

# WORLDPM2018 Congress Schedule

## Sunday 16 September 2018

- 14:00-20:30** Registration & Information Desk Open
- 18:30-20:00** VIP Dinner

## Monday 17 September 2018

- 09:00-09:20** Welcome Speeches
- 09:30-18:30** Exhibition Open
- 09:20-10:40** Global Review of PM
- 10:40-11:05** PM Design Awards
- 11:05-12:35** Plenary Reports
- 12:35-14:00** Lunch and Exhibition & Poster Networking
- 14:00-16:30** Plenary Reports
- 18:30-20:30** Welcome Dinner (Distinguished Contribution Award, International Exchange Awards)

## Tuesday 18 September 2018

- 08:30-10:00**
  - Session 1 PM Components & Processes I
  - Session 2 AM I: New Material & Applications I
  - Session 3 PIM I: Developments of Raw Powder, Binder System & Feedstock
  - Session 4 Sintering Parts and Components
  - Session 5 Metal Powder Preparation & Processes I
  - Session 6 **SIS:** China-Australia Joint Symposium on Powder Metallurgy I
  - Session 7 **SIS:** Metal Injection Molding I
  - Session 8 Compaction & Forming Processes I
  - Session 9 Porous Materials I: Preparation & Property I
  - Session 10 Magnetic Materials & Functional Materials I
  - Session 11 Hard Alloys I
  - Session 12 Non-Ferrous Metals & Rare Earth Metals I
- 09:30-19:30** Exhibition Open
- 10:00-10:25** Coffee Break
- 10:25-12:10**
  - Session 13 PM Components & Processes II
  - Session 14 AM II: Technology Overview
  - Session 15 PIM II: Characterizations in Metal Injection Molding
  - Session 16 Hot Isostatic Pressing
  - Session 17 Metal Powder Preparation & Processes II
  - Session 18 **SIS:** China-Australia Joint Symposium on Powder Metallurgy II
  - Session 19 **SIS:** Metal Injection Molding II
  - Session 20 Compaction & Forming Processes II
  - Session 21 Porous Materials I: Preparation & Property 2
  - Session 22 Magnetic Materials & Functional Materials II

- Session 23 Hard Alloys II
- Session 24 Non-Ferrous Metals & Rare Earth Metals II

**12:10-14:00** Lunch and Exhibition & Poster Networking

- 14:00-16:15**
- Session 25 PM Components & Processes III
  - Session 26 AM III: Process Analysis I
  - Session 27 PIM III: Processing, Microstructures and Properties
  - Session 28 Steel Sintering I
  - Session 29 Metal Powder Preparation & Processes III
  - Session 30 SIS: China-Australia Joint Symposium on Powder Metallurgy III
  - Session 31 SIS: Refractory Metals & Superhard Materials I
  - Session 32 Surface Technology I
  - Session 33 Porous Materials II: Alloy & Intermetallics
  - Session 34 Magnetic Materials & Functional Materials III
  - Session 35 Hard Alloys III
  - Session 36 Biomedical Materials & Other Powders I

**16:15-16:35** Coffee Break

- 16:35-18:00**
- Session 37 PM Components & Processes IV
  - Session 38 AM III: Process Analysis 2
  - Session 39 PIM IV: Biomaterials and its Applications
  - Session 40 Steel Sintering II
  - Session 41 Metal Powder Preparation & Processes IV
  - Session 42 SIS: China-Australia Joint Symposium on Powder Metallurgy IV
  - Session 43 SIS: Refractory Metals & Superhard Materials II
  - Session 44 Surface Technology II
  - Session 45 Porous Materials III: Porous Composite
  - Session 46 Magnetic Materials & Functional Materials IV
  - Session 47 Hard Alloys IV
  - Session 48 Biomedical Materials & Other Powders II

**Wednesday 19 September 2018**

- 08:30-10:00**
- Session 49 PM Components & Processes V
  - Session 50 AM IV: Material & Process Development I
  - Session 51 Spark Plasma Sintering
  - Session 52 SIS: Automobile Industry & PM I
  - Session 53 Refractory Metals I
  - Session 54 Analysis, Testing, Numerical Simulation, Data and Data Mining I
  - Session 55 Energy Materials I
  - Session 56 Super Alloys & Composites I
  - Session 57 Metal Powder Preparation and Processes V

