

# Scientific Program

	2014-06-29 (Sun)	2014-06-30 (Mon)			2014-07-01 (Tue)			2014-07-02 (Wed)			2014-07-03 (Thu)	2014-07-04 (Fri)	
	Room A	Room A	Room B	Room C	Room A	Room B	Room C	Room A	Room B	Room C	Room A	Room A	
09:00~09:30		Opening			Registration			Registration					
09:30~10:00		Plenary Lecture (Prof. Bernd Kieback) Chairman: Ji-Soon Kim (Univ. of Ulsan)			Plenary Lecture (Prof. Krzysztof Kurzydłowski) Chairman: Prof. Seong-Jin Park (Pohang Univ. of Science and Tech.)			Plenary Lecture (Prof. Eugene A. Olevsky) Chairman: Prof. Burak Özkal (ITU Chemical & Metallurgical Faculty)					
10:00~10:15		Plenary Lecture (Prof. Jai-Sung Lee) Chairman: Prof. Jan Kazior (Krakow Univ. of Technology)			Coffee Break			Coffee Break					
10:15~10:30		Coffee Break			Advanced Materials Processing III (AMP-K3, I3~I4, O9~O12) Chairman: Prof. Lucyna Jaworska (Institute of Advanced Manufacturing Technology) Prof. Barbara Susarek (Tele and Radio Research Institute)	Modeling and Characterization II (MNC-K2, I3~I4, O3~O6) Chairman: Prof. Jong-Jin Park (Hongik Univ.) Prof. Andrey Maximenko (Institute for Problems in Materials Science)		Advanced Materials Processing IV (AMP-K2, I5~I7, O13~O15) Chairman: Prof. Soon-Jik Hong (Kongju National Univ.) Prof. Yongho Sohn (Univ. of central Florida)	Modeling and Characterization III (MNC-I5~I6, O7~O9) Chairman: Prof. Insoo Kim (Kumoh National Institute of Tech.) Dr. Ileana Popescu (Valahia University of Targoviste)	Poster Session (APM, NNP, RMH) Chairman: Prof. Tae Suk Jang (Sunmoon Univ.)			
10:30~10:45		Coffee Break											
10:45~12:05		PM Forum Prof. Jan Kazior Prof. YoungDo Kim Prof. Dr. Henning Zoz Chairman: Prof. Jai-Sung Lee (Hanyang Univ.)	Modeling and Characterization I (MNC-K1, I1~I2, O1~O2) Chairman: Prof. Seong-Jin Park (Pohang Univ. of Science and Tech.) Prof. Arash Simchi (Sharif University of Technology)	Advanced Materials Processing I (AMP-K1, I1, O1~O2) Chairman: Prof. Jan Kazior (Krakow Univ. of Technology) Prof. Leszek Magalas (AGH Univ. of Science and Technology, Poland)									
12:05~13:00		Lunch			Lunch			Lunch					
13:00~15:00		Advanced Materials Processing II (AMP-I2, O3~O6) Chairman: Prof. Reza Ghomashchi (The Univ. of Adelaide) Prof. Alberto Molinari (Trento Univ.)	Resources & Recycling (RNR-I1~I3, O1~O4) Chairman: Dr. Jin Ki Jeong (KIGAM), Prof. Seung-Whee Rhee (Kyeonggi Univ.)	Poster Session (ENM, MNC, RNR, REM, MAM) Chairman: Dr. Chang Kyu Rhee (KAERI)	Energy & Advanced Nuclear Materials (ENM-II~I2, O1~O3) Chairman: Dr. Kun-Jae Lee (IAE), Prof. Yong-Ho Choa (Hanyang Univ.)	Novel Functional Materials (NFM-I1, O1~O6) Chairman: Prof. Stanislaw Skrzypek (AGH Univ. of Science and Technology)	Poster Session (AMP, NFM) Chairman: Dr. Tadeusz Pieczonka (AGH Univ. of Science and Technology)	Refractory Metals and Hard Materials (RMH-K1, I1, O1~O2) Chairman: Prof. Kyung-Sik Oh (Andong National Univ.) Dr. Sung-Soo Ryu (KICET)	Mechanical Alloying & Mechanochemistry (MAM-K1, O1~O2) Chairman: Prof. Jung-Ho Ahn (Andong National Univ.) Prof. Stanislaw Dymek (AGH Univ. of Science and Technology)	Nanocomposite and Nanoporous Materials (NNP-O1~O4) Chairman: Prof. Hyunpoo Choi (Kookmin Univ.) Dr. Jose Manuel Sanchez Moreno (Centre of Studies and Technical Research)		Panel Discussion (Advanced Powder Metallurgy)	
15:00~15:15		Coffee Break			Coffee Break			Coffee Break					
15:15~16:00			Rare Earth Metal (REM-I1, O1~O6) Chairman: Dr. Min-Ha Lee (KITECH), Prof. Zoltan Gacs (Miskolc Univ., Hungary)	Advanced Powder Metallurgy (APM-II~I3, O1~O4) Chairman: Dr. Yong-Jin Kim (KIMS), Prof. Andrzej Cias (AGH Univ. of Science and Technology)		Novel Functional Materials (NFM-I2, O7~O8) Chairman: Prof. Kee-Ahn Lee (Andong National Univ.)	Energy & Advanced Nuclear Materials (ENM-I3, O1~O5) Chairman: Dr. Jae-Hong Lim (KIMS), Prof. Czyska-Flemonowicz (AGH Univ. of Science and Technology)						
16:00~17:00	Registration				AGH Lab Tour								
17:00~18:00								Salt Mine					
18:00~21:00	Welcome Reception				Board Meeting								
											Technical Tour (08:00~19:00)	Panel Discussion (Advanced Materials Processing)	
												Panel Discussion (Novel Functional Materials)	
												Panel Discussion (Nanocomposite and Nanoporous)	

# Symposium List

## ■ Advanced Materials Processing (AMP)

- Chair – Prof. Soon Jik Hong (Kongju University, Korea)  
– Prof. Alberto Molinari (Trento University, Italy)  
– Prof. Lucyna Jaworska (Institute of Advanced Manufacturing Technology, Poland)  
– Prof. Barbara Slusarek (Tele and Radio Research Institute, Poland)  
– Prof. Jan Kazior (Krakow University of Technology, Poland)

## ■ Advanced Powder Metallurgy (APM)

- Chair – Dr. Yong Jin Kim (Korea Institute of Materials Science, Korea)  
– Prof. Andrzej Cias (AGH University of Science and Technology, Poland)

## ■ Energy & Advanced Nuclear Materials (ENM)

- Chair – Prof. Yong-Ho Choa (Hanyang University, Korea)  
– Prof. Czyska-Filemonowicz (AGH University of Science and Technology, Poland)

## ■ Mechanical Alloying & Mechanochemistry (MAM)

- Chair – Prof. Jung-Ho Ahn (Andong National University, Korea)  
– Prof. Stanislaw Dymek (AGH University of Science and Technology, Poland)

## ■ Modeling and Characterization (MNC)

- Chair – Prof. Hyoung Seop Kim (Pohang University of Science and Technology, Korea)  
– Prof. Seong Jin Park (Pohang University of Science and Technology, Korea)  
– Prof. Jan Kusinski (AGH University of Science and Technology, Poland)

## ■ Novel Functional Materials (NFM)

- Chair – Prof. Kee Ahn Lee (Andong National University, Korea)  
– Prof. Stanislaw Skrzypek (AGH University of Science and Technology, Poland)

## ■ Nanocomposite and Nanoporous Materials (NNP)

- Chair – Prof. Soo Jin Park (Inha University, Korea)  
– Dr. José Manuel Sánchez (Centre of Studies and Technical Research, Spain)

## ■ Rare Earth Metals (REM)

- Chair – Dr. Min Ha Lee (Korea Institute of Industrial Technology, Korea)  
– Prof. Zoltan Gacsi (Miskolc University, Hungary)

## ■ Refractory Metals and Hard Materials (RMH)

- Chair – Prof. Young Do Kim (Hanyang University, Korea)  
– Dr. Sung-Soo Ryu (Korea Institute of Ceramic Engineering and Technology, Korea)

## ■ Resources & Recycling (RNR)

- Chair – Dr. Hyun Seon Hong (Institute for Advanced Engineering, Korea)  
– Dr. Tadeusz Pieczonka (AGH University of Science and Technology, Poland)

# Symposium Schedule

## 2014. 6. 29 (Sun.) Room A

- 16:00~18:00 Registration  
18:00~20:00 Welcome Reception
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## 2014. 6. 30 (Mon.) Room A

- 09:00~16:00 Registration  
09:00~09:30 Opening Ceremony  
09:30~10:00 Plenary Lecture, Chairman : Ji-Soon Kim (University of Ulsan, Korea)  
P-01 Powder Metallurgy for Emerging Technologies  
Prof. Bernd Kieback (Institute of Materials Science)  
10:00~10:30 Plenary Lecture, Chairman : Prof. Jan Kazior (Krakow University of Technology, Poland)  
P-02 Progress in Powder Metallurgical Nanomaterials Processing  
Prof. Jai-Sung Lee (Hanyang Univ.)  
10:30~10:45 Coffee Break  
10:45~12:00 PM Forum  
Chairman : Prof. Jai-Sung Lee (Hanyang University, Korea)  
10:45~11:10 PM-1 Current Status of PM in Poland  
Prof. Jan Kazior (Krakow Univ. of Technology)  
11:10~11:35 PM-2 Current Status of PM in Korea  
Prof. Young Do Kim (Hanyang Univ.)  
11:35~12:00 PM-3 Nanostructures for Zero Emission Future Transportation, Energy & Economy  
Prof. Dr. Henning Zoz (Zoz Group)  
12:00~13:00 Lunch  
13:00~15:00 Advanced Materials Processing II  
Chairman : Prof. Reza Ghomashchi (The University of Adelaide, Australia)  
Chairman : Prof. Alberto Molinari (Trento University, Italy)  
13:00~13:15 AMP-I2 Multiscale Design and Process-Dependent Microstructural Development of Al Metal Matrix Composites  
Prof. Yongho Sohn (Univ. of Central Florida)  
13:15~13:30 AMP-O3 Wear Resistant Chromium Coatings Modified with Diamond Nanoparticles  
Dr. Radoslav Valov (BAS)  
13:30~13:45 AMP-O4 Use of Halide Solution to Improve the RDI and RI of Sinter: An Experience at JSPL  
Mr. Sanjay Srivastava (Jindal Steel & Power Ltd. Raigarh)  
13:45~14:00 AMP-O5 Laser Power Influence on Microstructure of Parts Manufactured with Selective Laser Melting Technology  
Prof. Tomasz Kurzynowski (Wroclaw Univ. of Technology)  
14:00~14:15 AMP-O6 Development of High Performance Thermoelectric Materials by Powder Metallurgy Process  
Mr. Hyo-Seob Kim (Kongju National Univ.)  
14:15~14:30 AMP-O7 Porous Ti coated Ti6Al4V alloy produced by Spark Plasma Sintering  
Prof. Alberto Molinari (Univ. of Trento)  
14:30~14:45 AMP-O8 Thermal Analysis on the Kinetics of Magnesium-Aluminum Layered Double Hydroxides in different heating rates  
Prof. Gao Hong (Dalian Jiaotong Univ.)  
14:45~15:15 Coffee Break  
17:00~20:00 Friendship Dinner (Folwark Zalesie)

## 2014. 6. 30 (Mon.) Room B

- 10:30~10:45 Coffee Break  
10:45~12:05 Modeling and Characterization I  
Chairman : Prof. Seong-Jin Park (Pohang University of Science and Tech., Korea)  
Chairman : Prof. Arash Simchi (Sharif University of Technology, Iran)  
10:45~11:05 MNC-K1 Direct Multiscale Modelling of Powder Pressing and Sintering  
Dr. Andrey Maximenko (Institute for Problems in Materials Science)  
11:05~11:20 MNC-I1 Finite-Element Analysis of Severe Plastic Deformation in Different-Speed Rolling  
Prof. Jong-Jin Park (Hongik Univ.)

