanori Toyofuku, Nobuhiko Nomura College of Agrobiological Resource Sciences, University of Tsukuba

#### **IWP043**

#### Introduction to the Slow Positron Facility at KEK

Ken Wada<sup>1</sup>, Izumi Mochizuki<sup>1</sup>, Toshio Hyodo<sup>1</sup>, Tetsuo Shidara<sup>1</sup>, Satoshi Ohsawa<sup>1</sup>, Mitsuo Ikeda<sup>1</sup>, Kouji Michishio<sup>2</sup>, Hiroki Terabe<sup>2</sup>, Shinpei Iida<sup>2</sup>, Yasuyuki Nagashima<sup>2</sup>, Yuki Fukaya<sup>3</sup>, Masaki Maekawa<sup>3</sup>, Atsuo Kawasuso<sup>3</sup>, Takayuki Tachibana<sup>4</sup> 1) High Energy Accelerator Research Organization (KEK), 2) Department of Physics, Tokyo University of Science, 3) Advanced Science Research Center, Japan Atomic Energy Agency, 4) Department of Physics, Rikkyo University

#### **IWP044**

#### **Reflection High-Energy Positron Diffraction (RHEPD) and its Applications**

<u>I. Mochizuki<sup>1</sup></u>, H. Ariga<sup>2</sup>, Y. Fukaya<sup>3</sup>, K. Wada<sup>1</sup>, T. Hyodo<sup>1</sup>, K. Asakura<sup>2</sup>, M. Maekawa<sup>3</sup>, A. Kawasuso<sup>3</sup>

1)Instituteof Materials Structure Science, High Energy Accelerator Research Organization.2)Catalysis Research Center, Hokkaido University3)Advanced Science ResearchCenter, Japan Atomic Energy Agency

#### **IWP046**

#### Functional Analysis of a Retinitis Pigmentosa Causative Gene Product, KLHL7

<u>Tomoyuki Endo<sup>1</sup></u>, Yu Kigoshi<sup>2</sup>, Tomomi Fukuda<sup>2</sup>, Fuminori Tsuruta<sup>2</sup>, and Tomoki Chiba<sup>2</sup>

1) College of Biological Sciences, School of Life Science and Environmental Sciences, University of Tsukuba,

2) The Graduate School of Life and Environmental Sciences, University of Tsukuba,



#### **IWP047**

### Synthesisand Characterization of 3,4-Phenylenedioxythiopene Copolymers Kosuke Shibasaki<sup>1,2</sup>, Masashi Kijima<sup>2,3</sup>

1)Inst. Mater. Sci. Grad. School Pure & Appl. Sci. Univ. Tsukuba, 2)Tsukuba Research Center for Interdisciplinary Mater. Sci. (TIMS), 3)Div. Mater. Sci. Facul. Pure & Appl. Sci. Univ. Tsukuba.

#### IWP050

### Coulometric Detection for Organophosphate Pesticides in Liquid Plugs by Microfabricated Flow Channel Based on Bienzyme Biosensor

Jin Wang<sup>1</sup>, Zhi Cai<sup>2</sup>, Hiroaki Suzuki<sup>2</sup> and Takaaki Satake<sup>1</sup>

1) Graduate School of Life and Environmental Sciences, University of Tsukuba; 2) Graduate School

of Pure and Applied Sciences, University of Tsukuba.

#### **IWP051**

## Bioelectrocatalytic oxidation of glucose on quinone-modified porous carbon electrode

<u>Takuya Sadakane<sup>1</sup></u>, Seiya Tsujimura<sup>2</sup> 1)Colledge of Engineering Science, University of Tsukuba 2)Division of Materials Science, Faculty of Pure and Applied Sciences, University of Tsukuba

#### **IWP052**

### Induction of Associative Olfactory Memory by Targeted Activation of the Memory Circuits in *Drosophila* Larvae

Takato Honda<sup>1.2</sup>, Maki Yoshida-Kasikawa<sup>2</sup> and Katsuo Furukubo-Tokunaga<sup>2</sup>

1) MEXT/JSPS Program for Leading Graduate Schools: Ph.D. Program in Human Biology, School of Integrative and Global Majors, University of Tsukuba, 2) Graduate School of Life and Environmental Sciences, University of Tsukuba



#### **IWP053**

Synthesis of Poly (3,6-difluoro-2,7-carbazole)s and Their Electroluminescence Characteristics