**09:30-19:30** Exhibition Open

**10:00-10:25** Coffee Break

<b>10:25-12:00</b>	Session 58	PM Components & Processes VI
	Session 59	AM IV: Material & Process Development 2
	Session 60	Novel Sintered Materials
	Session 61	<b>SIS:</b> Automobile Industry & PM II
	Session 62	Refractory Metals II
	Session 63	Analysis, Testing, Numerical Simulation, Data and Data Mining II
	Session 64	Energy Materials II
	Session 65	Super Alloys & Composites II
	Session 66	Metal Powder Preparation and Processes VI

**12:00-14:00** Lunch and Exhibition & Poster Networking

<b>14:00-15:50</b>	Session 67	Compaction & Forming Processes III
	Session 68	AM I: New Material and Application 2
	Session 69	Sintered Light Alloys
	Session 70	PIM V: Miscellaneous Functional Materials and Advanced Processes
	Session 71	Hard Alloys V
	Session 72	Analysis, Testing, Numerical Simulation, Data and Data Mining III
	Session 73	Non-Ferrous Metals & Rare Earth Metals III
	Session 74	Super Alloys & Composites III
	Session 75	Metal Powder Preparation and Processes VII
	Session 76	<b>SIS:</b> PM Magnetic Materials I
	Session 77	<b>SIS:</b> Sino-Swedish Advanced Materials Forum I

**15:50-16:10** Coffee Break

<b>16:10-18:00</b>	Session 78	AM III: Process Analysis 3
	Session 79	Machining of Sintered Materials
	Session 80	PIM VI: Developments in Processing and Sintering
	Session 81	Superhard Materials & Ceramics
	Session 82	Analysis, Testing, Numerical Simulation, Data and Data Mining IV
	Session 83	Non-Ferrous Metals & Rare Earth Metals IV
	Session 84	Super Alloys & Composites IV
	Session 85	Metal Powder Preparation and Processes VIII
	Session 86	<b>SIS:</b> PM Magnetic Materials II
	Session 87	<b>SIS:</b> Sino-Swedish Advanced Materials Forum II

**18:30-20:30** Gala Dinner (Poster Awards)

### Thursday 20 September 2018

<b>08:30-10:15</b>	Session 88	AM IV: Modeling and Post-processing I
	Session 89	Energy Materials III
	Session 90	<b>SIS:</b> PM Standards & Data Base I

**10:15-10:35** Coffee break

<b>10:35-11:15</b>	Session 91	AM IV: Modeling and Post Processing 2
	Session 92	Super Alloys & Composites V
	Session 93	<b>SIS:</b> PM Standards & Data Base II

**12:00-14:00** Lunch and Exhibition & Poster Networking

**14:00-18:00** Plant Tour

**Tuesday Morning, 18 September, Part I**

**Session 1: PM Components & Processes I**

Time: 8:30-10:00

Keynote Paper

Time: 8:30-9:00

**Latest Trends and Developments in Powder Metal Components and Processes**

Goto, Ryu (Engineering Sintered Components, United States)

Oral Presentation

Time: 9:00-9:20

**Influence of Graphite and Base Powder on the Tribological Behavior of Iron-Based Self-Lubricating Bearings**

Marzaro, Matteo (Pometon S.p.A., Italy)

Time: 9:20-9:40

**Effect of Graphite Type on Processability and Performance of Sintered Brake Pads**

Gilardi, Raffaele (Imerys Graphite and Carbon, Switzerland)

Time: 9:40-10:00

**Effect of Fe-Mo-Cr Pre-alloyed Powder on the Microstructure and Properties of TiC Steel-bonded Carbide**

Li, Guoping (Central South University, China)

**Session 2: AM I: New Material & Applications I**

Time: 8:30-9:50

Oral Presentation

Time: 8:30-8:50

**In Vitro Degradation Behavior and Bioactivity of ZK30-Bioglass Composites by SLM for Biomedical Applications**

Yin, Yong (Central South University, China)

Time: 8:50-9:10

**Compression Fracture Behavior of Additive Manufactured Ti-6Al-4V Porous Material**

Wu, Ming-Wei (National Taipei University of Technology, Chinese Taipei)

Time: 9:10-9:30

**Extended Qualification of CuCr|Zr for the LBM Process**

Kashevko, Vasyi (Institute for Machine Tools and Factory Management TU Berlin, Germany)

Time: 9:30-9:50

**Fabrication of Al<sub>2</sub>O<sub>3</sub>-reinforced Mo-based Composites by Laser Powder Bed Fusion**

Zhou, Weiwei (Tohoku University, Japan)