- 11:20~11:35 MNC-I2 Calculation of R-value of 1050 Al Alloy Sheet after Two-Step Asymmetric Rolling  
Prof. Insoo Kim (Kumoh National Institute of Tech.)
- 11:35~11:50 MNC-O1 Rheological Modeling of Magnetic Powder Injection Molding  
Prof. Seong Jin Park (POSTECH)
- 11:50~12:05 MNC-O2 Analysis of Conduction Path Formation Mechanism in Tantalum Oxide: First Principle Study  
Mr. Haneol Cho (Korea Institute of Science and Technology Korea)
- 12:05~13:00 Lunch
- 13:00~15:00 **Resources & Recycling,**  
**Chairman : Dr. Jin Ki Jeong (Korea Institute of Geoscience and Mineral Resources, Korea)**  
**Chairman : Prof. Seung-Whee Rhee (Kyonggi University, Korea)**
- 13:00~13:20 RNR-I1 Urban Mining – the Present and Future  
Dr. Kang In Rhee (KIGAM)
- 13:20~13:40 RNR-I2 Strategies for Recycling Critical Materials  
Dr. Ryan Ott (The Ames Laboratory)
- 13:40~14:00 RNR-I3 Municipal Waste Recycling in Poland  
Dr. Wojciech Hryb (Silesian Technical Univ.)
- 14:00~14:15 RNR-O1 Hydrogen Reduction of Recycled Mo Oxide to Produce High Purity Mo and Fe-Mo Alloy  
Prof. Jong Jin Park (Hanyang Univ.)
- 14:15~14:30 RNR-O2 Application of Sequential Refining Process for Recycling End-of-Life Magnesium Scraps  
Dr. Yoo-Dong Hahn (Korea Institute of Materials Science)
- 14:30~14:45 RNR-O3 Extraction Factor of Pure Ammonium Paratungstate from Tungsten Scraps  
Dr. Jae-Hwan Pee (Korea Institute of Ceramic Engineering and Technology)
- 14:45~15:00 RNR-O4 Comparison of Mercury Distribution Between the Types of Spent Fluorescent Lamp  
Prof. Seung-Whee Rhee (Kyonggi Univ.)
- 15:00~15:15 Coffee Break
- 15:15~17:00 **Rare Earth Metal,**  
**Chairman : Dr. Min-Ha Lee (Korea Institute of Industrial Technolgy, Korea)**  
**Chairman : Prof. Zoltan Gacsi (Miskolc University, Hungary)**
- 15:15~15:30 REM-I1 Production and Properties of Composite Material Containing Gd Multiscale Particles  
Dr. Jacek Andrzej Jaworski (KIST)
- 15:30~15:45 REM-O1 Effect of Tungsten Metal Particle Sizes on the Solubility of Molten Hf-Based Alloy Melt  
Dr. Min-Ha Lee (Korea Institute of Industrial Technology)
- 15:45~16:00 REM-O2 Characteristics of Ta Alloy Coating Layer Using Molten Salt Electroplating for Hydrogen Production Sulfide-Iodine Process  
Mr. Young Jun Lee (Chungnam National Univ.)
- 16:00~16:15 REM-O3 Development of High-Performance Dy-Free Nd-Fe-B Based Permanent Magnets  
Dr. Jung-Goo Lee (Korea Institute of Materials Science)
- 16:15~16:30 REM-O4 Electrolysis Techniques of Nuclear Grade Zirconium in the Molten Salt Media  
Dr. Kyoung-Tae Park (Korea Institute of Industrial Technology)
- 16:30~16:45 REM-O5 The Recovered Thermoelectric Powder from Waste Thermoelectric Modules in Vehicles  
Dr. Kun-Jae Lee (Institute for Advanced Engineering)
- 16:45~17:00 REM-O6 Recovery Nickel from Spent Nickel-Cadmium Batteries by using Direct Reduction Process  
Mr. Dong Ju Shin (Korea Institute of Geoscience and Mineral Resources)
- 17:00~20:00 **Friendship Dinner (Folwark Zalesie)**

**2014. 6. 30 (Mon.) Room C**

- 10:45~12:05 **Advanced Materials Processing I**  
**Chairman : Prof. Jan Kazior (Krakow University of Technology, Poland)**  
**Chairman : Prof. Leszek Magalas (AGH University of Science and Technology, Poland)**
- 10:45~11:05 AMP-K1 Recent Efforts on Fe-Mn-Si-Cr-Ni Based Shape Memory Alloys Via Powder Metallurgy  
Prof. Burak Özkal (ITU Chemical & Metallurgical Faculty)
- 11:05~11:20 AMP-I1 Intermetallic Compounds Fabrication and Self-Propagating High-Temperature Synthesis  
Prof. Reza Ghomashchi (The Univ. of Adelaide)
- 11:20~11:35 AMP-O1 The Fabrication and Characterization of Ceramic Membrane Using Natural Materials for Water Treatment  
Dr. In-Hyuck Song (Korea Institute of Materials Science)
- 11:35~11:50 AMP-O2 Field-Assisted and Conventional Consolidation of ZrN Powders  
Ms. Maria Yurlova (NRNU MEPhI)
- 11:50~13:00 Lunch

- 15:15~17:00 **Advanced Powder Metallurgy,**  
 Chairman : Dr. Yong-Jin Kim (Korea Institute of Materials Science, Korea)  
 Chairman : Prof. Andrzej Cias (AGH University of Science and Technology, Korea)
- 15:15~15:30 APM-I1 Effect of SiC Particles on Sinterability of PM Al-Zn-Mg-Cu alloy  
 Dr. Haris Rudianto (Brno Univ. of Technology)
- 15:30~15:45 APM-I2 Fabrication of Fe-TiC Composites by High-Energy Milling and Spark-Plasma Sintering  
 Prof. Ji-Soon Kim (Univ. of Ulsan)
- 15:45~16:00 APM-I3 Effect of Boron and Phosphorous on Sintering Behavior of Fe-Cr-Mo Alloy Steel  
 Dr. Yong-Jin Kim (Korea Institute of Materials Science)
- 16:00~16:15 APM-O1 Current-Insulated and Current-Assisted Spark-Plasma Sinter-Forging of Conductive Materials  
 Ms. Elena Aleksandrova (Moscow Engineering Physics Univ.)
- 16:15~16:30 APM-O2 The Effect of Grain Size on Mechanical Properties of Aluminum  
 Ms. Go woon Jeong (Kookmin Univ.)
- 16:30~16:45 APM-O3 Thermal Plasma Decomposition of Nickel and Cobalt Compounds  
 Dr. M. Woch (Institute of Non-Ferrous Metals)
- 16:45~17:00 APM-O4 Structural Characterization of Shot Pinned Surface Layers of Sintered DistaloyHP  
 Prof. S. J. Skrzypek (AGH-Univ. of Science and Technology)

**2014. 6. 30 (Mon.) Corridor**

- 13:00~15:00 **Poster Session (ENM, MNC, RNR, REM, MAM),**  
 Chairman : Dr. Chang Kyu Rhee (Korea Atomic Energy Research Institute, Korea)

**2014. 7. 1 (Tue.) Room A**

- 09:00~16:00 Registration
- 09:30~10:00 **Plenary Lecture, Chairman : Prof. Seong-Jin Park (Pohang University of Science and Tech., Korea)**  
 P-03 Multiscale Models of Nanometals  
 Prof. Krzysztof Kurzydłowski (Warsaw Univ. of Technology)
- 10:00~10:15 Coffee Break
- 10:15~12:05 **Advanced Materials Processing III**  
 Chairman : Prof. Lucyna Jaworska (Institute of Advanced Manufacturing Technology, Poland)  
 Chairman : Prof. Barbara Slusarek (Tele and Radio Research Institute, Poland)
- 10:15~10:35 AMP-K3 Repetitive Abnormal Grain Growth and its Mechanism in a Nano-Structured Model System of Ni  
 Prof. Suk-Joong L. Kang (KAIST)
- 10:35~10:50 AMP-I3 Anisotropy of Selected Properties of Si<sub>3</sub>N<sub>4</sub> Graphene Composite  
 Prof. Lucyna Jaworska (Institute of Advanced Manufacturing Technology)
- 10:50~11:05 AMP-I4 Wear Resistant Chromium Coatings Modified with Diamond Nanoparticles  
 Dr. Radoslav Valov (Institute of Metal Science)
- 11:05~11:20 AMP-O9 Effects of Fabrication Process on Microstructure and Texture of Inconel 690 Tubes for Steam Generators  
 Mr. Tae Hyuk Lee (Chungnam National Univ.)
- 11:20~11:35 AMP-O10 Morphology Change of Si Deposit in Molten Salt Electrorefining  
 Mr. Hong Youl Ryu (Chungnam National Univ.)
- 11:35~11:50 AMP-O11 The Sintering Parameters Influence on Microstructure and Physical-Chemical Properties of Novel Al-Cu-SiC Composites  
 Dr. Vasile Bratu (Valahia Univ. of Targoviste)
- 11:50~12:05 AMP-O12 The Effect of Void Formation on the Reliability of ED-XRF Measurements in Lead-Free Reflow Soldering  
 Mr. Daniel Koncz-Horvath (Univ. of Miskolc)
- 12:05~13:00 Lunch
- 13:00~15:00 **Energy & Advanced Nuclear Materials**  
 Chairman : Dr. Kun-Jae Lee (Institute for Advanced Engineering, Korea)  
 Chairman : Prof. Yong-Ho Choa (Hanyang Univ., Korea)
- 13:00~13:15 ENM-I1 RE-Ba-Cu-O Bulk Superconductor for Energy Storage  
 Dr. Chan-Joong Kim (Korea Atomic Energy Research Institute)
- 13:15~13:30 ENM-I2 Sol-Gel Synthesis of Metal Oxide Semiconductors with Desired Properties for Photocatalysis and Production of Biodiesel  
 Dr. Shao Namwel (Hanyang Univ.)
- 13:30~13:45 ENM-O1 Atomistic Analysis of Radiation-Induced Segregation in Ion-irradiated Stainless Steel 316  
 Dr. Gyeong-Geun LEE (Korea Atomic Energy Research Institute)
- 13:45~14:00 ENM-O2 IAEA Support Programme on Advanced Structural Materials for Nuclear Applications Lec  
 Dr. Andrej Zeman (International Atomic Energy Agency)

- 14:00~14:15 ENM-O3 Synthesis and Electrochemical Characteristics of Mechanically Alloyed Anode Materials SnSn<sub>2</sub> for Li/SnSn<sub>2</sub> Cells  
Mr. Ji-hyun Hong (Gyeongsang National Univ.)
- 14:15~15:15 Coffee Break
- 16:00~18:00 AGH Lab Tour
- 18:00~21:00 Board Meeting

