PROGRAM

Tuesday, September 14, 2010

09:00-09:10	**Opening Remark and Welcome Address** **Prof. Isao Taniguchi, President of Kumamoto University** **Prof. Yoshihito Kawamura, Kumamoto University**
	SESSION 1 ***Session Chairs: Prof. Y. Kawamura & Prof. D.H. Kim***
09:10-09:40	**Keynote Lecture** **Srinivasa Ranganathan** Department of Materials Engineering, Indian Institute of Science, India
09:40-10:10	**Keynote Lecture** **Current Trends and Perspectives for Research of Bulk Metallic Glass and Its Applications in Korea** **Jung Chan Bae** Production Technology R&D Division, Korea Institute of Industrial Technology (KITECH), Korea
10:10-10:40	**Keynote Lecture** **Characteristics in Microstructures and Deformation Behaviors in a Warm-extruded Magnesium Alloy with LPSO Phase** **Kenji Higashida** and Tatsuya Morikawa Department of Materials Science and Engineering, Kyushu University, Japan
10:40-11:00	**Coffee Break**
	SESSION 2 ***Session Chairs: Prof. C. Iwamoto & Prof. V. Keryvin***
11:00-11:30	**Keynote Lecture** **Present Status and Prospects of Magnesium Industry and R&D in Korea** **Min Cheol Kang**[1] and Keun Yong Sohn[2] [1]Korea Magnesium Technology Research Association (KMTRA), Korea [2]School of Nano Engineering, Inje University, Korea
11:30-11:45	**Invited Lecture** **Comparison of Formability between AZ31, AZ61 and AZ80 Magnesium Alloy Sheets by Friction Stir Incremental Forming** **Masaaki Otsu**, Tsukasa Ichikawa, Mitsuhiro Matsuda, Kazuki Takashima Department of Materials Science, Kumamoto University, Japan
11:45-12:00	**Invited Lecture** **Tribology of Magnesium Alloys in Forging with Coated Tools** **Ryo Matsumoto** Division of Mechanical Engineering, Graduate School of Engineering Science, Osaka University, Japan
12:00-12:15	**Invited Lecture** **Influence of Rare Earth Elements on the Microstructure and Mechanical Properties of Mg–Zn–Y–RE Alloys with LPSO Phase** **Jonghyun Kim**[1] and Y. Kawamura[2] [1]Kumamoto Technology and Industry Foundation, CREATE Kumamoto University Laboratory, Japan [2]Department of Materials Science, Kumamoto University, Japan
12:15-12:25	**Taking Group Photo** **Frontage of 100th Anniversary Memorial Hall**
12:25-13:25	**Lunch** **FORICO**
13:25-14:55	**POSTER SESSION**

	SESSION 3 ***Session Chairs: Prof. T. Mashimo & Dr. M.C. Kang***
14:55-15:25	**Keynote Lecture** **Temperature Dependence of Mechanical Properties and Pressure Sensitivity in Metallic Glasses below Glass Transition** **Vincent Keryvin**[1,2] [1]LARMAUR ERL CNRS 6274, University of Rennes 1, France [2]LIMATB EA 4250, University of South Brittany, France
15:25-15:40	**Invited Lecture** **Wear Behaviors of Cast-Iron-Based Bulk Metallic Glass Coating Layers Formed by a HVOF Process** B. T. Jang[1], S. S. Kim[1] and **S. Yi**[2] [1]Department of Mechanical Engineering, Kyungpook National University, Korea [2]Department of Materials Science and Metallurgy, Kyungpook National University, Korea
15:40-15:55	**Invited Lecture** **Synthesis of Bulk Amorphous Composites with Three Amorphous Phases by Consolidation of Milled Amorphous Powders** **Jin Kyu Lee** Division of Advanced Materials Engineering, Kongju National University, Korea
15:55-16:15	**Coffee Break**
	SESSION 4 ***Session Chairs: Prof. K. Higashida & Dr. J.C. Bae***
16:15-16:45	**Keynote Lecture** **Synthesis of Nanomaterials by Pulsed Plasma in Liquid** **Tsutomu Mashimo**[1] and Emil Omurzak[2] [1] Shock Wave and Condensed Matter Research Center, Kumamoto University, Japan [2] Priority Organization for Innovation and Excellence, Kumamoto University, Japan
16:45-17:00	**Invited Lecture** **Extraction of Nd from Nd-Fe-B Magnet Using Mg Melts** **Taek-Soo Kim**, Hong-Jun Chae Center for Echo Materials & Processing, Korea Institute of Industrial Technology (KITECH), Korea
17:00-17:15	**Invited Lecture** **Development of High Strength and Ductile Alloys Based on Modulation of Ultrafine Eutectic Structure** **Ki Buem Kim** Department of Advanced Materials Engineering, Sejong University, Korea
17:15-17:30	**Invited Lecture** ***In-Situ* High-Resolution Observation of Spreading Reactive Molten Alloy on Ceramic Substrates** **C. Iwamoto**, S. Satonaka Department of Mechanical Engineering, Kumamoto University, Japan
18:30-20:30	**Banquet** **Kumamoto Hotel Castle**

