

Organizing Committee

Takashi GOTO (Chair, Tohoku Univ.)
Hyong Seop KIM (Co-chair, POSTECH)
Keiichi SASAKI (Tohoku Univ.)
Makoto WATANABE (Tohoku Univ.)

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Nobuyuki NISHIYAMA (RIMCOF)
Junji SAIDA (Tohoku Univ.)
Mitsuo NIINOMI (Tohoku Univ.)
Yoshihiro TAKAO (Kyushu Univ.)
Mitsugu TODO (Kyushu Univ.)

Local Organizing Committee:

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Nobuhiro TAKAHASHI (Tohoku Univ.)
Takayuki NARUSHIMA (Tohoku Univ.)
Akihiko CHIBA (Tohoku Univ.)
Kyoosuke YOSHIMI (Tohoku Univ.)
Hidemi KATO (Tohoku Univ.)
Teiichi KIMURA (Tohoku Univ.)

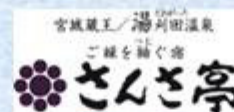
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Location

Tohgatta Hotel San satei

Tel: +81-224-34-2211
Fax: +81-224-34-2088
(<http://www.zao-sansatei.co.jp/>)



*Free bus transport is available
Sendai station ⇄ Hotel (1 hour)
(reservation required)

Time schedule and stop map:
<http://www.zao-sansatei.co.jp/planbus.html>



3rd International Workshop on NANO-BIO and AMORPHOUS MATERIALS



Date:
August 7-8, 2008

Place:
Tohgatta Hotel Sansatei, Miyagi, Japan

Sponsors:
• JSPS Japan-Korea Asian CORE Program :
Interdisciplinary Science of Nano Materials
(<http://www.asiacore.imr.tohoku.ac.jp>)
• International Collaboration Center, Institute
for Materials Research (ICC-IMR), Tohoku
Univ., Japan
(<http://www.icc-imr.tohoku.ac.jp/>)
• Highly-functional Interface Science:
Innovation of Biomaterials with Highly
functional Interface to Host and Parasite
• Global COE program: Materials Integration
International Center of Education and
Research, Tohoku Univ., Japan
(<http://www.gcoe.imr.edu>)

Invitation (Aim & Scope)

It is my great pleasure to invite participants to the International Workshop on NANO-BIO and AMORPHOUS MATERIALS on August 7-8, 2008 in Tohgatta Hotel Sansatei, Miyagi, Japan. This workshop will concern with many aspects of the synthesis, characterization and fundamental investigations in a wide material topic of nano-, bio- and amorphous materials.

I believe that the workshop can help each participant to find a new and critical idea for each research, and provide an opportunity to create research collaboration as well as a strong friendship among participants.

I am looking forward to seeing you in Tohgatta, Miyagi, Japan.

Prof. Takashi GOTO
(Symposium chair)

Program

August 7 (Thu)

Chair: T. GOTO

10:00-10:20 R. Akatsuka (Graduate School of Dentistry, Tohoku Univ.)

Hydroxyapatite films formed on tooth surface using powder jet deposition

10:20-10:40 K. Ueda (Graduate School of Engineering, Tohoku Univ.)

Amorphous calcium phosphate coating on blast-treated titanium implants fabricated using RF magnetron sputtering

10:40-11:00 A. Matsui (Graduate School of Dentistry, Tohoku Univ.)

Effects of octacalcium phosphate/collagen (OCP/Col) composite on intramembranous bone augmentation of rat calvaria model

11:00-11:20 T. Kawai (Graduate School of Dentistry, Tohoku Univ.)

Bone regeneration of octacalcium phosphate combined with collagen (OCP/Col) implanted in dog skull defect

11:20-11:40 Y. Sakuma (Dept. of Oral Medicine and Surgery, Tohoku Univ.)

Quantitative fluorometry for evaluating oral bacterial adhesion to biomaterials

11:40-12:00 M. Yoshimura (Tokyo Institute of Technology, Tohoku Univ.)

Novel concept and technology: Growing Integration Layers (GIL) for the joining/bonding of metallic and ceramic materials and its application for bulk metallic glasses with high bioactivities

12:00-13:00 Lunch

August 7 (Thu)

Chair: K. SASAKI

13:00-13:20 M. Kikuchi (Graduate School of Dentistry, Tohoku Univ.)