**2014. 7. 1 (Tue.) Room B**

- 10:00~10:15 Coffee Break
- 10:15~12:05 **Modeling and Characterization II**  
Chairman : Prof. Jong-Jin Park (Hongik University, Korea)  
Chairman : Prof. Andrey Maximenko (Institute for Problems in Materials Science, Ukraine)
- 10:15~10:35 MNC-K2 Powder Metallurgy Processing of Metal Matrix Nanocomposites: Microstructure and Mechanical Performance  
Prof. Arash Simchi (Sharif Univ. of Technology)
- 10:35~10:50 MNC-I3 Analysis of Porosity and Sheath Effect on Isothermal Forging of Ni-base Superalloy Powders  
Dr. EunYoo Yoon (Korea Institute of Materials Science)
- 10:50~11:05 MNC-I4 Numerical Simulation of Powder Compaction and Its Verification  
Prof. Seong-Jin Park (Pohang Univ. of Science and Technology)
- 11:05~11:20 MNC-O3 Effect of Shear Deformation on Closure of a Central Void in Rolling  
Prof. Jong-Jin Park (Hongik Univ.)
- 11:20~11:35 MNC-O4 Numerical Application Based on Crystallizer Wear Data During Casting Processing  
Dr. Ileana Popescu (Valahia Univ. of Targoviste)
- 11:35~11:50 MNC-O5 3-D Microstructure-Based Simulation of Inhomogeneous Plastic Deformation and Crystallographic Orientation Distribution of IF Steel  
Mr. Jae-Min Kim (Korea Advanced Institute of Science and Technology)
- 11:50~12:05 MNC-O6 Effect of Boundary Conditions on the Numerical Solutions of Representative Volume Element Problems for Random Spherical Particles Reinforced Composite: Plasticity and Creep  
Mr. Yi Je Cho (Pusan National Univ.)
- 12:05~13:00 Lunch
- 13:00~15:00 **Novel Functional Materials**  
Chairman : Prof. Stanislaw Skrzypek (AGH University of Science and Technology, Poland)
- 13:00~13:15 NFM-I1 Compositional Optimization of Chalcogenide Glasses for Molded Infrared Optics  
Prof. Yong Gyu Choi (Korea Aerospace Univ.)
- 13:15~13:30 NFM-O1 Design of Multi-functional  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>/Zn<sub>2</sub>SiO<sub>4</sub>:Mn<sup>2+</sup> by Layer-By-Layer Assembly Method  
Ms. Ri Yu (Korea Institute of Ceramic Engineering and Technology)
- 13:30~13:45 NFM-O2 Manufacturing and High Temperature Oxidation Properties of Electro-sprayed Fe-24.5%Cr-5% Al Powder Porous Metal  
Prof. Kee-Ahn Lee (Andong National Univ.)
- 13:45~14:00 NFM-O3 Fabrication and Electromagnetic Wave Absorbing Properties of Fe-Co Hollow Fibers  
Dr. Sang-Bok Lee (Korea Institute of Materials Science)
- 14:00~14:15 NFM-O4 Effect of Glass Particle Size on Sintering Behavior of AlN ceramics with MgO-CaO-Al<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub> Glass Additive  
Dr. Sung-Soo Ryu (Korea Institute of Ceramic Engineering and Technology)
- 14:15~14:30 NFM-O5 Synthesis of Plasmonic Core-shell Nanoparticles for Enhancing the Performance of Energy/Sensing Devices  
Dr. Youn-Kyoung Baek (Korea Institute of Materials Science)
- 14:30~14:45 NFM-O6 Transparent Conducting Oxide Target Prepared via Two Step Sintering and Joining Route  
Prof. Kyung-Sik Oh (Andong National Univ.)
- 14:45~15:15 Coffee Break
- 15:15~16:00 **Novel Functional Materials**  
Chairman : Prof. Kee-Ahn Lee (Andong National University, Korea)
- 15:15~15:30 NFM-I2 The Relations of Process, Structure, and Mechanical Properties of Novel Aluminum Metal Matrix Metallic Composites  
Prof. Hongjoo Rhee (Mississippi State Univ.)
- 15:30~15:45 NFM-O7 Preparation and Characterization of Thermoelectric Properties of (Bi<sub>2</sub>Te<sub>3</sub>)<sub>x</sub>(Sb<sub>2</sub>Te<sub>3</sub>)<sub>1-x</sub> Solid Solutions  
Ms. Kamila Januszko (AGH Univ. of Science and Technology)
- 15:45~16:00 NFM-O8 Evaluation of Electrical Conductivity and Mechanical Behaviors of Annular typed Aluminum Metal Matrix Metallic Composites  
Dr. Hwi-Jun Kim (Korea Institute of Industrial Technology)
- 16:00~18:00 AGH Lab Tour
- 18:00~21:00 Board Meeting

**2014. 7. 1 (Tue.) Room C**

15:15~16:00 Energy &amp; Advanced Nuclear Materials

Chairman : Dr. Jae-Hong Lim (Korea Institute of Materials Science, Korea)

Chairman : Prof. Czyrska-Filemonowicz (AGH University of Science and Technology, Poland)

15:15~15:30 ENM-I3 Electrodeposition of Semiconductor Materials and Their Applications

Dr. Jae-Hong Lim (Korea Institute of Materials Science)

15:30~15:45 ENM-O4 Application of Liquid Phase Plasma (LPP) to SiO<sub>x</sub> Anode Material Synthesized with Wet Chemical Process

Mr. Kang-Seop Yun (Sejong Univ.)

15:45~16:00 ENM-O5 Thermochemical Hydrogen Sensor Device based on Thermoelectric Nanowire Arrays and Their Sensing Characterization

Mr. Seil Kim (Hanyang Univ.)

**2014. 7. 1 (Tue.) Corridor**

13:00~15:00 Poster Session (AMP, NFM),

Chairman : Dr. Tadeusz Pieczonka (AGH Univ. of Science and Technology, Poland)

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**2014. 7. 2 (Wed.) Room A**

09:00~16:00 Registration

09:30~10:00 Plenary Lecture, Chairman : Prof. Burak ÖZKAL (ITU Chemical &amp; Metallurgical Faculty, Turkey)

P-04 Fundamental Aspects of Spark-Plasma Sintering of Nano-Powders

Prof. Eugene A. Olevsky (San Diego State Univ.)

10:00~10:15 Coffee Break

10:15~12:05 Advanced Materials Processing IV

Chairman : Prof. Soon-Jik Hong (Kongju National University, Korea)

Chairman : Prof. Yongho Sohn (University of Central Florida, USA)

10:15~10:35 AMP-K2 Sintered Nanoscale Structures – The Need for Novel Processing and Compositions to Realize Novel Properties

Prof. Randall M. German (San Diego State Univ.)

10:35~10:50 AMP-I5 High-Voltage Compaction of Zirconium Powders

Prof. Evgeny Grigoryev (Moscow Engineering Physics Institute)

10:50~11:05 AMP-I6 Fabrication of Metal Foam by Slurry Coating Process

Dr. Jung-Yeul Yun (Korea Institute of Materials Science)

11:05~11:20 AMP-I7 Fabrication Process of Porous Reaction Bonded Silicon Carbide with Multi-Layered Pore Structures

Dr. SangWhan Park (Interfacial Engineering Research Center)

11:20~11:35 AMP-O13 Effects of Nickel on the Microstructure and Mechanical Properties of Sn-0.7Cu Lead-Free Solder

Ms. Anett Gyenes (Univ. of Miskolc)

11:35~11:50 AMP-O14 Microstructure and Thermoelectric Properties of N-type Bi<sub>2</sub>Te<sub>3</sub> Materials by Different Processing Methods

Mr. Seung-Taek Han (Kongju National Univ.)

11:50~12:05 AMP-O15 Optimization of Spark-Plasma Sintering of Oxide Dispersion Strengthened Ferritic-Martensitic Steel Powders

Mr. Igor Bogachev (National Research Nuclear Univ.)

12:05~13:00 Lunch

13:00~15:00 Refractory Metals and Hard Materials,

Chairman : Prof. Kyung-Sik Oh (Andong National University, Korea)

Chairman : Dr. Sung-Soo Ryu (Korea Institute of Ceramic Engineering and Technology, Korea)

13:00~13:20 RMH-K1 Nano-Indentation and Micropillar Testing of WC Grains in WC-Co Hardmetal

Prof. Jan Dusza (IMR SAS)

13:20~13:35 RMH-I1 Mechanical Properties of Mo-Si-B Alloys with Continuous  $\alpha$ -Mo Matrix by Using Core-Shell Composite Powder

Prof. Young Do Kim (Hanyang Univ.)

13:35~13:50 RMH-O1 Synthesis of High Purity SiC Powders by a Carbothermal Reduction Using a SiO<sub>2</sub>-C Hybrid Precursor Fabricated by a Sol-Gel Process

Ms. Mirae Youm (Korea Institute of Science and Technology)

13:50~14:05 RMH-O2 Magnetic Properties of Anisotropic Nd-Fe-B Bonded Magnet by Using of Thermoplastic Binder Resin

Dr. Ji-Hun Yu (Korea Institute of Materials Science)

14:05~15:15 Coffee Break

15:15~17:00 Salt Mine

17:00~20:00 Gala Dinner

**2014. 7. 2 (Wed.) Room B**

10:00~10:15 Coffee Break



- 10:15~12:05 **Modeling and CharacterizationIII,**  
 Chairman : Prof. Insoo Kim (Kumoh National Institute of Tech., Korea),  
 Chairman : Dr. Ileana Popescu (Valahia University of Targoviste, Romania)
- 10:15~10:30 MNC-15 Solidification Mathematical Model of High Performance Stainless Steels for Medical and Skin-Contact Applications  
 Dr. Ileana Popescu (Valahia Univ. of Targoviste)
- 10:30~10:45 MNC-16 Characterization and Modeling of Performance Parameters of High-Efficiency Segmented Bi<sub>2</sub>Te<sub>3</sub>/CoSb<sub>3</sub> Thermocouples  
 Prof. Krzysztof Wojciechowski (AGH Univ. of Science and Technology)
- 10:45~11:00 MNC-07 Determination of Geometrical Features of Mineral Asphalt Fillers Using Different Measuring Techniques Measured with Different Techniques  
 Dr. Andrea Simon (Univ. of Miskolc)
- 11:00~11:15 MNC-08 Thermodynamic and Kinetic Considerations on CVD Process of Silicon Carbide  
 Dr. Kyoong Choi (Korea Institute of Ceramic Engineering and Technology)
- 11:15~11:30 MNC-09 Preparation and Characterization of Cu-based SiC Reinforced Composites  
 Dr. Andrea Simon (Univ. of Miskolc)
- 11:30~13:00 Lunch
- 13:00~14:00 **Mechanical Alloying& Mechanochemistry,**  
 Chairman : Prof. Jung-Ho Ahn (Andong National University, Korea)  
 Chairman : Prof. Stanislaw Dymek (AGH University of Science and Technology, Poland)
- 13:00~13:20 MAM-K1 Al-Based Composites, Alloys and Compounds Processed by Mechanical Alloying/Mechanochemistry  
 Dr. Dariusz Oleszak (Warsaw Univ. of Technology)
- 13:20~13:35 MAM-O1 Development of Novel Aluminum-Ceramic Nanocomposites and Microstructural and Mechanical Characterization  
 Dr. Vasile Bratu (Valahia Univ. of Targoviste)
- 13:35~13:50 MAM-O2 Synthesis of Magnesium-Aluminum Layered Double Hydroxides by Mechanochemical Method and Its Solid State Reaction Kinetics  
 Prof. Gao Hong (Dalian Jiaotong Univ.)
- 14:00~15:00 **Nanocomposite and Nanoporous Materials**  
 Chairman : Prof. Hyun Joo Choi (Kookmin University, Korea)  
 Chairman : Dr. Jose Manuel Sanchez Moreno (Centre of Studies and Technical Research, Spain)
- 14:00~14:15 NNP-O1 Effect of Titanium Boride Additions on The Sintering Behavior of Nanoporous Materials Based on Pyrogenic Silica  
 Prof. Jose Manuel Sanchez Moreno (Centre of Studies and Technical Research)
- 14:15~14:30 NNP-O2 Effect of Heat-Treatment on Microstructure and Magnetic Properties of Nanocrystallized Mn-Zn Ferrite Powders  
 Mr. Chan Seok Hong (Korea Aerospace Univ.)
- 14:30~14:45 NNP-O3 Mechanical Damping Behavior of Aluminum/Fullerene Nanocomposites  
 Prof. Hyun Joo Choi (Kookmin University)
- 14:45~15:00 NNP-O4 Metal Oxide Coated Nano Carbon/Carbide Reinforced Aluminum Matrix Composites Fabricated by Liquid Pressing Process  
 Dr. Sang-Kwan Lee (Korea Institute of Materials Science)
- 15:00~15:15 Coffee Break
- 15:15~17:00 Salt Mine
- 17:00~20:00 Gala Dinner