Wednesday, September 15, 2010

	SESSION 5 ***Session Chairs: Prof. S. Ando & Prof. S.H. Yi***
09:00-09:30	**Keynote Lecture** **Design of Nano-Composites Based on Phase Separating Metallic Glassy Alloys** S. W. Sohn[1], B. J. Kim[1], H. J. Chang[2], E. S. Park[3], W. T. Kim[4], **D. H. Kim**[1] [1] Center for Noncrystalline Materials, Dept. of Metallurgical Eng. Yonsei Univ., Korea [2] Electron Microscopy Group, Materials Science and Technology Division, Oak Ridge National Laboratory, [3] Department of Materials Science and Engineering, College of Engineering, Seoul National University , Korea [4] Division of Applied Science, Cheongju University, Korea
09:30-09:45	**Invited Lecture** **On the Deformability of Bulk metallic Glass by Room Temperature Processing** **Min Ha Lee**[1], Jürgen Eckert[2], Jung Chan Bae[1] [1]Korea Institute of Industrial Technology, South Korea [2]IFW Dresden, Institute for Complex Materials, Germany
09:45-10:00	**Invited Lecture** **Fracture Simulation in Equal Channel Pressing of Magnesium Powders** Seung Chae Yoon[1], Taek-Soo Kim[2], **Hyoung Seop Kim**[3] [1]Hyundai Hysco, Dangjin, Chungnam, Korea [2]Department of Echo-Materials & Processing, Korea Institute of Industrial Technology (KITECH), Korea [3]Department of Materials Science and Engineering, Pohang University of Science and Technology (POSTECH), Korea
10:00-10:15	**Invited Lecture** **Heterogeneous Deformation Induced by Nonequivalent Critical Resolved Shear Stresses in Magnesium Bicrystal** **Tsuyoshi Mayama**[1], Tetsuya Ohashi[2], Kenji Higashida[3] [1] Kumamoto University, Japan [2] Kitami Institute of Technology, Japan [3] Kyushu University, Japan
10:15-10:35	**Coffee Break**
	SESSION 6 ***Session Chairs: Prof K. Takashima & Prof. S. Ranganathan***
10:35-11:05	**Keynote Lecture** **Temperature Dependence of Compression Behavior in Magnesium Single Crystals** **Shinji Ando** and Hiromoto Kitahara Department of Materials Science and Engineering, Kumamoto University, Japan
11:05-11:20	**Invited Lecture** **Inhomogeneous Deformation Behaviors Analyzed by High Precision Markers in a Warm-Extruded Magnesium Alloy with LPSO Phase** **Tatsuya Morikawa**[1], Jun Hirotani[2], Yuuki Mitani[2] and Kenji Higashida[1] [1]Department of Materials Science and Engineering, Kyushu University, Japan [2]Graduate School of Engineering, Kyushu University, Japan
11:20-11:35	**Invited Lecture** **Microstructures and Mechanical Properties of Mg-Al-Sn Alloy System** **Jong-beom Lee**[1],Hyeon-taek Son[2], Ha-guk Jeong[1], Toyohiko J. Konno[3] [1]Eco Materials & Processing Department, Production Technology R&D Division, Korea Institute of Industrial Technology, South Korea [2]Korea Institute of Industrial Technology, South Korea

	[3]Institute for Materials Research, Tohoku University, Japan
11:35-11:50	**Invited Lecture** **Microstructure and Mechanical Properties of Wire-Brushed Mg Sheets** **Hiromoto Kitahara**, Takuya Yada, Shinji Ando Department of Materials Science, Kumamoto University, Japan
11:50-12:00	**Closing Address** **Dr. Jung-Chan Bae, KITECH**
12:00-13:00	**Lunch** **FORICO**
13:00-21:00	**Excursion**