Elastic properties of commercial and experimental titanium alloys

13:20-13:40 M. Nakai (IMR, Tohoku Univ.)

Mechanical biocompatibility of metallic rods made of low modulus titanium alloy for spinal fixture

13:40-14:00 T. Odahara (IMR, Tohoku Univ.)

Research and Development of Co based alloy for Biomedical Applications

14:00-14:20 C. T. Chang (IMR, Tohoku Univ.)

Synthesis of Fe-based bulk glassy alloys with high saturation magnetization in the Fe-Si-B-P-C system

14:20-14:40 N. Nishiyama (RIMCOF, Tohoku Univ. Lab.)

Applications of glassy alloy composites

14:40-15:00 Break

Chair: T. S. KIM

15:00-15:20 T. Goto (IMR, Tohoku Univ.)

Laser CVD technique for bio-ceramic coating

15:20-15:40 H. Kanetaka (Graduate School of Dentistry, Tohoku Univ.) *Mechanical applications of Ni-free shape memory alloy for maxillofacial treatment*

15:40-16:00 W. Y. Kim (KITECH)

Mechanical Properties and Pseudoelastic characteristics of Ti-Nb-Ge based Alloys

16:00-16:20 J. Saida (CIR, Tohoku Univ.)

Mechanical properties of nanostructure controlled Zr-Al-Ni-Cu BMGs using icosahedral local structure

16:20-16:40 H. J. Kim (KITECH)

Effect of microstructure on the compressive deformation and fracture behavior of Zr-based BMG Tube

Banquet

August 8 (Fri)

Chair: K. YOSHIMI & H. S. KIM

9:00-9:20 Y. Takao (Research Institute for Applied Mechanics, Kyushu Univ.)

Numerical analysis on the effect of cytoskeleton on the mechanical response of cell

9:20-9:40 M. Todo (Research Institute for Applied Mechanics, Kyushu Univ.)

Improvement of mechanical properties of HA/PLLA biocomposites by particle-matrix interfacial modification

9:40-10:00 T. Furukawa (Interdisciplinary Graduate School of Engineering Sciences, Kyushu Univ.)

Shrinkage deformation measurement of dental resin composites

10:00-10:20 Y. Jinno (Faculty of Dental Science, Kyushu Univ.)

Development of the novel bone augmentation technique-topical application of statin

10:20-10:40 H. G. Jeong (KITECH)

Superplastic Deformation of Zr-Ni-Al-Cu₂ BMG plate

10:40-11:00 T. Wada (IMR, Tohoku Univ.)

Preparation of porous Zr-based glassy alloys

11:00-11:20 J. K. Lee (KITECH)

Microstructure and mechanical properties of bulk metallic glass composites by spark plasma sintering

11:20-11:40 H. Kato (IMR, Tohoku Univ.)

Development of Mg-based Bulk Metallic Glass and its Composite

11:40-12:00 K. B. Kim (Sejong Univ.)

Microscopic deformation mechanisms of Ti-based nanostructure-dendrite composites

12:00-13:00 Lunch

Chair: K. B. Kim

13:00-13:20 H. S. Kim (POSTECH)

Mechanical Modeling of Carbon Nanotube Reinforced Nanocomposites

13:20-13:40 K. Takagi (Dept. Mater & Process, Tohoku Univ.)

Fabrication of Artificial Crystal Architectures by 3D Particle Assembly and Their THz Wave Property

13:40-14:00 R. Nakamura (ISIR, Osaka Univ.)

Hollow oxide formation via oxidation of metal nanoparticles

14:00-14:15 Break

Chair: H. KATO

14:15-14:35 S. M. Lee (IMR, Tohoku Univ.)

Displacement Behavior Study for Stress Effect on Early Viscous Flow Nature of Fe-B-Nb-Y Metallic Glassy Powder on Spark Plasma Sintering

14:35-15:55 J. G. Lee (KAERI)

Application of Magnetic Pulsed Compaction for Nano and Hard Forming Powders

15:55-15:15 S. J. Hong (Kongju Nat. Univ.)

Fabrication of Al metal matrix nanocomposite powders by gas atomization

15:15-15:35 T. S. Kim (KITECH)

Microstructure and mechanical properties of water atomized and extruded Al alloys

15:35-15:45 Closing remark