**2014. 7. 2 (Wed.) Corridor**

- 10:00~12:00 Poster Session(APM, NNP, RMH)  
 Chairman : Prof. Tae Suk Jang (Sunmoon University, Korea)

**2014. 7. 3 (Thu.)**

- 10:00~20:00 Technical Tour

**2014. 7. 4 (Fri.)**

- 10:00~20:00 Panel Discussion



# Paper List

## ► Plenary Lecture

P-01	2014-06-30(Mon.)	09:30~10:00
<b>Prof. Bernd Kieback (Institute of Materials Science)</b>		
Powder Metallurgy for Emerging Technologies		
P-02	2014-06-30(Mon.)	10:00~10:30
<b>Prof. Jai-Sung Lee (Hanyang Univ.)</b>		
Progress in Powder Metallurgical Nanomaterials Processing		
P-03	2014-07-01(Tue.)	09:30~10:00
<b>Prof. Krzysztof Kurzydłowski (Warsaw Univ. of Technology)</b>		
Multiscale Models of Nanometals		
P-04	2014-07-02(Wed.)	09:30~10:00
<b>Prof. Eugene A. Olevsky (San Diego State Univ.)</b>		
Fundamental Aspects of Spark-Plasma Sintering of Nano-Powders		

## ► Keynote Lecture

AMP-K1	2014-06-30(Mon.)	10:45~11:05
<b>Prof. B. Özkal (ITU Chemical &amp; Metallurgical Faculty)</b>		
Recent Efforts on Fe-Mn-Si-Cr-Ni based Shape Memory Alloys via Powder Metallurgy		
AMP-K2	2014-07-02(Wed.)	10:15~10:35
<b>Prof. Randall M. German (San Diego State Univ.)</b>		
Sintered Nanoscale Structures – The Need for Novel Processing and Compositions to Realize Novel Properties		
AMP-K3	2014-07-01(Tue.)	10:15~10:35
<b>Prof. Suk-Joong L. Kang (KAIST)</b>		
Repetitive Abnormal Grain Growth and its Mechanism in a Nano-Structured Model System of Ni		
MNC-K1	2014-06-30(Mon.)	10:45~11:05
<b>Dr. Andrey Maximenko (Institute for Problems in Materials Science)</b>		
Direct Multiscale Modelling of Powder Pressing and Sintering		
MNC-K2	2014-07-01(Tue.)	10:15~10:35
<b>Prof. Arash Simchi (Sharif Univ. of Technology)</b>		
Powder Metallurgy Processing of Metal Matrix Nanocomposites: Microstructure and Mechanical Performance		
RMH-K1	2014-07-02(Wed.)	13:00~13:20
<b>Prof. Jan Dusza (IMR SAS)</b>		
Nano-Indentation and Micropillar Testing of WC Grains in WC-Co Hardmetal		
MAM-K1	2014-07-02(Wed.)	13:00~13:20
<b>Dr. Dariusz Oleszak (Warsaw Univ. of Technology)</b>		
Al-Based Composites, Alloys and Compounds Processed by Mechanical Alloying/Mechanochemistry		

► **PM Forum**

PM-1	2014-06-30(Mon.)	10:45~11:10
<b>Prof. Jan Kazior (Krakow Univ. of Technology)</b> Current Status of PM in Poland		
PM-2	2014-06-30(Mon.)	11:10~11:35
<b>Prof. Young Do Kim (Hanyang Univ.)</b> Current Status of PM in Korea		
PM-3	2014-06-30(Mon.)	11:35~12:00
<b>Prof. Dr. Henning Zoz (Zoz Group)</b> Nanostructures for Zero Emission Future Transportation, Energy & Economy		

► **Invited Session**

- [AMP-I1] **Intermetallic Compounds Fabrication and Self-Propagating High-Temperature Synthesis**  
 Prof. Reza Ghomashchi (The Univ. of Adelaide)
- [AMP-I2] **Multiscale Design and Process-Dependent Microstructural Development of Al Metal Matrix Composites**  
 Prof. Yongho Sohn (Univ. of Central Florida)
- [AMP-I3] **Anisotropy of Selected Properties of Si<sub>3</sub>N<sub>4</sub> Graphene Composite**  
 Prof. Lucyna Jaworska (Institute of Advanced Manufacturing Technology)
- [AMP-I4] **Wear Resistant Chromium Coatings Modified with Diamond Nanoparticles**  
 Dr. Radoslav Valov (Institute of Metal Science)
- [AMP-I5] **High-Voltage Compaction of Zirconium Powders**  
 Prof. Evgeny Grigoryev (Moscow Engineering Physics Institute)
- [AMP-I6] **Fabrication of Metal Foam by Slurry Coating Process**  
 Dr. Jung-Yeul Yun (Korea Institute of Materials Science)
- [AMP-I7] **Fabrication Process of Porous Reaction Bonded Silicon Carbide with Multi-Layered Pore Structures**  
 Dr. Sang Whan Park (Korea Institute of Science and Technology)
- [APM-I1] **Effect of SiC Particles on Sinterability of PM Al-Zn-Mg-Cu alloy**  
 Dr. Haris Rudianto (Brno Univ. of Technology)
- [APM-I2] **Fabrication of Fe-TiC Composites by High-Energy Milling and Spark-Plasma Sintering**  
 Prof. Ji Soon Kim (Univ. of Ulsan)
- [APM-I3] **Effect of Boron and Phosphorous on Sintering Behavior of Fe-Cr-Mo Alloy Steel**  
 Dr. Yong-Jin Kim (Korea Institute of Materials Science)
- [ENM-I1] **RE-Ba-Cu-O Bulk Superconductor for Energy Storage**  
 Dr. Chan-Joong Kim (Korea Atomic Energy Research Institute)

- [ENM-I2] Sol-Gel Synthesis of Metal Oxide Semiconductors with Desired Properties for Photocatalysis and Production of Biodiesel**  
Dr. Shao Namwel (Hanyang Univ.)
- [ENM-I3] Electrodeposition of Semiconductor Materials and Their Applications**  
Dr. Jae-Hong Lim (Korea Institute of Materials Science)
- [MNC-I1] Finite-Element Analysis of Severe Plastic Deformation in Different-Speed Rolling**  
Prof. Jong-Jin Park (Hongik Univ.)
- [MNC-I2] Calculation of R-value of 1050 Al Alloy Sheet after Two-Step Asymmetric Rolling**  
Prof. InSoo Kim (Kumoh National Institute of Tech.)
- [MNC-I3] Analysis of Porosity and Sheath Effect on Isothermal Forging of Ni-base Superalloy Powders**  
Dr. EunYoo Yoon (Korea Institute of Materials Science)
- [MNC-I4] Numerical Simulation of Powder Compaction and its Verification**  
Prof. Seong-Jin Park (Pohang Univ. of Science and Technology)
- [MNC-I5] Solidification Mathematical Model of High Performance Stainless Steels for Medical and Skin-Contact Applications**  
Dr. Ileana Popescu (Valahia Univ. of Targoviste)
- [MNC-I6] Characterization and Modeling of Performance Parameters of High-Efficiency Segmented  $\text{Bi}_2\text{Te}_3/\text{CoSb}_3$  Thermocouples**  
Prof. Krzysztof Wojciechowski (AGH Univ. of Science and Technology)
- [NFM-I1] Compositional Optimization of Chalcogenide Glasses for Molded Infrared Optics**  
Prof. Yong Gyu Choi (Korea Aerospace Univ.)
- [NFM-I2] The Relations of Process, Structure, and Mechanical Properties of Novel Aluminum Metal Matrix Metallic Composites**  
Prof. Hongjoo Rhee (Mississippi State Univ.)
- [REM-I1] Production and Properties of Composite Material Containing Gd Multiscale Particles**  
Dr. Jacek Andrzej Jaworski (KIST)
- [RMH-I1] Mechanical Properties of Mo-Si-B Alloys with Continuous  $\alpha$ -Mo Matrix by Using Core-Shell Composite Powder**  
Prof. Young Do Kim (Hanyang Univ.)
- [RNR-I1] Urban Mining – the Present and Future**  
Dr. Kang In Rhee (KIGAM)
- [RNR-I2] Strategies for Recycling Critical Materials**  
Dr. Ryan Ott (The Ames Laboratory)
- [RNR-I3] Municipal Waste Recycling in Poland**  
Dr. Wojciech Hryb (Silesian Technical Univ.)

► Oral Session (Room A) .....