Takehiro OHASHI<sup>1,2</sup>, Masashi KIJIMA<sup>2,3</sup>,

1) Inst. Mater. Sci. Grad. School Pure & Appl. Sci. Univ. Tsukuba, 2) Tsukuba Research Center for Interdisciplinary Mater. Sci. (TIMS), 3) Div. Mater. Sci. Facul. Pure & Appl. Sci. Univ. Tsukuba,

#### **IWP054**

Light-induced electron spin resonance study on charge formation and accumulation states at interfaces in polymer-based organic solar cells <u>M. Yabusaki<sup>1</sup></u>, D. Liu<sup>1</sup>, T. Yamanari<sup>2</sup>, Y. Yoshida<sup>2</sup>, K. Marumoto<sup>1,3</sup> *1)Univ. of Tsukuba, 2)RCPVT-AIST, 3)JST PRESTO* 

#### **IWP055**

Crystal structure and magnetism of the ternary compound CrFeTe grown on GaAs(001) and (111) substrates by MBE

<u>Kazuma Yamawaki</u>, Ken Kanazawa and Shinji Kuroda Materials Science, University of Tsukuba.

#### **IWP056**

Systematic Studies on the Formation of β-Sheet from Fmoc-Substituted Charged Oligopeptides

<u>Toru Nakayama<sup>1</sup></u>, Akira Kaneko<sup>1</sup>, Taro Sakuraba<sup>1</sup>, Kentaro Tashiro<sup>2</sup>, and Yohei Yamamoto<sup>1</sup>

1) Faculty of Pure and Applied Sciences, University of Tsukuba, Tennodai 1-1-1, Tsukuba, Ibaraki 305-8573,

Japan, 2) National Institute for Materials Science, Tsukuba, Japan



#### **IWP057**

### Surface Characterizations and Electrochemical Properties of Nitrogen Enriched Carbons

Satoshi Kato<sup>1,2</sup>, Masashi Kijima<sup>2,3</sup>

1) Grad. School of Pure & Appl. Sci., U. Tsukuba, 2) TIMS, 3) Faculty of Pure & Appl. Sci., U. Tsukuba

#### **IWP058**

# Effect of n-type doping on electron-transporting material Alq3 as investigated by electron spin resonance

Donghyun Son<sup>1</sup>, Yukihiro Shimoi<sup>2</sup> and Kazuhiro Marumoto<sup>1,3</sup>

 University of Tsukuba, 1-1-1, Tennodai, Tsukuba, Ibaraki, Japan
 Nanosystem Research Institute (NRI), National Institute of Advanced Industrial Science and Technology (AIST), 1-1-1, Umezono, Tsukuba, Ibaraki, Japan
 Japan Science and Technology Agency (JST), PRESTO, Kawaguchi, Saitama, Japan

#### IWP060

### Synthesis and Characterization of Poly(dibenzo[*c*,*g*]carbazole-5,9-diyl)

Tomohiro Okura<sup>1,2</sup>, and Masashi KIJIMA<sup>2,3</sup>

1)Inst. Mater. Sci. Grad. School Pure & Appl. Sci., Univ. Tsukuba, 2)Tsukuba Research Center for Interdisciplinary Mater. Sci. (TIMS), 3)Div. Mater. Sci. Facul. Pure & Appl. Sci., Univ. Tsukuba

#### **IWP061**

### Splitting Of Energy Level And Labi Oscillation Of Spin Vortex Induced Loop Current

<u>Hikaru Wakaura<sup>1</sup></u>, Akira Okazaki<sup>2</sup>, Hiroyasu Koizumi<sup>2</sup> 1)Affiliation, 2) Pure and Applied Sceience, Univ. of Tsukuba

#### **IWP062**

#### Structural and electronic properties of C60-ferrocene hybrid nanosheets

Kenji Wakui, Hideaki Aizawa, and Kiyoto Matsuishi Division of Materials Science, Faculty of Pure and Applied Sciences, University of Tsukuba



#### **IWP063**

# Optical properties of C60-porphyrin hybrid nanosheets fabricated by a liquid-liquid interfacial precipitation method

<u>Takaki Mori</u>, Motoki Sugaya, and Kiyoto Matsuishi Division of Materials Science, Faculty of Pure and Applied Sciences, University of Tsukuba

#### **IWP064**

Oxigen reduction catalyzed by metagenome-derived laccase <u>Kazuki Murata</u> and Seiya Tsujimura Graduate School of Pure and Applied Sciences, University of Tsukuba