**Session 3: PIM I: Developments of Raw Powder, Binder System and Feedstock**

Time: 8:30-9:55

Invited Presentation

Time: 8:30-8:55

**Minimizing Binder Removal Time during MIM Using Efficient Binder System**

Cao, Peng (University of Auckland, New Zealand)

Oral Presentation

Time: 8:55-9:15

**Feedstock Development for the Powder Injection Molding of Short Fiber Reinforced Ceramic Matrix Composites**

Tueluemen, Hasan Metin (Karlsruhe Institute of Technology, Germany)

Time: 9:15-9:35

**Water Atomized Stainless Steel (SUS316) Powder for MIM Parts with Excellent Surface Properties**

Mori, Masaki (Mitsubishi Steel Mfg. Co., Ltd., China)

Time: 9:35-9:55

**Powder Injection Molding Process of Ti-6Al-4V Alloy**

Sun, Aiping (Jiangsu Jian Technology Co, Ltd, China)

**Session 4: Sintering Parts and Components**

Time: 8:30-10:00

Keynote Paper

Time: 8:30-9:00

**Fabrication of Complex near Net Shape Components by 3D Printing and Spark-Plasma Sintering**

Olevsky, Eugene (San Diego State University, United States)

Oral Presentation

Time: 9:00-9:20

**Equipment & Process for the Continuous Production of Sintered Iron Parts with a Bainitic Microstructure**

N, Gopinath (Fluidtherm Technology Pvt Ltd, India)

Time: 9:20-9:40

**Reduction of Distortion of Product Generated in Induction Heating Process by Optimization of Coil Shape**

Kanda, Yusuke (Sumitomo Electric Sintered Alloy, LTD., Japan)

Time: 9:40-10:00

**Research of Sintering Processes of MIM High Nitrogen Stainless Steel Products**

Wang, Mingyue (Future High-tech Co. Ltd, China)

**Session 5: Metal Powder Preparation & Processes I**

Time: 8:30-9:55

Invited Presentation

Time: 8:30-8:55

**Metal Powder Solutions to Promote Future Growth of the PM Industry**

Engstrom, Ulf (Hoganas (China) Co., Ltd, China)

Oral Presentation

Time: 8:55-9:15

**Development of Graphene Reinforced Metal Matrix Composite by Spark Plasma Sintering**

Yongbum, Choi (Hiroshima University, Japan)

Time: 9:15-9:35

**Chromium Alloyed PM Steels – Cost Effective High Performance Material Solutions**

Han, Yunjuan (Hoganas China, China)

Time: 9:35-9:55

**Optimizing and Assessing the Properties of Iron Alloy Powders for Near-Net Shape Manufacturing Processes**

Langley, Cathryn (Malvern Panalytical, United Kingdom)

**Session 6: SIS China-Australia Joint Symposium on Powder Metallurgy I**

Time: 8:30-10:00

Oral Presentation

Time: 8:30-9:00

**Highly Thermal Conductive Bulk Boron Nitride Synthesized from Boron Nitride Nano sheets**

Chen, Ying (Deakin University, Australia)

Time 9:00-9:30

**Advanced Electrode Materials for Alkali Metal-Ion Batteries**

Guo, Zaiping (University of Wollongong, Australia)

Time: 9:30-10:00

**Composite Structure Electrode Materials Design for High-Energy Batteries**

Yu, Haijun (Beijing University of Technology, China)

**Session 7: SIS Metal Injection Molding I**

Time: 8:30-10:00

Oral Presentation

Time: 8:30-9:00

**Metal Injection Molding in Europe - Technological Trends and Business Situation**

Petzoldt, Frank (European Metal Injection Moulding Group, Germany)

Time: 9:00-9:30

**Metal Injection Molding in Asia: Recent Development and Future Perspectives**

Qu, Xuanhui (University of Science & Technology Beijing, China)

Time: 9:30-10:00

**Metal Additive Manufacturing with Roots in MIM Technology**

Bose, Animesh (Desktop Metal, Inc., USA)

**Session 8: Compaction & Forming Processes I**

Time: 8:30-9:40

Keynote Paper

Time: 8:30-9:00

**Advances in the Compaction and Shaping of PM Nano powder**

Lee, Jai-Sung (Hanyang University ERICA, Korea)