- [AMP-01] The Fabrication and Characterization of Ceramic Membrane Using Natural Materials for Water Treatment  
In-Hyuck Song\*, Jang-Hoon Ha, Yoo-Dong Hahn
- [AMP-02] Field-Assisted and Conventional Consolidation of ZrN Powders  
Maria Yurlova\*, Dennis Pchelyakov, Geuntak Lee, Evgeny Grigoryev, Eugene Olevsky
- [AMP-03] Wear Resistant Chromium Coatings Modified with Diamond Nanoparticles  
Nelly Gidikova, Andrzej Cias, Vladimir Petkov, Marcin Madej, Maciej Sulowski, Radoslav Valov\*
- [AMP-04] Use of Halide Solution to Improve the RDI and RI of Sinter: An Experience at JSPL  
Brij Badhadra, Sanjay Srivastava\*, D. P. Roy, Man Singh Raghuwanshi
- [AMP-05] Laser Power Influence on Microstructure of Parts Manufactured with Selective Laser Melting technology  
Tomasz Kurzynowski\*
- [AMP-06] Development of High Performance Thermoelectric Materials by Powder Metallurgy Process  
Hyo-Seob Kim, Ki-Chan Park, Kap-Ho Lee, Soon-Jik Hong\*
- [AMP-07] Porous Ti Coated Ti6Al4V Alloy Produced by Spark Plasma Sintering  
Nério Vicente Junior, Francesco Casari, Luca Facchini, Francesco Bucciotti, Alberto Molinari\*
- [AMP-08] Thermal Analysis on the Kinetics of Magnesium-Aluminum Layered Double Hydroxides in Different Heating Rates  
Yu Hongbo\*, Chen Meiling, Wang Xu, Gao Hong
- [AMP-09] Effects of Fabrication Process on Microstructure and Texture of Inconel 690 Tubes for Steam Generators  
Tae Hyuk Lee, Young Jun Lee, Chan Hyeon Park, Jae Soo Noh, Jung Hwan Hong, Jong Hyeon Lee\*
- [AMP-010] Morphology Change of Si Deposit in Molten Salt Electrorefining  
Hong Youl Ryu, Suk Cheol Kwon, Young Soo Ahn, Jin Seok Lee, Moon Hee Han, Jong Hyeon Lee\*
- [AMP-011] The Sintering Parameters Influence on Microstructure and Physical-Chemical Properties of Novel Al-Cu-SiC Composites  
Ileana Nicoleta Popescu, Vasile Bratu\*, Raluca Ioana Zamfir, Florina Violeta Anghelina, VioletaTsakiris
- [AMP-012] The Effect of Void Formation on the Reliability of ED-XRF Measurements in Lead-Free Reflow Soldering  
Daniel Koncz-Horváth\*, G. Gergely, Z. Gácsi
- [AMP-013] Effects of Nickel on the Microstructure and Mechanical Properties of Sn-0.7Cu Lead-Free Solder  
Anett Gyenes\*, A. Simon, P. Lanszki, Z. Gácsi
- [AMP-014] Microstructure and Thermoelectric Properties of N-type Bi<sub>2</sub>Te<sub>3</sub> Materials by Different Processing Methods  
Seung-Taek Han\*, Hyo-Seob Kim, Soon-Jik Hong, Kap-Ho Lee
- [AMP-015] Optimization of Spark-Plasma Sintering of Oxide Dispersion Strengthened Ferritic-Martensitic Steel Powders  
Igor Bogachev\*, E. Grigoryev, E. Olevsky
- [ENM-01] Atomistic Analysis of Radiation-Induced Segregation in Ion-irradiated Stainless Steel 316  
Gyeong-Geun Lee\*, Hyung-Ha Jin, Kunok Chang, Bong Ho Lee, Junhyun Kwon
- [ENM-02] IAEA Support Programme on Advanced Structural Materials for Nuclear Applications Lec  
A.Zeman\*, V.Inozemtsev
- [ENM-03] Synthesis and Electrochemical Characteristics of Mechanically Alloyed Anode Materials SnS<sub>2</sub> for Li/SnS<sub>2</sub> Cells  
D.K. Park\*, J.H. Hong, X.J. Liu, I.S. Ahn, K.W. Kim

[RMH-01] Synthesis of High Purity SiC Powders by a Carbothermal Reduction Using a SiO<sub>2</sub>-C Hybrid Precursor Fabricated by a Sol-Gel Process

Mirae Youm, SungIl Youn, YungChul Jo, SangWhan Park\*

[RMH-02] Magnetic Properties of Anisotropic Nd-Fe-B Bonded Magnet by Using of Thermoplastic Binder Resin

Ji-Hun Yu\*, Young-Cheol Park, Jeong-Sub Heo, Jung-Goo Lee

► Oral Session (Room B) .....

[MNC-01] Rheological Modeling of Magnetic Powder Injection Molding

Im Doo Jung, Seong Jin Park\*, Tae Gon Kang, Jang Min Park, See Jo Kim

[MNC-02] Analysis of Conduction Path Formation Mechanism in Tantalum Oxide: First Principle Study

Haneol Cho, Boateng Samuel, KyuHwan Lee\*

[MNC-03] Effect of Shear Deformation on Closure of a Central Void in Rolling

Jong-Jin Park\*

[MNC-04] Numerical Application Based on Crystallizer Wear Data During Casting Processing

Vasile Bratu, Ileana Nicoleta Popescu\*, Florina Violeta Anghelina

[MNC-05] 3-D Microstructure-Based Simulation of Inhomogeneous Plastic Deformation and Crystallographic Orientation Distribution of IF Steel

Dong-Kyu Kim, Jae-Min Kim, Won-Woong Park, Yong-Taek Im\*, Yong-Shin Lee

[MNC-06] Effect of Boundary Conditions on the Numerical Solutions of Representative Volume Element Problems for Random Spherical Particles Reinforced Composite: Plasticity and Creep

Yi Je Cho, Wook Jin Lee, Yong Guk Son, Jeong Il Bang, Yong Ho Park\*

[MNC-07] Determination of Geometrical Features of Mineral Asphalt Fillers Using Different Measuring Techniques Measured with Different Techniques

Andrea Simon\*, Róbert Géber

[MNC-08] Thermodynamic and Kinetic Considerations on CVD Process of Silicon Carbide

Kyoon Choi\*, Jin-Won Seo, Jun-Woo Kim, Jong-Heun Lee

[MNC-09] Preparation and Characterization of Cu-based SiC Reinforced Composites

Andrea Simon\*, Dora Lipusz, Greta Gergely, Zoltan Gacsi

[RNR-01] Hydrogen Reduction of Recycled Mo Oxide to Produce High Purity Mo and Fe-Mo Alloy

Do-Hyeong Kim, Min-Kyu Paek, Kyung-Hyo Do, Jong-Jin Pak\*

[RNR-02] Application of Sequential Refining Process for Recycling End-of-Life Magnesium Scraps

Y.D. Hahn, B.G.Moon\*, B.S.You

[RNR-03] Extraction Factor of Pure Ammonium Paratungstate from Tungsten Scraps

Jae-Hwan Pee\*, Guen-Hee Kim, YooJin Kim

[RNR-04] Comparison of Mercury Distribution Between the Types of Spent Fluorescent Lamp

Seung-Whee Rhee\*, Hun-Su Park

[REM-01] Effect of Tungsten Metal Particle Sizes on the Solubility of Molten Hf-Based Alloy Melt

M. H. Lee\*, J. Eckert, A. J. Hurd

[REM-02] Characteristics of Ta Alloy Coating Layer Using Molten Salt Electroplating for Hydrogen Production Sulfide-Iodine Process

Young Jun Lee, Moon Hee Han, Kyoung Soo Kang, Seong Uk Jeong, Jong Hyeon Lee\*

- [REM-03] Development of High-Performance Dy-free Nd-Fe-B Based Permanent Magnets  
J.-G. Lee\*, H.-R. Cha, Y.-K. Baek, J.-H. Yu, Y.-D. Kim, H.-W. Kwon
- [REM-04] Electrolysis Techniques of Nuclear Grade Zirconium in the Molten Salt Media  
Kyoung-Tae Park\*, Bum-Sung Kim, Min-Ha Lee, Taek-Soo, Kim, Tae-Hyuk Lee, Jong-Hyeon Lee
- [REM-05] The Recovered Thermoelectric Powder from Waste Thermoelectric Modules in Vehicles  
Kun-Jae Lee\*, Man-Sik Kong
- [REM-06] Recovery Nickel from Spent Nickel-Cadmium Batteries by using Direct Reduction Process  
Dong Ju Shin, Sung-Ho Joo, Jei-Pil Wang, Shun-Myung Shin\*
- [NFM-01] Design of Multi-functional  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>/Zn<sub>2</sub>SiO<sub>4</sub>:Mn<sup>2+</sup> by Layer-By-Layer Assembly Method  
Ri Yu, JiYeon Yun, Jae-Hwan Pee, YooJin Kim\*
- [NFM-02] Manufacturing and High Temperature Oxidation Properties of Electro-sprayed Fe-24.5%Cr-5% Al Powder Porous Metal  
Jae-Sung Oh, Min-Chul Shim, Young-Min Kong, Byoung-Kee Kim, Kee-Ahn Lee\*
- [NFM-03] Fabrication and Electromagnetic Wave Absorbing Properties of Fe-Co Hollow Fibers  
Sang-Bok Lee\*, Byung Mun Jung, Jin-Woo Yi, Seungchan Cho, Jae Ryung Choi, Sang-Kwan Lee, Ki Hyeon Kim
- [NFM-04] Effect of Glass Particle Size on Sintering Behavior of AlN ceramics with MgO-CaO-Al<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub> Glass Additive  
Hwa-Jun Lee, Woo-Seok Cho, Sang-Woo Kim, Sung-Soo Ryu\*
- [NFM-05] Synthesis of Plasmonic Core-shell Nanoparticles for Enhancing the Performance of Energy/Sensing Devices  
Youn-Kyoung Baek\*, Young Kuk Kim
- [NFM-06] Transparent Conducting Oxide Target Prepared via Two Step Sintering and Joining Route  
Gwang-Seok Moon, Tai-Joo Chung, Gil-Su Hong, Seung-Ho Yang, Kyung-Sik Oh\*
- [NFM-07] Preparation and Characterization of Thermoelectric Properties of (Bi<sub>2</sub>Te<sub>3</sub>)<sub>x</sub>(Sb<sub>2</sub>Te<sub>3</sub>)<sub>1-x</sub> Solid Solutions  
Kamila Januszko\*, Artur Stabrawa, Krzysztof Wojciechowski
- [NFM-08] Evaluation of Electrical Conductivity and Mechanical Behaviors of Annular Typed Aluminum Metal Matrix Metallic Composites  
Hwi-jun Kim\*, Ju-ho Lee, Chang-Woo Lee, Hongjoo Rhee, Moo-Young Huh
- [MAM-01] Development of Novel Aluminum-Ceramic Nanocomposites and Microstructural and Mechanical Characterization  
Violeta Tsakiris, Ileana Nicoleta Popescu, Vasile Bratu\*, Cristian Tsakiris
- [MAM-02] Synthesis of Magnesium-Aluminum Layered Double Hydroxides by Mechanochemical Method and Its Solid State Reaction Kinetics  
Yu Hongbo\*, Chen Meiling, Wang Xiuhui, Gao Hong
- [NNP-01] Effect of Titanium Boride Additions on the Sintering Behavior of Nanoporous Materials Based on Pyrogenic Silica  
L. Vazquez, I. Ocana, J.M. Sánchez\*
- [NNP-02] Effect of Heat-Treatment on Microstructure and Magnetic Properties of Nanocrystallized Mn-Zn Ferrite Powders  
Chan Seok Hong, Si Young Chang\*
- [NNP-03] Mechanical Damping Behavior of Aluminum/Fullerene Nanocomposites  
Jaehyuck Shin, Kwangmin Choi, Serge Shil'ko, Donghyun Bae, Hyunjoo Choi\*
- [NNP-04] Metal Oxide Coated Nano Carbon/Carbide Reinforced Aluminum Matrix Composites Fabricated by Liquid Pressing Process  
Sang-Kwan Lee, Seungchan Cho, Byung Mun Jung, Jin-Woo Yi, Sang-Bok Lee\*

► Oral Session (Room C) .....