POSTER PRESENTATIONS **100th Anniversary Memorial Hall**

P-01	**Application of BMG Micro-scaled Forming Characteristics** **Ha-Guk Jeong** Production Technology R&D Division, Eco Materials & Processing Department, Korea Institute of Industrial Technology, Korea
P-02	**Characterization of Thermal Properties of High Pressure Gas Atomized Ni-based Metallic Glass Powders** **Ji-su Kim**[1, 2], Gwang-yeob Lee[1, 2], Do-hyang Kim[2] , Min-ha Lee[1], Jung-chan Bae[1] [1]Production Technology R&D Division, Korea Institue of Industrial Technology, Korea [2]Department of Materials Sciences and Metallurgy, Yonsei University, Korea
P-03	**Consolidation of $Zr_{65}Al_{10}Ni_{10}Cu_{15}$ Bulk Metallic glass-diamond by Spark Plasma Sintering** **Soo-Young Lee**[1], Taek-Soo Kim[1], Seung-Koo Kang[2] [1]Eco Materials & Processing Department, Production Technology R&D Division, Korea Institute of Industrial Technology, South Korea [2]Shinhan Diamond Industrial Co.,Ltd., Korea
P-04	**A Study on Characteristics of Zr-based BMG Die with Micro Pattern for Mobile-phone Window Module** **Se Hoon Oh**, Jong-Wan Kim[1], Ha-gook Jeong[2], Jeong-Chan Bae[2] [1]Research and Development Center, Mogem Co. Ltd., Korea [2]Advanced Materials Team, Korea Institute of Industrial Technology, Korea
P-05	**Wear Properties of CMP Pad Conditioner Composed of Diamond-reinforced Bulk Metallic Glass Composites** **Seung-Koo Kang**, Jun-Hyuk Hwang, Byung-Ki Kim Shinhan Diamond Industrial Co. Ltd., Korea
P-06	**Improvement in Brittleness and Magnetic Properties of Fe-Si-B BMG (Bulk Metallic Glasses) Strip Fabricated by Planar Flow Casting(PFC)** **Yoon-seong Cho**, Min-suk Sung, Jong-goo Kang ILJN electric Co., Ltd. Materials Division, New Technology R&D center Institute for materials Research, Korea
P-07	**Electron Beam Welding of Zr-based Bulk Metallic Glass and Crystal Metals** **Naohisa Sawai**[1], Yuji Yanagida[1], Hironori Kuroki[1], Jonghyun Kim[2] and Y. Kawamura[2] [1]Kuroki Kogyosho Co.,Ltd, Japan [2]Department of Materials Science, Kumamoto University, Japan
P-08	**Fracture Behavior of Advanced Magnesium Alloys** **Hajime Yoshimura**[1], Shun Matsuyama[1], Masaaki Otsu[1], Kazuki Takashima[1] and Yoshihito Kawamura[1] [1]Department of Materials Science, Kumamoto University, Japan
P-09	**Micro-tensile Testing of Extruded Mg-Zn-Y Alloys**