Oral Presentation

Time: 9:00-9:20

**The Effect of Temperature and Pressure on Densification Rates of Pre-Alloyed and Elemental 316L Stainless Steel Powder**

Azevedo, Jose (University of Cambridge, United Kingdom)

Time: 9:20-9:40

**Optimizing Design of Powder Compacting Process on Complex Parts Using Experimental Data-Based Numerical Simulations**

Huang, Yongqiang (Nanjing University of Science and Technology, China)

**Session 9: Porous Materials I: Preparation & Property I**

Time: 8:30-10:05

Keynote Paper

Time: 8:30-9:00

**Properties of Porous Metals Manufactured By Powder Metallurgy Based Methods**

Zhao, Yuyuan (University of Liverpool, United Kingdom)

Invited Presentation

Time: 9:00-9:25

**Fabrication and Properties of Porous Titanium and Titanium Aluminum Carbide (Ti<sub>3</sub>AlC<sub>2</sub>)**

Zhang, Faming (Southeast University, China)

Oral Presentation

Time: 9:25-9:45

**Compressive Behavior of High Specific Strength NiCr Alloy Foams at Ambient Temperature**

Zhao, Peng (Central Iron & Steel Research Institute, China)

Time: 9:45- 10:05

**Investigation on Electrochemical Performance of Porous Ni-Cr-Fe-RE (RE=Rare Earth) Alloy Electrode**

Wu, Liang (Xiangtan University, China)

**Session 10: Magnetic Materials & Functional Materials I**

Time: 8:30-10:05

Keynote Paper

Time: 8:30-9:00

**SMC Materials in Electrical Machine Prototypes**

Actis Grande, Marco (Politecnico di Torino, Italy)

Invited Presentation

Time: 9:00-9:25

**Characterization of Fe<sub>3</sub>O<sub>4</sub>@CS Composite Magnetic particles**

Shao, Huiping (University of Science and Technology Beijing, China)

Oral Presentation

Time: 9:25-9:45

**Improved Processing and Handling of Sintered Soft Magnetic Materials**

McQuaig, Mark (Hoeganaes Corporation, United States)

Time: 9:45-10:05

**Effects of Ball Milling Parameters on Structural and Magnetic Properties of SrFe<sub>12</sub>O<sub>19</sub> Sintered Ferrite Permanent Magnets**

Li, Yuping (Nanjing Institute of Technology, China)

**Session 11: Hard Alloys I**

Time: 8:30-10:05

Keynote Paper

8:30-9:00

**Microstructure Engineering to Improve the Performance of Hardmetals**

Fang, Zhigang Zak (University of Utah, United States)

**Invited Presentation**

9:00-9:25

**Potential of Extrusion Based 3D-Printed Hardmetal and Cermet Parts**

Kitzmantel, Michael (RHP-Technology GmbH, Austria)

**Oral Presentation**

9:25-9:45

**Effect of Binder Phase on Sintering of Cemented Carbides**

Roulon, Zoé (Univ. Grenoble Alpes, France)

9:45-10:05

**Fracture Toughness of Cemented Carbides – an Energy Release Rate Approach**

Linder, David (KTH Royal Institute of Technology, Sweden)

**Session 12: Non-Ferrous Metals & Rare Earth Metals I**

Time: 8:30-10:05

**Keynote Paper**

Time: 8:30-9:00

**Recent Progress in High-Entropy Materials**

Zhang, Yong (university of science and technology Beijing, China)

**Invited Presentation**

Time: 9:00-9:25

**Microstructure and Properties of Ti-6Al-4V Alloy Produced by a Novel Process from Machining Chips**

Yang, Fei (University of Waikato, New Zealand)

**Oral Presentation**

Time: 9:25-9:45

**Influence of Composition and Alloying Technique on Free-Sintered Bronze Powders for Diamond Tools**

Matteo, Marzaro (Pometon S.p.A., Italy)

Time: 9:45-10:05

**Influence of Microstructure on the Fatigue Behavior of Blended Elemental Ti-6Al-4V Alloy Post-Consolidated by Extrusion**

Carlos, Romero (University of Waikato, New Zealand)

**Tuesday Morning, 18 September, Part 2**

**Session 13: PM Components & Processes II**

Time: 10:25-12:10

**Invited Presentation**

Time: 10:25-10:50

**The Ultrahigh Friction Coefficient and Low Wear Loss of Cu Matrix Brake Pads with Addition of Fe Content**

Zhang, Peng (University of Science and Technology Beijing, China)