[APM-01] Current-Insulated and Current-Assisted Spark-Plasma Sinter-Forging of Conductive Materials

Elena Aleksandrova\*, Alexandra Ilyina, Eugene Grigoryev, Eugene Olevsky

[APM-02] The Effect of Grain Size on Mechanical Properties of Aluminum

Go woon Jeong, Se-eun Shin, Jae hyuck Shin, Dong hyun Bae, Hyunjoo Choi\*

[APM-03] Thermal Plasma Decomposition of Nickel and Cobalt Compounds

M. Woch\*, M. Lis, D. Kołacz, M. Kamińska, M. Staszewski

[APM-04] Structural Characterization of Shot Pinned Surface Layers of Sintered DistaloyHP

S. J. Skrzypek\*, A. Bergmark, M. Goły

[ENM-04] Application of Liquid Phase Plasma (LPP) to SiO<sub>x</sub> Anode Material Synthesized with Wet Chemical Process

Kang-Seop Yun, Eul Noh, Hee-June Jung, Aryan Azad, Nguyen Thai Moc, Woo-Seung Kang, Sang-Chul Jung, Sun-Jae Kim\*

[ENM-05] Thermochemical Hydrogen Sensor Device based on Thermoelectric Nanowire Arrays and Their Sensing Characterization

Seil Kim, Yo-Min Choi, Hyo-Ryoung Lim, Yong-Ho Choa\*





- [MNC-P02] A Numerical Study on Adhesive Characteristics of Aluminum Foam/Metal Composites  
Sang Hoon Kim, Jae Ha Lee, Kyong Yop Rhee\*
- [MNC-P03] Finite Element Analysis of Powder Process for Manufacturing LED Ceramic Sub-Mount  
Myeong-Sik Jeong, Sang-Kon Lee\*, Da Hye Kim, Yong-Jae Cho, Jae-Wook Lee, Hoon-Jae Park, Kyong-Yop Rhee
- [MNC-P04] A Numerical Analysis to Predict the Burst Pressure of Vibration Welded GFRP Ball Shape Vessel  
Ki Suk Lee, Sang Woo Lee, Kyong Yop Rhee\*
- [MNC-P05] Characterization of Cladding Hull Wastes from Pyro-Processing  
Kweon Ho Kang\*, Chang Hwa Lee, Min Ku Jeon, Geun Il Park
- [MNC-P06] Phase Transformation and Mechanical Properties of Ti-12.1Mo-1Fe Alloy with Nano-sized Precipitation  
Dong-Geun Lee\*, Cheng-Lin Li, Yongtai Lee
- [MNC-P07] Spring-back and Spring-go Behaviors in Bending of High Strength Steel Plates Using Finite Element Method  
 Joonhang Lee, Kwangmin Lee\*
- [MNC-P08] Phase Diagram for Ag-Cu Nanoparticles: Size and Composition Dependent Structural and Thermal Stabilities  
Da Hye Kim\*, Kihyun Shin, Sang-Kon Lee, Myeong-Sik Jeong, Yong-Jae Cho, Hyuck Mo Lee\*
- [MNC-P09] Development of High Strength and Fracture Toughness Alloy Steels  
Min Young Koo\*, Da Hye Kim, Seung Ju Baek, Soon Hyung Hong\*
- [MNC-P10] Development and Characterization of Al Matrix Composites Reinforced with Ceramic Nanoparticles  
Andrea Simon\*, Dora Lipusz, Peter Baumli, George Kaptay, Angeliki Lekatou, Alexander Karantzalis, Zoltan Gacsi
- [MNC-P11] Microstructure Characterization of Al-SiC Composites Using Image Analysis  
 Michał Stoliński, Tadeusz Pieczonka, Zoltan Gacsi, Andrea Simon\*
- [REM-P01] A Study on the Performance Improvement of the IPMSM for Electric Power Steering  
Han-Woong Ahn\*, Jun-Hui Won, Jae-Jun Lee, Hyun-Jong Park, Ju Lee\*
- [REM-P02] Enhancement of Magnetic Properties by Adding a hard metal element in HREE free Nd-Fe-B Sintered Magnet  
 Won-Suk Lee, Jin Woo Kim, Jong-Min Byun, Jin Soo Cho, Taek-SooK im, Young Do Kim\*
- [REM-P03] Electrochemical Behavior of Nd<sub>2</sub>O<sub>3</sub> in LiF-NdF<sub>3</sub> Molten Salts System  
Suk Cheol Kwon, Hong-Youl Ryu, Hayk H. Nersisyan, Go-Gi Lee, Sung-Koo Jo, Jong Hyeon Lee
- [REM-P04] Characterization of Nd-Fe-B Magnet Powders Fabricated by Gas Atomization Process  
HyunJin Choi, S. W Nam, J. H Lee, E. A Joo, B. S Kim, K.T Park, S. K Hyun, Taek-Soo Kim\*
- [REM-P05] Effects of Pr and Dy-Substitution on the Microstructure and Magnetic Properties of Nd-Fe-B Strips  
 Kyoungmook Lim\*, Seungyeon Park
- [REM-P06] Purification and Separation of Rare Earth Elements from CCFL with Extraction Chromatography  
 Jeong-Gon Kim\*, Dong-won Shin, Eun Ah
- [RNR-P01] Recovery of Electrode Powder of Spent Nickel Metal Hydride Battery (NiMH)  
 Shun-Myung Shin, Dong-Won Lee, Jung-Yeul Yun, Sang-An Ha, Jei-Pil Wang\*
- [RNR-P02] Recovery of Electrode Powder from Spent Lithium Ion Battery  
 Shun-Myung Shin, Dong-Won Lee, Woo-Jin Lee, Young-Ho Kim, Jei-Pil Wang\*
- [RNR-P03] Decomposition Factor of Waste Scraps Using by Zinc Decomposition Process (ZDP)  
Jae-Hwan Pee\*, Guen-Hee Kim, YooJin Kim

- [RNR-P04] Selective Recovery of Nickel and Tin from Copper Alloy Dross by Solvent Extraction  
Jung-Il Lee, Jeong Ho Ryu\*
- [RNR-P05] Development of Optical Sorting Technologies for Improving of Recycling Efficiency of Waste Electrical Home Appliances in Korea  
Donghyo Yang, Jeongsoo Sohn, Kang-In Rhee, Sookyung Kim\*
- [RNR-P06] Reuse Technology and High Purification of Tri-methyl gallium used Precursor for LED  
Jae-sik Yoon\*, Jae-yeol Yang
- [RNR-P07] Recovery of Valuable Metals and Nitric acid from Spent Solder Stripping Solutions  
Jae-Woo Ahn, Seong-Hyung Ryu, Hyo-Jin Ahn, Tae-young Kim
- [RNR-P08] High Purity Tungsten Spherical Particle Preparation From WC-Co Spent Hard Scrap  
Chulwoong Han, Hyunwoong Na, Ji-Won Oh, Hanshin Choi, Yong Hwan Kim\*
- [RNR-P09] The Recovery of Valuable Metals in Tin-based Anodic Slimes by Carbothermic Reaction  
Yong Hwan Kim\*, Chulwoong Han, Hanshin Choi, Seong Ho Son, Young-min Kim, Tae Bum Kim
- [RNR-P10] Study on the Electrorefining of Tin in Acid Solution from eWaste  
Seong Ho Son\*, Sung Cheol Park, Jin Hwa Kim, Yong Hwan Kim, Man Seung Lee, Jae-Woo Ahn
- [RNR-P11] Investigation of Leaching Efficiencies and Optimum Conditions Suitable for Extraction of Highly Pure MgO and SiO<sub>2</sub> from Ferronickel Slags  
Sungsoo Park, Sun Jeong Jeon, HeeTaik Kim\*
- [RNR-P12] Synthesis of WO<sub>3</sub> from UP-Cycled Ammonium ParaTungstate (APT) by Chemical Precipitation Method  
 Sung-Jin Kim, Jin-Ho On, Jun-Ki Chung, Sang-Yeup Park\*
- [RNR-P13] Extraction and Separation of Rare-Earth Elements from the Fluorescent Lamp Phosphor  
Dong-won Shin\*, Eun-ah Joo, Bae-yeon Kim, Jeong-gon Kim\*
- [RNR-P14] Separation Behavior of Impurities from Te by Using Gas Reaction Induced Zone Refining Process  
Moon-Soo Shim\*, Tae-Hyuk Lee, Jong-Hyeon Lee
- [RNR-P15] Recovery of Ce Oxide and Separation of La from Chloride Leach Solution of Monazite Sand  
 Raju Banda, Ho Seok Jeon, Man Seung Lee\*
- [RNR-P16] Reduction and Stabilization of Silver Nanoparticles in Ethanol by Phosphinic Acid  
 Jae-Kyeong Kim\*, Kee-Kahb Koo
- [RNR-P17] Recycling of Spent Lithium-ion Battery Cathode Materials by Ammonia Leaching  
Jeongsoo Sohn\*, Sookyung Kim, Donghyo Yang, S. V. Rao, Kangin Rhee, Heesuk Ku, Kyung jung Kwon
- [RNR-P18] Development of Triboelectrostatic Separation Technique for Recycling of End-of-Life Vehicle Radiator  
Ho-Seok Jeon, Sang-Ho Baek\*, Eun-Seon Lee, Hoon Lee, Byoung-Gon Kim
- [RNR-P19] Recycle Technologies for Recovering Metals from Waste PCBs in Korea  
Jinki Jeong\*, Byung-su Kim, Dong-hyo Yang, Jae-chun Lee
- [RNR-P20] Study of Neodymium Recovery from NdFeB Magnet Scrap by Room-Temperature Electrolysis  
Jinyoung Lee, Jesik Park, Churl Kyoung Lee\*
- [RNR-P21] Recovery of Rare Earth Elements in Sulfuric Acid Leaching Solution from Waste Permanent Magnet Scrap  
Chul-Joo Kim\*, Kyeong Woo Chung, Ho-Sung Yoon
- [RNR-P22] Novel Extraction Process of Rare Earth Elements from NdFeB Powders via Alkaline Treatment  
Ho-Sung Yoon\*, Kyeong Woo Chung, Chul-Joo Kim

- [RNR-P23] Extraction of Cobalt from Spent CMB Catalyst Using Supercritical CO<sub>2</sub>  
Sung-Ho Joo, Dong Ju Shin, Chang Hyun Oh, Shun-Myung Shin\*
- [RNR-P24] Preparation and Properties of Rigid Polyurethane Foam Nanocomposites from Recycled Polyols and Holloysites  
Se-Ra Shin, Hyeong-Joo Kim, Dai-Soo Lee\*
- [RNR-P25] Synthesis of Iron Nanopowder from FeCl<sub>3</sub> Solution by Chemical Reduction Method for Recycling of Spent Neodymium Magnet  
Jong-Gwan Ahn\*, Ryun-Ji Gang, Hae-Bin Yoo, Chul-Joo Kim, KyoungWoo Jung, Ho-Sung Yoon
- [RNR-P26] Demonstration Study of Gold Electrowinning Using a Hydrocyclone Reactor from Waste Low Concentration Gold Solutions  
Sookyung Kim\*, Youngmin Oh, Donghyo Yang, Jeongsoo Sohn, Kang-In Rhee

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- [AMP-P01] Structure and Properties of Cermets with PVD Coatings  
L.W. Żukowska\*, J. Mikuła, K. Gołombek
- [AMP-P02] Oxidation of (TiB+TiC) Particulate Reinforced Titanium Matrix Composites  
Young Jig Kim, Poonam Yadav, Dong Bok Lee\*
- [AMP-P03] An Analysis for Drilling Multilayer Laminated Metallic Plate  
Key-Sun Kim\*
- [AMP-P04] Analysis of the Extruding Process for Rectangular Tube-type Heat pipes  
Jae Young Kim, Tai Heoun Park, Jong Bok Park, Key Sun Kim
- [AMP-P05] Sintered Iron-Based Biodegradable Foams  
M. Kupková\*, M. Hrubovčáková, A Zelenák, M. Sulowski, A. Cias, R. Oriňáková, A. Straková Fedorková
- [AMP-P06] Effect of Carbon Nanotubes on the Properties of Spark Plasma Sintered ZrO<sub>2</sub>/CNT Composite  
Dong Hyun Shim, Sung Sil Jung, Hye Sung Kim, Hyun Cho, Jin Kon Kim, Tae Gyu Kim, Su Jong Yoon\*
- [AMP-P07] Self-Consolidation Mechanism of Fully Porous and Porous-Surfaced Ti-6Al-4V Implant Prototypes Fabricated by Electro-Discharge-Sintering of Spherical Ti-6Al-4V Powders  
Y.J. Jo, Y.H. Jo, Y.H. Kim, J.G Seong, W.H. Lee\*
- [AMP-P08] Fabrication and Mechanical Properties of a Nanostructured Complex Aluminum Alloy by Multi-Layer Stack Ccumulative Roll Bonding  
Seong-Hee Lee\*, Seong Ro Lee
- [AMP-P09] Optoelectrical Properties of Combined Dielectric Layers with Thin and Thick BaTiO<sub>3</sub> Films  
Sung Park\*, Byoung-Ho Yoo, Jongchul Jeon, Jae Chun Lee, Ju-Hyeon Lee
- [AMP-P10] The Evaluation of Antibacterial Activity and Cell Compatibility of Titanium Nitride/Zirconium Nitride Coating on Titanium  
Minkyung Ji, Sangwon Park, Kwangmin Lee, Kwidug Yun, Inchol Kang, Gyejeong Oh, Kyungjun Jang, Hyun-Pil Lim\*
- [AMP-P11] A Study on the Die Roll Hight of SHP-1 and SCP-1 Materials in the Fine Blanking Process  
Chun-kyu Lee, Young-Choon Kim\*
- [AMP-P12] RF Magnetron Sputtering Coating of Hydroxyapatite on Alkali Solution Treated TiO<sub>2</sub> Nanostructures  
Girok Shin, Heesang Choi, Kwangmin Lee\*
- [AMP-P13] Mechanical Properties and Corrosion Behavior of 316 and 420 Stainless Steels Heat Treated by Plasma Oxy-Nitration Processing  
Yongjae Kim, Kwangmin Lee