	Y. Nagatomi, M. Otsu, K. Takashima, Y. Kawamura Department of Materials Science, Graduate School of Science and Technology, Kumamoto University, Japan
P-10	**Resistance Spot Welding of Magnesium Alloys with $Mg_{96}Zn_2Y_2$ Inserts** **Ken Moutai**, Chihiro Iwamoto, Shinobu Satonaka, Yoshihito Kawamura Graduate School of Science and Technology, Kumamoto University, Japan
P-11	**Improvement of Corrosion Resistance of Mg-Zn-Y Mg/LPSO Two-phase Alloys by Fourth Element Addition** **Shogo Izumi**, Michiaki Yamasaki, Yoshihito Kawamura Department of Materials Science, Kumamoto University, Japan
P-12	**Influence of Fourth Element Addition on Corrosion Property of Mg-Zn-Gd Alloys with LPSO Phase** **Manabu Otani**, Michiaki Yamasaki, Yoshihito Kawamura Department of Materials Science, Kumamoto University, Japan
P-13	**Effect of Zr Addition on Mechanical Properties and Microstructure of Mg-Zn-Y Alloy Extrusions Prepared from Low Cooling Rate-Cast Ingots** **Shinichi Inoue**, Michiaki Yamasaki, Yoshihito Kawamura Department of Materials Science, Kumamoto University, Japan
P-14	**Effect of Extrusion on Microstructure and Elevated Temperature Properties of Mg-Zn-Y Alloys with LPSO Phase** **Masaaki Hirano**[1], Michiaki Yamasaki[1], Yoshihito Kawamura[1], Koji Hagihara[2], Kenji Higashida[3] [1]Department of Materials Science, Kumamoto University, 2Japan [2]Graduate School of Engineering, Osaka University, Japan. [3]Department of Materials Science and Engineering, Kyushu University, Japan
P-15	**Influence of Volume Fraction of LPSO Phase and Extrusion Ratio on Mechanical Properties at Elevated Temperatures in Mg-Zn-Y Alloys** **Yasufumi Fukunaga**[1], Tsuyoshi Mayama[2], Yoshihito Kawamura[1] [1] Department of Materials Science, Kumamoto University, Japan [2] Priority Organization for Innovation and Excellence, Kumamoto University, Japan
P-16	**Improvement of Mechanical and Functional Properties of AZ31B by Wire-brushing Process** **Takuya Yada**[1], Hiromoto Kitahara[2] and Shinji Ando[2] [1]Graduate Student, Graduate School of Science and Technology, Kumamoto University, Japan [2]Department of Materials Science and Engineering, Kumamoto University, Japan
P-17	**Fatigue Behavior of $Mg_{96}Zn_2Y_2$ Alloys with LPSO Phase by Rotary Bending Fatigue Test** **Takuya Yanagihara**[1], Masayuki Tsushida[2], Hiromoto Kitahara[3] and Shinji Ando[3] [1]Graduate Student, Graduate School of Science and Technology, Kumamoto University, Japan [2]Faculty of Engineering, Kumamoto University, Japan [3]Department of Materials Science and Engineering, Kumamoto University, Japan
P-18	**Stability of Stacking Faults and Its Relation to the Long Periodic Stacking (LPS) Phase** **Jong-beom Lee**[1], Toyohiko J Konno[2] , Kenji Hiraga[2] , Ha-guk Jeong[1] [1]Eco Materials & Processing Department, Production Technology R&D Division, Korea Institute of Industrial Technology, South Korea [2]Institute for Materials Research, Tohoku University, Japan
P-19	**An Experimental Study on Extrusion Characteristics of Mg Alloy by Surface Roughness of Billet in Hot Hydrostatic Extrusion Process** **Duk-Jae Yoon**[1], Eung-Zu Kim[2], Ki-Sun Lee[1], Young-Chul Shin[1]