**Oral Presentation**

Time: 10:50-11:10

**The Tribological Behavior of Sintered Copper Based Powder Metallurgy Friction Material Reinforced with Monoclinic and Cubic Zirconia**

Zhou, Haibin (Central South University, China)

Time: 11:10-11:30

**Metal Powder Concept Engineered to Facilitate Efficient Manufacturing of VVT Components**

Molin, Linnea (Höganäs Korea Ltd., Korea)

Time: 11:30-11:50

**A Parametric Study on PM Gear Rolling Densification Simulations Coupled with Experimental Results**

Angelopoulos, Vasilis (Hoganas AB, Sweden)

Time: 11:50-12:10

**Shape Distortion and Tooth Root Bending Fatigue Strength Obtainable with Various Hardening Process Routes of Ring Gears Made of PM Material**

Andersson, Olof (Höganäs AB, Sweden)

**Session 14: AM II: Technology Overview**

Time: 10:25-12:20

**Keynote Paper**

Time: 10:25-10:55

**Reflections on the Development of Metal Laser Melting Technology**

Yan, Yongnian (Jiangsu Yongnian Laser Forming Technology Co., Ltd., China)

**Invited Presentation**

Time: 10:55-11:20

**Beam Based vs Binder Based 3D Printing – a Critical Discussion**

Aumund-Kopp, Claus (Fraunhofer IFAM, Germany)

**Oral Presentation**

Time: 11:20-11:40

**Adoption and Diffusion of Disruptive Technologies: the Case of Additive Manufacturing in MedTech Industry**

Tavassoli, Sam (RMIT University, Australia)

Time: 11:40-12:00

**Review of Additive Manufacturing Powders for Conformally-cooled Mold Tool Applications**

Davies, Paul (Sandvik Osprey, United Kingdom)

Time: 12:00-12:20

**Binder Jetting Technology**

Yu, Huayun (United States)

**Session 15: PIM II: Characterizations in Metal Injection Molding**

Time: 10:25-12:10

**Invited Presentation**

Time: 10:25-10:50

**X-Ray Tomography Analysis of Powder Injection Molding**

Yang, Shidi (Sanying Precision Instruments Co., Ltd, China)

**Oral Presentation**

Time: 10:50-11:10

**Analysis of Rheological Behavior of Metal/Ceramic Mixed Feedstock in Injection Molding**

Baek, Jongwon (POSTECH, Korea)

Time: 11:10-11:30

**The Evaluation of Homogeneity Using Viscoelasticity Test with SiO<sub>2</sub> Powder for Powder Injection Molding**  
Seo, Jinhyeuk (POSTECH, Korea)

Time: 11:30-11:50

**Microstructure and Mechanical Properties of MIM Inconel 713LC with Different Silicon Content**  
Chen, Shunfa (Porite Taiwan Co., Ltd., China)

Time: 11:50-12:10

**Rheological and Mechanical Properties of Gas and Water Atomized SS 17-4PH Material Used In Metal Injection Molding (MIM)**  
Bhimsena Nagaraj, Mukund (INDO MIM PVT LTD, India)

### Session 16: Hot Isostatic Pressing

Time: 10:25-12:05

#### Oral Presentation

Time: 10:25-10:45

**High Pressure Heat Treatment - Optimized Material Properties by HIP**  
Eklund, Anders (Quintus Technology AB, Sweden)

Time: 10:45-11:05

**Hot Isostatic Pressing with Integrated Heat Treatment of PM-HIP Cold Work Steel D7: Modelling and Simulation**  
Deng, Yuanbin (IWM, RWTH Aachen University, Germany)

Time: 11:05-11:25

**Interface Evolution between Ti-47Al-2Cr-2Nb Alloy and AISI 304 Steel during Various Hot Isostatic Pressing Processes**  
Li, Jizhan (Huazhong University of Science and Technology, China)

Time: 11:25-11:45

**Advantages of Hot Isostatic Pressing on the Manufacturing of Key Parts With Long Life and High Reliability**  
Chen, Hongxia (CISRI, China)

Time: 11:45-12:05

**Heat Treatment of PM Parts by Hot Isostatic Pressing**  
Eklund, Anders (Quintus Technology AB, Sweden)

### Session 17: Metal Powder Preparation & Processes II

Time: 10:25-11:45

#### Oral Presentation

Time: 10:25-10:45

**Numerical Simulation of Metal Droplet Breakup Behavior in Gas Atomization**  
Du, Kaiping (Beijing General Research Institute of Mining & Metallurgy, China)