- [AMP-P14] Adhesion Behavior and Corrosion Property of Bio-Glass Coating Layers Deposited on Magnesium by a Sol-gel Method  
Hye Sung Kim\*
- [AMP-P15] A Development of the TMI Precursor for LED Reuse Technology  
Jae Yeol Yang, Jae Sik Yoon\*, Byung Sung O
- [AMP-P16] Improved Light Conversion Efficiency of Dye-Sensitized Solar Cell by Dispersing Submicron-Sized Granules into the Nano-Sized TiO<sub>2</sub> Layer  
Kyeong Youl Jung\* Mi Ja Lim, Shin Ae Song, Won-Wook So, Sang-Jin Moon
- [AMP-P17] The Optimum Selective Phase Dissolution Condition for Porous Metallic Glass Granules  
Song Yi Kim, Bo Kyeong Guem, Kyeong Tae Park, Min Ha Lee, Taek Soo Kim, Bum Sung Kim\*
- [AMP-P18] Effects of Atmosphere and Milling Time on the Coarsening of Copper Powders During Mechanical Milling  
Hyo-Seob Kim, Soon-Jik Hong, Tae-Haeng Lee\*
- [AMP-P19] Characterization of Laser Patterned F-doped SnO<sub>2</sub> Thin Films for Dye-Sensitized Solar Cells  
Ha-Rim An, Doh-Hyung Riu, Hyo-Jin Ahn\*
- [AMP-P20] The Effect of Y<sub>2</sub>O<sub>3</sub> Ceramic Nanoparticle Coating on the High Temperature Corrosion Properties of Zircaloy-4 Alloy  
Seung-Taek Han, Min-Gyu Choi, Han-Jin Ko, Hyun-Gil Kim, Soon-Jik Hong\*
- [AMP-P21] Characterization and Deformation Behavior of Ti Hybrid Compacts with Solid-to-Porous Gradient Structure  
Hae Jin Park, Joon Hak Lee, Sung Hwan Hong, Jeong Tae Kim, Won Hee Lee, Ki Buem Kim\*
- [AMP-P22] Recovery of Valuable Metals from PDP Panel Waste Solution by Electrowinning  
Chan-Mi Kim\*, Hyo-Seob Kim, Soon-Jik Hong, Jar-Myung Koo
- [AMP-P23] Exfoliation of Graphite by a Functionalization Method Using Phthalic Acid  
Ji Hwan Kim, Jong-Hyun Lee\*
- [AMP-P24] Enhancement of Fatigue Strength of AISI 4140 Steel by Laser Heat Treatment  
Min Chul Oh, Hyunho Yeom, YonghoJeon\*, Yuzheng Zhang, Byungmin Ahn\*
- [AMP-P25] Precipitation Behavior of Extruded ZK60A Magnesium Alloy  
Jungku Park, Ki Ho Jung, GeunAn Lee, Megumi Kawasaki\*, Byungmin Ahn\*
- [AMP-P26] Effect of Intermetallic Compound Thickness on the Anisotropic Thermal and Mechanical Properties of Al/Cu Composite Fabricated by Repeated Hydrostatic Extrusion Process  
TaeHyuk Lee, SinHyong Joo, MoonSoo Sim, HaGuk Jeong, JongHyeon Lee
- [AMP-P27] Interfacial Characteristics of Electroplated Aluminum on Magnesium Substrate using Ionic Liquid Electrolyte  
Bung Uk Yoo, Hayk H, Nersiyán, Jong Hyeon Lee
- [AMP-P28] Fabrication of AZ31/CNT Surface Nano-Composite by Friction Stir Processing  
Jung-Woo Hwang, Jai-Yeon Kim, Chang-Yong Hyun, Woo-Sang Jung, Jai-Won Byeon\*
- [AMP-P29] Magnetic Characterization of Thermally Degraded B-Modified 9Cr-1.5Mo High Temperature Steel  
Seung-Me Lee, Chang-Yong Hyun, Woo-Sang Jung, Jai-Won Byeon\*
- [AMP-P30] Effect of Severe Plastic Deformation on Microstructure Evolution of Pure Aluminium  
Beata Leszczyńska-Madej\*, Maria W. Richert
- [AMP-P31] Synthesis of SiC/Cu Composite Powders from Polycarbosilane and Cupric Nitrate Trihydrate  
Soo-Ryong Bang\*, Da-Mi Yim, Doh-Hyung Riu, Sung-Tag Oh\*
- [AMP-P32] Study of Aluminum Oxide Formation on FeCrAl Catalyst Support by Electro-Chemical Coating  
Hyunseok Yang\*, Dae-Hwan Jang, Min hye Seo, Kun-Jae Lee

- [AMP-P33] Characteristics of the Porous Body Sintered by Nano-Sized Fe-Cr-Al Alloy Powder  
Su-In Lee, Si-Hyeong Lee, Bon-Uk Gu, Dong-Won Lee, Byoung-Kee Kim\*
- [AMP-P34] An Analysis of Stress Intensity Factor Due to Normal Stress for the Cracked Plate Reinforced with a Sheet by Seam Welding  
Ok-Hwan Kim\*, Young-Choon Kim
- [AMP-P35] The Effect of Silver Content on the Properties of Lead-Free Solders  
A. Molnar\*, G. Gergely, I. Kardos, I. Molnar, Z. Gacsi
- [AMP-P36] Whisker Formation on Galvanic Tin Surface Layer  
A. Radanyi\*, A. Sycheva, Z. Gacsi
- [AMP-P37] Pulse Plasma Sintered Nanostructured Bulk Ti+TiB Composite Materials  
Andrzej Miklaszewski
- [AMP-P38] A Study on the Size-control of CdSe QDs by Photo-induced Chemical Etching Process  
 Bum-Sung Kim, So Yeong Joo, Woo-Byoung Kim\*
- [AMP-P39] A study on the Physical Properties of Al Alloys Containing High Content Zn for Die Casting  
Sangsoo Shin, Kyoungmook Lim\*
- [AMP-P40] Investigation of Intermetallic Compounds in Sn-Cu-Ni Lead-Free Solders  
Erzsebet Nagy\*, Anett Gyenes, Zoltan Gacsi
- [AMP-P41] Synthesis and Optimization of CdSe Nanocrystals by Micro Fluidic Reactor  
Chan Gi Lee, Myung Hwan Hong, Lee-Seung Kang, Hyun Seon Hong, Bum Sung Kim\*
- [AMP-P42] Fabrication and Characterization of Nano-sized Al Powders for Energetic Applications  
Kyung Tae Kim\*, Dong Yeol Yang, Sang Sun Yang, Jae Yeol Woo, Jei Pil Wang
- [AMP-P43] Fabrication and Energetic Properties of Ni-Coated Al Powders  
Kyung Tae Kim\*, Jae Yeol Woo, Jei Pil Wang
- [AMP-P44] Nanocrystallization Kinetics of  $Al_{65}Co_5Ni_5Y_5$  Metallic Glass  
B. Avar\*, M. Gogebakan
- [AMP-P45] Fabrication of Porous SUS316 Stainless Steel Sintered Body  
Se Hoon Kim, Si-Young Sung, Beom-Suck Han, Dong-Ok Kim, Chang-Su Hahn, Kwang-Jin Jin, Sang-HoNoh\*
- [NFM-P01] Surface Modification of Graphene Using Organosilane and Its Effect on the Thermal Stability  
Dae Sung Kim, Vivek Dhand, Kyong Yop Rhee\*
- [NFM-P02] High Speed Steel Based Composites with Iron Additions  
Marcin Madej
- [NFM-P03] Fabrication of Colloidal Clusters Decorated with Dye Molecules for Potential Application as Photonic Molecules  
Young-Sang Cho\*
- [NFM-P04] Thermoelectric Properties of  $Mg_{2-x}Li_xSi$ : Theoretical and Experimental Study  
 Andrzej Kolezynski, Pawel Nieroda\*, K. T. Wojciechowski
- [NFM-P05] Theoretical and Experimental Study on Thermoelectric Properties of  $Ba_3T_xGa_yGe_{46-x-y}$  (T-Zn, Cu, Ag) Type-I Clathrates  
Juliusz Leszczynski\*, Andrzej Kolezynski, Krzysztof Wojciechowski
- [NFM-P06] Mechanical Characterization of Single Crystalline Silicon Wafer Used for Solar Cell  
 Seung-Mi Lee, Jai-Won Byeon\*

[NFM-P07] Determination of Physicochemical Properties of CoSb<sub>3</sub>: Te Formed by PECS Method  
W. Sordon\*, K. Wojciechowski

[NFM-P08] Effect of Carbon Nanotube on Synthesis of Titanium Dioxide Nanotube via Solution Chemical Route and Its  
Hotocatalytic Activity  
Se Hoon Kim, Si-Young Sung, Beom-Suck Han, Tohru Sekino\*

► **Poster Session (2014-07-02(Wed))** ::

[APM-P01] Structure and Properties of Powder Pressureless Formed Cermet Layer on the Steel Substrate  
G. Matula, K. Gołombek, B. Tomiczek

[APM-P02] The Effect of Processing Parameters on the Structure and Mechanical Properties of Structural Steels Containing Mn,  
Cr and Mo  
M. Sulowski

[APM-P03] Double Step Sintering Behavior of 316L Nanoparticle Dispersed Micro-sphere Powder  
Hanshin Choi\*, Seongho Sohn, Byoungjun Jeon, Youngdo Kim

[APM-P04] Characteristics of W-Ni Bimetallic Nanoparticle via Reactive RF Thermal Plasma Synthesis  
Hyunwoong Na, Saeun Jeong, Wonsik Lee, Hanshin Choi\*

[APM-P05] Sintered Structural PM Cr-Mo and Cr Steels  
M. Sulowski, P. Kulecki

[APM-P06] Fabrication of Titanium Carbide Nanoparticles using a Very High Energy Mechanical Milling by the Help of Process  
Control Agents  
Jun-Hwa Hong, Jin-Ju Park\*, Sung-Mo Hong, Min-Ku Lee, Chang-Kyu Rhee

[APM-P07] Microstructural Development During Sintering of High Compactable Metal Nanopowder Agglomerate  
Geon-Yong Lee, Jun-Il Song, Joon-Phil Choi, Jai-Sung Lee\*