#### **IWP065**

Molecular Design of Small Δ*E*st for Delayed Fluorescence Materials: Azacalix[n](2,6)pyridines and its Linear Analog <u>Natsuko Uchida</u>, Junpei Kuwabara, Takaki Kanbara Graduate School of Pure and Applied Sciences, University of Tsukuba, TIMS

#### **IWP066**

#### Preliminary Examinations of Poly(2,7-phosphafluorene)s

Kaito Suzuki<sup>1,2</sup>, Masashi Kijima<sup>2,3</sup> 1)College of Engineering Sciences, University of Tsukuba 2)Tsukuba Research Center for Interdisciplinary Materials Science (TIMS), 3)Faculty of Pure and Applied Sciences, University of Tsukuba

#### **IWP067**

#### Soliton electric generators based on conducting polymers

Hiromasa Goto

Division of Materials Science, Faculty of Pure and Applied Sciences, University of Tsukuba

#### **IWP068**

### **The procedure to obtain the grant of a European patent** <u>Rafaël H.L. Kiebooms</u> *European Patent Office, The Netherlands*



IWP069 The seven deadly sins of the inventor Rafaël H.L. Kiebooms European Patent Office, The Netherlands

#### IWP070

#### **Cross-Linked Channel-Type γ-Cyclodextrin Buildups**

Takafumi Watanabe<sup>1,2</sup>, Masashi Kijima<sup>2,3</sup>

1)College of Engineering Sciences, University of Tsukuba 2)Tsukuba Research Center for Interdisciplinary Materials Science(TICMS), 3)Faculty of Pure and Applied Sciences, University of Tsukuba

#### **IWP071**

#### Structure Preserving Carbonization of Polytetraphenylmethane Framework

Yasuyuki Kimura<sup>1,2</sup>, Masashi Kijima<sup>2,3</sup>

1) Grad School Pure. & Appl. Sci. U. Tsukuba, 2) TIMS,3) Fac. Pure & Appl. Sci. Univ. Tsukuba

#### **IWP072**

# Spherulitic Cellulose-Lignin Composites; Preparation, Carbonization and Characterization

<u>Takeshi Shimada<sup>1,2</sup></u>, Masashi Kijima<sup>2,3</sup>, Toshimitsu Hata<sup>4</sup>

1)Graduate School of Pure and Applied Sciences, University of Tsukuba, 2)Tsukuba Research Center for Interdisciplinary Materials Science, University of Tsukuba, 3)Faculty of Pure and Applied Sciences, University of Tsukuba, 4)Research Institute for Sustainable Humanosphere, Kyoto University



#### **IWP073**

# Structural determination of aminor chlorophyll produced in a unicellular cyanobacterium KC1 incubated under near-infrared light:

<u>Hirohisa Komatsu<sup>1</sup></u>, Shinya Akutsu<sup>1</sup>, Daiki Fujinuma<sup>1</sup>, Tadashi Watanabe<sup>2</sup>, Mayumi Ohnishi-Kameyama<sup>3</sup>, Hiroshi Ono<sup>3</sup>, Satoshi Ohkubo<sup>4</sup>, Hideaki Miyashita<sup>4</sup>, Masami Kobayashi<sup>1</sup>

1)Division of Materials Science, Faculty of Pure and Applied Sciences, University of Tsukuba, 2)Research Center for Math and Science Education, Organization for Advanced Education, Tokyo University of Science, Tokyo, 3)National Food Research Institute, Tsukuba, 4)Graduate School of Human and Environmental Studies, Kyoto University, Kyoto

#### **IWP074**

# Synthesis and Characterization of Polycarbazoles Having Triazine Side Groups for OLEDs

Zhongmin Geng<sup>1,2</sup>, Masashi Kijima<sup>2,3</sup>

1)Gaduate School of Pure and Applied Sciences, University of Tsukuba, 2) Tsukuba Research Center for

Interdisciplinary Materials Science (TIMS), 3)Faculty of Pure and Applied Sciences, University of Tsukuba

#### **IWP076**

#### Synthesis and Properties of Chiral Low Bandgap Polymers

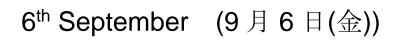
<u>Aohan Wang</u>, Kohsuke Kawabata and Hiromasa Goto Division of Materials Science, Faculty of Pure and Applied Sciences, University of Tsukuba

#### **IWP077**

### Solubility Control of Regioregular 3-Substituted Polythiophenes Bearing 2-Phenylnaphthalene Side Chain by Copolymerization