Time: 10:45-11:05

**Microstructure and Non-Metallic Inclusions in 316L Steel for Net Shape Manufacturing**  
Balart Murria, Maria (University of Warwick, United Kingdom)

Time: 11:05-11:25

**Visualization of Water Sprays in Water Atomization of Molten Metals**  
Asgarian, Ali (University of Toronto, Canada)

Time: 11:25-11:45

**Optimization of Fe-Co-Ni Binder Ratio and Corrosion Behavior Study in Cemented Carbide**  
Prabhu, Vaishali Jagannath (Kennametal India Limited, India)

### Session 18: SIS China-Australia Joint Symposium on Powder Metallurgy II

Time: 10:25-12:25

#### Oral Presentation

Time: 10:25-10:55

**Enhanced Electrochemical Performance of Metal Oxides Modified Ni Rich Layered LiNi<sub>1-x-y</sub>CoxMnyO<sub>2</sub> Cathode Material for Lithium Ion Batteries**  
Tao, Tao (Guangdong University of Technology, China)

Time: 10:55-11:25

**Graphene Based Materials for Printable and Planar Energy Storage Devices**  
Wu, Zhongshuai (Dalian Institute of Chemical Physics, Chinese Academy of Sciences, China)

Time: 11:25-11:55

**Molybdenum Disulphide – Graphene Composite Nano sheets as A High-Performance Anode with Good Cycling Stability for Lithium Ion Batteries**  
Srikanth, Mateti (Deakin University, Australia)

Time: 11:55-12:25

**Boron Nitride Nanotube-Sulfur-Polysulfone Composite Cathode of Lithium-Sulfur Batteries with an Ultra-stability and Excellent Capacity**  
Ye, Fan (Deakin University, Australia)

### Session 19: SIS Metal Injection Molding II

Time: 10:25-11:55

#### Oral Presentation

Time: 10:25-10:55

**Refractory Metals for Powder Injection Molding in North**  
Johnson, John (Elmet Technologies LLC, USA)

Time: 10:55-11:25

**Development of High Fatigue Strength Ti-6Al-4V Alloy Compacts through MIM Process**  
Miura, Hideshi (Kyushu University, Japan)

Time: 11:25-11:55

**Feedstock of MIM-New recipe for OACD (Oxalic Acid Catalysis Debinding)**  
Chiou, Yau Hung (Dongguan University of Technology, China)

## Session 20: Compaction & Forming Processes II

Time: 10:25-12:10

### Invited Presentation

Time: 10:25-10:50

**Improved Lubrication during Compaction from Highly Efficient Lubricants and Heated Tool Die**

Larsson, Mats (Höganäs AB, Sweden)

### Oral Presentation

Time: 10:50-11:10

**Effect of Resin Additives on Strength of Iron Powder Compacts and Damage during Green Machining**

Unami, Shigeru (JFE Steel Corporation, Japan)

Time: 11:10-11:30

**Influence of Particle Size on the Compaction Mechanics of AISI 316L Powder Uniaxially Cold Compacted**

Cristofolini, Ilaria (University of Trento, Italy)

Time: 11:30-11:50

**Densification Mechanisms of Titanium-Based Powders during Cold Compaction**

Machio, Christopher (Council for Scientific and Industrial Research, South Africa)

Time: 11:50-12:10

**Densification Mechanisms of Titanium-Based Powders during Cold Compaction**

Luo, Xia (Southwest Petroleum University, China)

## Session 21: Porous Materials I: Preparation & Property 2

Time: 10:25-12:00

### Keynote Paper

Time: 10:25-10:55

**Dealloyed Nanoporous Metals: From Depletion Gilding to Modern Nanotechnologies**

Ding, Yi (Tianjin University of Technology, China)

### Invited Presentation

Time: 10:55-11:20

**The Enabling Role of Dealloying in the Creation of Specific Hierarchical Porous Metal Structures**

Song, Tingting (RMIT University, Australia)

### Oral Presentation

Time: 11:20-11:40

**Effects of Porosity and Sintering Time on the Tensile Fatigue Behavior of Sintered Stainless Steel Fiber Felts**

Ma, Jun (Xian Jiaotong University, China)