[APM-P08] The Effect of Various Oxides Addition on Anti-corrosion Properties of Sintered 316L Stainless Steel  
D.K. Park\*, J.H. Hong, J. P. Lee, X.J. Liu, I.S. Ahn

[APM-P09] The Influence of the Temperature of Liquid Nitrogen on the Physical Properties of Powder Magnetic Composites  
D. Kapelski, B. Jankowski, M. Karbowiak, M. Przybylski, B. Slusarek\*

[APM-P10] Determination of Power Loss in Fe-based Soft Magnetic Composites  
B. Jankowski\*, D. Kapelski, J. Szczygłowski, B. Ślusarek

[APM-P11] The Study for Improved Machinability of Fe-Based Non Heat Treated P/M Alloy  
Geon-Hong Kim, Sang-Hyun Lee, Hyunsuk Yang, Kun-Jae Lee, Byungmin Ahn, Man-Sik Kong\*

[APM-P12] Co Oxidation Properties of Selective Dissoluted Metallic Glass Composites  
Song Yi Kim, Min Ha Lee, Taek Soo Kim, Bum Sung Kim\*

[APM-P13] The Characteristics According to the Synthesis Conditions of CdSe Quantum Dots Using a Microreactor  
Da-Woon Jeong, Song Yi Kim, Taek Soo Kim, Tae-Yeon Seong, BumSung Kim\*

[APM-P14] Preparation of Sub-Micron Cu Powders by Green Hydrothermal Synthesis in Atmosphere  
Yong Moo Shin, Jong-Hyun Lee\*

[APM-P15] Effect of Process Parameters on Morphology and Synthesis Yield of Cu Powders in a Wet-Chemical Process  
Yong Moo Shin, Jong-Hyun Lee\*



- [APM-P16] Preparation of Sub-20 nm  $Cu_x@Ag$  Nanoparticles by Concentration Change of Silver Nitrate and Characterization  
Ji Hwan Kim, Sang-Soo Chee, Jong-Hyun Lee\*
- [APM-P17] Newly Developed Lubricant Mixture for P/M Process of Al-Cu-Mg Alloy  
 Min Chul Oh, Hyunjoon Seok, Hyeong-Jin Kim, Byungmin Ahn\*
- [APM-P18] Liquid Phase Sintering Behavior of Al-6Cu-5Zn P/M Alloy  
Se Hwan Lee, Byungmin Ahn\*
- [APM-P19] MANUFACTURE AND ANALYSIS OF WEAR BEHAVIOR OF Al-Si/SiC<sub>p</sub> MMC BY POWDER METALLURGY  
J. Bang\*, E. S. Lee, J.-J. Oak, Y. J. Kim, Y. H. Park
- [APM-P20] Optical and Mechanical Properties of Sintered 3% Ytria-stabilized Zirconia for Dental Crown  
 Seong-Me Lee, Si-Hwa Sung, Jai-Won Byeon\*
- [APM-P21] Porous Copper Powder Synthesized by Two-Step Firing Process Employing PVA Polymer  
Sang-Jin Lee\*, Young-Min Han, Choong-Hwan Jung
- [APM-P22] Characterization of Graded Microstructure in Powder Sintered Porous Titanium  
J. -J. Oak, J. I. Bang, K.-C. Bae, H. H. Chun, Y. H. Park\*
- [APM-P23] Fabrication and Microstructure of Cu-Mg Sintered-body by Spark Plasma Sintering method  
Jun-Ho Jang, Hyun-Kuk Park, Seok-Jang Seo, Ik-Hyun Oh, Kee-Do Woo
- [APM-P24] Spark-Plasma Sintering of Fe-TiB<sub>2</sub> Composite Powders Fabricated by High-Energy Milling and Subsequent Reaction Synthesis  
 H. X. Khoa, S.W. Bae, S.W. Bae, C.H. Hong, B.K. Kim, J.S. Kim\*
- [APM-P25] Sintered Structural PM Cr and Cr-Mo Steels Spiekane Stale Konstrukcyjne Chromowe I Chromowo-Molibdenowe  
Maciej Sułowski, Paweł Kulecki, Agnieszka Radziszewska
- [APM-P26] Oxide Formation in Metal Injection Molding of 316L Stainless Steel  
Jin Man Jang, Wonsik Lee\*, Se-Hyun Ko, Chulwoong Han, Hanshin Choi
- [APM-P27] SiC-Reinforced Aluminium Composite Made by Hot Pressing Method  
M. Suśniak\*, J. Karwan-Baczewska, J. Dutkiewicz, M. Actis Grande, M. Rosso
- [APM-P28] Structure Investigations of Distaloy SA Sintered Alloys with Boron and Carbon  
J. Karwan-Baczewska\*, M.Perek-Nowak
- [APM-P29] Fabrication and Mechanical Properties of HAp Sputtering Target by SPS Method  
Jun-Ho Jang, Hyun-Kuk Park, Seok-Jang Seo, Ik-Hyun Oh, Kee-Do Woo
- [APM-P30] Fabrication and Mechanical Properties of CIGS Sputtering Target by SPS Method  
Jun-Ho Jang, Hyun-Kuk Park, Seok-Jang Seo, Ik-Hyun Oh, Kee-Do Woo
- [APM-P31] Control of Nano-Particles Weight Ratio in Stainless Steel Micro-Powders by Radio Frequency Plasma Treatment  
Dong-Yeol Yang\*, Yong-Jin Kim, Tae-Soo Lim, Sangsun Yang, Hae June Lee
- [INNP-P01] Experimental Investigation on Fracture Behavior of Double Cantilever Beam Specimen with Aluminum Foam  
Y. C. Kim, J. U. Cho\*
- [INNP-P02] Experimental Investigation on Fracture Behavior of Tapered Double Cantilever Beam Specimen with Aluminum Foam  
Y. C. Kim, J. U. Cho\*
- [INNP-P03] Chemical Stability and Characterization of Metal Oxide Covering on Cu<sub>2</sub>O as a Shell of SiO<sub>2</sub>, SnO<sub>2</sub> and TiO<sub>2</sub>  
Ri Yu, JiYeon Yun, YooJin Kim\*

- [NNP-P04] Effect of Composition and Nano-Filler on Properties of Glass Composite Sealants  
Dong Bok Lee, Bong-Su Kim, Kwang-Joong Kim, Ga-Hee Yoo, Sung Park, Jae Chun Lee\*
- [NNP-P05] Synthesis of WC-Co Composite Powder Using Wet Chemical Reduction Method  
Jin-Ho Yoon\*, Kun-Jae Lee, Hyun-SeonHong
- [NNP-P06] Encapsulation of Various Metal Nanoparticles with a Highly Porous  
Youn-Kyoung Baek\*, Jung Goo Lee, Young Kuk Kim
- [NNP-P07] INVESTIGATION OF STRUCTURE AND PHYSICO-MECHANICAL PROPERTIES OF COMPOSITE MATERIALS BASED ON COPPER – CARBON NANOPARTICLES POWDER SYSTEMS  
Vadim Kovtun\*, Vladimir Pasovets, Tadeusz Pieczonka
- [NNP-P08] Porous Magnesium based Bionanocomposites for Medical Application  
Kamil Kowalski\*, Mieczysław Jurczyk
- [NNP-P09] Silica-gold SiO<sub>2</sub>@Au and Gold-silica Au@SiO<sub>2</sub> Core-shell Nanoparticles  
Judyta Rećko, Dominik Jamioła, Piotr Nyga\*
- [NNP-P10] Silver Nanotriangles Obtained by Nanosphere Lithography  
Judyta Rećko, Rafał Lewczuk, Piotr Nyga\*
- [NNP-P11] Mechanical Properties of Cellulose Acetate/Hydroxyapatite Nanoparticle Composite Fiber by Electro-Spinning Process  
Eun Ju Lee, Dae Hyun Kwak, Deug Joong Kim\*
- [NNP-P12] The Reinforcing Effect of Reduced Graphene Oxide in Aluminum-Based Composites  
Daeyoung Kim\*, H eon Kang, Donghyun Bae, Hyunjoo Choi
- [NNP-P13] Fabrication and Properties of Silver Based Multiwall Carbon Nanotube Composite Prepared by Spark Plasma Sintering Method.  
M. Lis\*, A. Wrona, J. Mazur, C. Dupont, M. Kamińska
- [RMH-P01] Effect of TiCN Interlayer on Wear Properties of DLC Thin Films on the Surface of a Ti-6Al-4V ELI Alloy  
Seokil Kang, Kwangmin Lee\*
- [RMH-P02] Characterization of Die Compaction and Sintering Behaviors of Tantalum Powders  
Youngmoo Kim, Dongju Lee, Jaewon Hwang, Soon Hyung Hong\*
- [RMH-P03] Microstructure Characterization of Nb-Si-B Alloys Prepared by Pulsed Electric Current Sintering Process  
Sang-Hwan Kim, Young-Do Kim, Sung-Tag Oh, Myung-Jin Suk\*
- [RMH-P04] A Study on the Metal Carbide Composite diffusion bonding for Mechanical Seal  
Dong-Ki Kim\*, In-Jin Shon, Joonhyuk Song, Weon-Jae Ryu, Hon-Chung Shin, Eui-Young Kwon, Hyunkyu Shin, Shin-JaeKang
- [RMH-P05] Characterization of AlN Films Deposited on Graphite by Reactive Sputtering  
Jun-Ki Chung, Sung-Jin Kim, Sang-Yeup Park\*
- [RMH-P06] Development of Discharge Electrode Using MIM for the Machining of Small-sized Connector Mold  
Kwang-Ho Shin, Jeong-Won Lee, Hyung-Pil Park, Yong-Jun Jeon, Young-Sam Kwon, Young-Moo Heo\*
- [RMH-P07] Tantalum Foam Made with Sucrose as a Space Holder  
G. Adamek\*, J. Jakubowicz, D. Andrzejewski
- [RMH-P08] Porous Mo-30 wt% W Alloys Synthesized from Camphene/MoO<sub>3</sub>-WO<sub>3</sub> Slurry by Freeze Drying Process  
Ki Cheol Jeon, Beom Seok Kim, Young Do Kim, Myung-Jin Suk, Sung-Tag Oh\*

[RMH-P09] Fabrication of a-Mo Based Mo-Si-B Composites by Pulverization of Arc-melted Ingot and Addition of Mo Powders  
Na-Yeon Kwon, Young Do Kim, Myung-Jin Suk, Seong Lee, Sung-Tag Oh\*

[RMH-P10] Structural Characteristic and Sintering Behavior of W-Cu Composite Powder Produced from WO<sub>3</sub>-CuO Powder Mixtures with Different Milling Times  
Sung-Soo Ryu\*, Hae-Ryong Park, Young Do Kim

[RMH-P11] Microstructure and Cutting Performance in (Ti,Ta,W)(CN)-Co/Ni Cermet for Incorporation of WC  
Kyung-Sik Oh, Sun-Yong Ahn, Se-Woong Oh, Tai-Joo Chung\*

[RMH-P12] Synthesis and Mechanical Properties of MgO-based Composite Refractory from Recycled Mg Sludge  
Kun-Jae Lee\*, Dae-Hwan Jang, Jae-Kyo Yang, Tae-Seung Song

[RMH-P13] Investigation of Structural, Thermal and Magnetic Properties of Nanocrystalline Co<sub>0.5</sub>W<sub>5</sub>Ti<sub>2.5</sub>B<sub>5</sub> Powders by Mechanical Alloying  
B. Avar\*, S. Ozcan