	[1]Advanced Forming Technology Center, Korea Institute of Industrial Technology, Korea [2]Molding & Forming Technology R&D Department, Korea Institute of Industrial Technology, Korea
P-20	**Corrosion Behavior of Rapidly Solidified Mg-Zn-Y-X Alloys in 3.5wt% NaCl Solution** **S.W. Nam**[1], W.T. Kim[2], D.H. Kim[1], T.S. Kim[3] [1]Center for Non-crystalline materials, Yonsei University, Korea [2]IT Division, Cheongju University, Korea [3]Korea Institute of Industrial Technology, Korea
P-21	**Effects of Cooling Rate on Microstructure and Mechanical Properties of As-cast Mg-Al-Ca-Nd Alloys** **Dae-Won Kim**[1], Hyeon-Taek Son[2] [1]Korea Institute of Industrial Technology, South Korea
P-22	**Enhanced Mechanical Properties in Mg-Zn-Sn-Ag and Mg-Al-Sn-Ag Based Alloys Prepared by Extrusion and Rolling Processes** **Yong-Ho Kim**, Hyeon-Taek Son Korea Institute of Industrial Technology, South Korea
P-23	**Effect of Several Routine of Differential Speed Rolling Process on Mechanical Property and Texture Evolution of AZ31 Mg Sheets** **Yong-keun Kim**[1,2], Do-Hyang Kim[2], Ha Guk Jeong[1], Won-yong Kim[1], Jong-beom Lee[1] [1]Production Technology R&D Division Eco Materials & Processing Department Korea Institute of Industrial Technology, Korea [2]Department of Materials science and Metallurgy, Yonsei University, Korea
P-24	**Bonding Ability of Fe-base Alloy and WC-Co Hard Metal** **Hanshin Choi** , Yonghwan Kim Korea institute of industrial technology, South Korea
P-25	**Butt Welding Technique for Industrial Materials by Softening and Stirring Effects of Tool** **Kenji Nakamura**[1], Chihiro Iwamoto[1], Shinobu Satonaka[1], Yoshihito Kawamura[1], Kazuhiro Nakata[2] [1]Graduate School of Science and Technology, Kumamoto University, Japan [2]Joining and Welding Research Institute, Osaka University, Japan
P-26	**Joining of Tungsten/Copper Using Underwater Explosive Welding Technique** **JoonOh Lee**[1], P. Manikandan[1] and K. Hokamoto[2] [1]Graduate School of Science and Technology, Kumamoto University, Japan [2]Shock wave and condensed matter research center, Kumamoto University, Japan
P-27	**Characterization of Ni Powder Produced by Electrical Wire Explosion in Liquid Media** **Gwang-yeob Lee**[1, 2], Ji-su Kim[1, 2], Do-hyang Kim[2] , Min-ha Lee[1], Jung-chan Bae[1] [1]Production Technology R&D Division, Korea Institue of Industrial Technology, IKorea [2]Department of Materials sciences and Metallurgy, Yonsei University, Korea
P-28	**Synthesis of Nano-Sized TiN, AlN Powders through Electrical Wire Explosion in Liquid Nitrogen** **Naoyuki Wada**[1], Kazunori Akiyoshi[1], Yuta Kimura[2], Kazuyuki Hokamoto[3] [1]Graduate School of Science and Technology, Kumamoto University, Japan [2]Faculty of Engineering, Kumamoto University, Japan [3]Shock Wave and Condensed Matter Research Center, Kumamoto University, Japan
P-29	**Preparation of Wurtzite Type ZnS Nanocrystals by the Pulsed Plasma in Liquid** **Kengo Taniguchi**[1], Emil Omurzak[2], Chen Liliang[1], Chihiro Iwamoto[3], Saadat Sulaimankulova[4], Tsutomu Mashimo[1] [1]Shock Wave and Condensed Matter Research Center, Kumamoto University, Japan [2]Priority Organization for Innovation and Excellence, Kumamoto University, Japan

	[3]Department of Materials Science, Kumamoto University, Japan [4]Institute of Chemistry and Chemical Technology, National Academy of Sciences, Kyrgyzstan
P-30	**Synthesis of ZrO2 Nanopowders by Plasma in Liquid** **Chen Liliang**[1], Emil Omurzak[2], Chihiro Iwamoto[3], and Tsutomo Mashimo[4] [1] Graduate School of Science and Technology, Kumamoto University, Japan [2] Priority Organization for Innovation and Excellence, Kumamoto University, Japan [3] Department of Mechanical System Engineering, Kumamoto University, Japan [4] Shock Wave and Condensed Matter Research Center, Kumamoto University, Japan
P-31	**Orientation Dependence of Room Temperature Creep Behavior in Pure Titanium Single Crystals** **Yoshiteru Ohata**[1], Akihito Kawano[1, 2], Hiromoto Kitahara[3] and Shinji Ando[3] [1]Graduate student, Graduate school of science and technology Kumamoto University, Japan [2]Present address; Kawasaki Heavy Industries, Japan [3]Department of Materials Science and Engineering, Kumamoto University, Japan
P-32	**Fracture Behavior in HCP Metals by Molecular Dynamics Simulation** **Manami Ando**[1], Yuichi Inoue[1], Hiromoto Kitahara[2], Shinji Ando[2] [1]Bachelor Student, Faculty of Engineering, Kumamoto University, Japan [2]Department of Materials Science and Engineering, Kumamoto University, Japan
P-33	**Effect of B_4C Fraction on the Tribological Behavior of Shrouded Plasma Sprayed Fe-based Bulk Metallic Glass Composite Coating** Sanghoon Yoon[1], Junghwan Kim[1], Byung Doo Kim[2], **Changhee Lee**[1] [1]Kinetic Spraying Coating Laboratory (NRL), Division of Materials Science & Engineering, Hanyang University, Republic of Korea [2]Hankook Coatings, Republic of Korea
P-34	**Preliminary Research of Nd Extraction in the Nd-Fe-B Magnets Using Liquid Metal Extraction** **Yong Hwan Kim**, Hanshin Choi Center for Echo Materials & Processing, Korea Institute of Industrial Technology (KITECH), Korea