Mari Watanabe<sup>1,2</sup> and Masashi Kijima<sup>2,3</sup>

1) Graduate School of Pure and Applied Sciences, University of Tsukuba, 2) TIMS, 3) Faculty of Pure and Applied Sciences, U. Tsukuba





#### **IWP078**

# A Model for P740 special pair from the viewpoint of optical and electrochemical properties

Daisuke Fukayama<sup>1</sup>, Tatsuya Iemura<sup>1</sup>, Shunske Ohashi<sup>1</sup>, Hayato Furukawa<sup>1</sup>, Hideaki Miyashita<sup>2</sup>, Koji Iwamoto<sup>3</sup>, Yoshihiro Shiraiwa<sup>3</sup>, Tadashi Watanabe<sup>4</sup>, Masami Kobayashi<sup>1</sup>

1)Division of Materials Science, University of Tsukuba, 2)Graduate School of Human and Environmental Studies, Kyoto University, 3)Biological Sciences, University of Tsukuba,4)Research Center for Math and Science Education, Organization for Advaced Education, Tokyo University of Science

#### IWP079

#### Oral malodor reduction by chlorophylls

<u>Kanako Kimura</u><sup>1</sup>, Yasuhiro Abe<sup>1</sup>, Akiyoshi Saito<sup>2</sup>, Junpei Saito<sup>3</sup>, Masataka Nakazato<sup>4</sup>, Masami Kobayashi<sup>1</sup>

1)Division of Materials Science, Faculty of Pure and Applied Sciences, University of Tsukuba, 2)School of Medicine, Nihon University, 3)Department of Matsudo Dentistry, Nihon University, 4)Chlorophyll Research Institute. Tennodai 1-1-1, Tsukuba, Ibaraki 305-8573, Japan

#### **IWP080**

### Industrial Applications of Conductive Polymers for Ultra Low ESR Capacitors and the Panasonic Product Lineup

Yoshinori Takamuku

Engineering Depertment Capacitor Business Division, Automotive & Industrial Systems Company, Panasonic Corporation

#### **IWP081**

### Preparation of PLGA-collagen hybrid scaffolds with controlled pore structures for cartilage tissue engineering

Jiahui Ng<sup>1,2</sup>, Shangwu Chen<sup>1,2</sup>, Naoki Kawazoe<sup>1</sup>, Guoping Chen<sup>1,2</sup>,\* 1Tissue Regeneration Materials Unit, International Center for Materials Nano architectonics, NationalInstitute for Materials Science, Tsukuba, Japan 2)Department of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan



#### **IWP082**

#### New Pleats Processing of Animal hair Fiber

<u>Emi Honjo</u><sup>1</sup>, Masako Shinotsuka<sup>1</sup>, Shinobu Yoshinami<sup>2</sup>, Gou Yoshinami<sup>2</sup> *1) Industrial Technology Institute of Ibaraki prefecture, Textile Technology Office*, *2)Nankai Pleats CO., LTD.*

#### **IWP083**

Development of water quality purification fiber appricated by Carbon nanotube
<u>Mutsuko Nakano</u><sup>1</sup>, Masako Shinotsuka<sup>1</sup>
1)Industrial Technology Institute of Ibaraki prefecture, Textile Technology Office

#### **IWP084**

**Field-induced ESR study of fluorene-based blue light-emitting polymer materials** <u>T. Ito</u><sup>1</sup>, D. Son<sup>1</sup>, Y. Matsuo<sup>1</sup>, Y. Sakurai<sup>1</sup>, Y. Shimoi<sup>2</sup>, K. Marumoto<sup>1,3</sup> <sup>1</sup>Univ. of Tsukuba, <sup>2</sup>NRI-AIST, <sup>3</sup>JST PRESTO

#### **IWP085**

## Preparation of porous polyimide-silica nanocomposite for a flexible thermal insulating material

<u>Yumeto Fukubayashi<sup>1</sup></u>, Satoshi Yoda<sup>2</sup> <sup>1</sup>Unitika LTD Central Research Laboratory, <sup>2</sup>NRI-AIST



### 4.Closing Ceremony and Awarding 17:30-18:00

### (University Hall)

Remarks de SILVA A. Prasanna KIJIMA, Masashi

Awarding from de SILVA A. Prasanna KIEBOOMS, Rafaël H. L.

Remarks, Closing Declaration KOJIMA, Seiji Executive Chairman of TICMS, Joint Workshop on Conjugated Polymers and IWP2013, Dean of Division of Materials Science, Faculty of Pure and Applied Sciences, University of Tsukuba