

## WORKSHOP PROGRAM (Frontier 2013)

**December 1st, 2013 Sunday** <Sakura Hall 1F>

15:00-20:00 REGISTRATION & WELCOME RECEPTION

**December 2nd, 2013 Monday** <Sakura Hall 2F>

9:00-10:30 OPENING CEREMONY

(10:30- 11:00 Coffee Break at Foyer)

### Session I. ADVANCED MATERIALS 1

**Chair Prof. Akihiko Chiba**

<Collaboration 1> Superplasticity

11:00-11:30

**“Investigation of the mechanical behaviour of Ti-6Al-4V alloy under hot forming conditions”**

**Vincent Velay** *Université de Toulouse ; INSA, UPS, Mines Albi, ISAE ; ICA*

**“International collaboration on superplastic Ti alloys”**

**Hiroaki Matsumoto** *IMR, Tohoku university*

11:30-11:40 Discussion

(11:40-13:00 Lunch)

**Chair Prof. Hiroyuki Shibata**

<Collaboration 2> Glass

13:00-13:45

**“Composition dependence of indentation deformation and indentation cracking in glass”**

**Tanguy Rouxel** *LARMAUR, Université de Rennes 1*

**“Morphology, structure, and electro-optic property in glass-ceramics”**

**Yoshihiro Takahashi** *Graduate school of Engineering, Tohoku University*

**“Viscosity of CaO-SiO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub>-K<sub>2</sub>O Melts and Solid State NMR Study of Glasses”**

**Sohei Sukenaga** *IMRAM, Tohoku University*

13:45-14:00 Discussion

<Collaboration 3> *Metallic Glass*

14:00-14:30

**“Evolution of mechanical properties with temperature of ternary metallic glasses (Zr<sub>90-x</sub>Cu<sub>x</sub>Al<sub>10</sub>)”**

**Fabrice Célarié** *LARMAUR, Université de Rennes 1*

**“Vitrification of molten alloy ··· from cast bulk shape to fine powder shape”**

**Yoshihiko Yokoyama** *IMR, Tohoku University*

14:30-14:40 Discussion

(14:40-15:00 Coffee Break at Foyer)

## **Session II. MATERIALS PROCESSING**

**Chair Prof. Junya Kano**

<Collaboration 4> *Powder Technology*

15:00-16:00

**“Green Pharmacy by Solid-State Mechanochemistry”**

**P. F. M. Oliveira**, M. Baron *Université de Toulouse, Mines-Albi, Centre Rapsodee*

**“Mechanochemical Route for Hydrogen Production from Sewage Sludge”**

**Qiwu Zhang** *IMRAM, Tohoku University*

**“Stress Induced Phase Transformation during Materials Recycling” tentative**

Shun-Ichiro Tanaka *IMRAN, Tohoku University*

**“Crystal growth of AlN using Ga-Al flux”**

**Hiroyuki Fukuyama** *IMRAM, Tohoku University*

15:45-16:00 Discussion

17:30-19:30 **APERITIF at Sakura Hall 1F**

**December 3rd, 2013 Tuesday**

**<Sakura Hall 2F>**

## **Session III. Materials and Devices 1**

**Chair Prof.**

<Collaboration 5> *Phase Transition*

9:00-9:40

**“Phase transitions in aperiodic crystals”**

**Laurent Guérin** *IPR, U. Rennes 1*

**“Possibility of Phase Transition in Quasicrystals”**

**An-Pang Tsai** *IMRAM, Tohoku University*

9:40-9:50 Discussion

(9:50-10:10 Coffee Break at Foyer)

**Chair Prof.**

<Collaboration 6> *Spintronics 1*

10:10-10:40

**“Lanthanides-based complexes: from TTF to luminescent single-molecule magnets”**

**Olivier Cador** *ISCR, Université de Rennes 1*

**“Frontier of Quantum Molecular Spintronics Based on Multiple-Decker Phthalocyaninato Ln(III) Single-Molecule Magnets”**

**Masahiro Yamashita** *Graduate School of Science, Tohoku University & CREST*

10:40-10:50 Discussion

**Chair Prof.**

<Collaboration 7> *Spintronics 2*

11:00-11:30

**“Interplay between luminescence, rotating single-crystal magnetometry and ab-initio calculations in the study of lanthanide-based single molecule magnets”**

**Kevin Bernot** *ISCR, Université de Rennes 1 & Université Européenne de Bretagne*

**“CDW-MH Phase Transition in Quasi-One-Dimensional Halogen-Bridged Metal Complexes”**

**Shinya Takaiishi** *Graduate School of Science, Tohoku University*

11:30-11:40 Discussion

(11:40-13:10 Lunch)

**Session III. Materials and Devices 2**

**Chair Prof.**

<Collaboration 8> *Ionics*

13:10-13:40

**“Confined ionic liquids within host networks: enhancing ILs properties for all solid devices”**

**Jean Le Bideau** *Institut des Matériaux Jean Rouxel, Université de Nantes-CNRS*

**“In Situ Analysis of Solid State Ionics Devices”**

**Koji Amezawa** *IMRAM, Tohoku University, Japan*

13:40-13:50 Discussion

13:40-16:40 **POSTER SESSION** + (Coffee)

**<Sakura Hall 1F>**

18:00-20:00 **BANQUET**

**<Sakura Hall 1F>**

**December 4th, 2013 Wednesday** <Sakura Hall 2F>

**Session IV NANOMATERIALS**

**Chair Prof.**

<Collaboration 9> Nanotube

9:00-9:30

**“Hybrid nano-bio-composites based on carbon nanotubes and optical properties”**

**Olivier Chauvet** *Institut des Matériaux Jean Rouxel, Université de Nantes-CNRS*

**“Fabrication of a micro gas sensor using an anodic titanium oxide nanotube film”**

**Yasuo Kimura** *RIEC, Tohoku University*

9:40-9:50 Discussion

(9:50-10:10 Coffee Break at Foyer)

**Chair Prof.**

<Collaboration 10> Nanomaterials

10:10-10:55

**“Optical Phenomena in Emergent Materials”**

**Eric Faulques** *Institut des Matériaux Jean Rouxel, Université de Nantes-CNRS*

**“Preparation and Catalysis of Gold Nanoparticles Stabilized by Ammonium Salts of Hyperbranched Polystyrene”**

**Hideo Nagashima** *IMCE, Kyushu University*

**“Nanoporous Gold as an Effective Catalyst for Selective Molecular Transformations”**

**Naoki Asao** and Tienan Jin

*WPI-Advanced Institute for Materials Research, Tohoku University*

10:45-11:00 Discussion

11:00-11:30 **CLOSING CEREMONY**

(11:30-13:00 Lunch)

14:00- 16:00 **LABORATORY TOUR (Dept. Chemistry, Graduate School of Science)**

17:00-19:00 **FAREWELL PARTY** <Sakura Hall 1F>

**December 5th, 2013 Thursday**

8:30-18:30 **CONFERENCE TOUR** (Aizu-Wakamatsu, Castle, Soba)