Time: 11:40-12:00

**The Influence of Post Treatment on Mechanical Properties of Ti-6Al-4V Lattices Fabricated By Selective Electron Beam Melting (SEBM)**

Zhang, Xuezhe (Northeastern University, China)

## Session 22: Magnetic Materials & Functional Materials II

Time: 10:25-12:20

### Keynote Paper

Time: 10:25-10:55

**Design and Implementation of SMC Components for an Automotive Electric Water Pump**

Pennander, Lars Olov (Höganäs AB, Sweden)

### Invited Presentation

Time: 10:55-11:20

**Novel Iron Based FeSi Mixes for Inductor Applications**

Hellsén, Ann-Cathrin (Höganäs AB, Sweden)

### Oral Presentation

Time: 11:20-11:40

**The Investigation on Corrosion Behavior and Protection Methods for SMC Component**

Ye, Zhou (Höganäs AB, Sweden)

Time: 11:40-12:00

**Development of the Ce-based Sintered Magnets: Review and Prospect**

Li, Anhua (Central Iron & Steel Research Institute, China)

Time: 12:00-12:20

**The Mechanism of Coercivity Enhancement for the As-Sintered (Pr/Nd, Ce)-Fe-B Magnet Prepared by Dual Main Phase Method**

Han, Rui (Central Iron & Steel Research Institute, China)

## Session 23: Hard Alloys II

Time: 10:25-12:20

### Keynote Paper

Time: 10:25-10:55

**In-Depth Understanding of Fatigue Micromechanisms in Cemented Carbides: Implications for Optimal Microstructural Tailoring**

Llanes, Luis (Universitat Politècnica de Catalunya (UPC), Spain)

### Invited Presentation

Time: 10:55-11:20

**Effect of Recycled Material in Cemented Carbides**

Trivedi, Pankaj (Kennametal Inc., United States)

### Oral Presentation

Time: 11:20-11:40

**Micromechanics of Ti(C, N)-FeNi Composites**

Roa, Joan Josep (UPC-EEBE, Spain)

Time: 11:40-12:00

**Tailoring the Functional Profile of Niobium Carbide (NbC) as Cutting Tool Materials and for Wear Protection**

Woydt, Mathias (Federal Institute for Materials Research and Testing BAM, Germany)

Time: 12:00-12:20

**Studies Of Model Co-W-Ta-C Alloys With Different Carbon Contents Simulating Binders Of WC-Co Hardmetals Containing Tac**

Zaitsev, Alexandr (National University of Science and Technology, Russia)



**Session 24: Non-Ferrous Metals & Rare Earth Metals II**  
Time: 10:25-12:15

Invited Presentation

Time: 10:25-10:50

**Influence of the Physical and the Chemical Characteristics of the Precious Metal Powders on the Properties of Parts Produced by SLM**

Molinari, Alberto (Universitat Politecnica de Catalunya (UPC), Spain)

Time: 10:50-11:15

**Recent Developments in Aluminum Alloy Powders for Selective Laser Melting**

Li, Peiyong (Beijing Institute of Aeronautical Materials, China)

Oral Presentation

Time: 11:15-11:35

**Powder Metallurgy Fabricated In-Situ Al-Al<sub>2</sub>O<sub>3</sub> Composite (HITEMAL®): A Sheath Material of MgB<sub>2</sub> Based Superconductive Wire**

Balog, Martin (Institute of materials and machine mechanics, Slovak academy of sciences, Slovakia)

Time: 11:35-11:55

**Wear Resistance of Tib and Tic Particles Reinforced Titanium Metal Matrix Composites Fabricated Via Blended Elemental Powder Metallurgy Process**

Shiina, Katsuomi (Institute of materials and machine mechanics, Slovak academy of sciences, Slovakia)

Time: 11:55-12:15

**Wear Resistance Study of Ceramic Reinforced Sintered Aluminium Alloy**

Yan, Weiwei (NBTM New Materials Group Co., LTD, China)

**Tuesday Afternoon, 18 September, Part I**

**Session 25: PM Components & Processes III**

Time: 14:00-15:55

Invited Presentation

Time: 14:00-14:25

**Manufacturing Process of High Density Ferrous Powder Metallurgy Products**

Xu, Kai (NBTM New Materials Groups Co., LTD, China)

Oral Presentation

Time: 14:25-14:45

**Microstructure and Mechanical Property of TiCx/Cu Composites Fabricated by Self-infiltration**

Lin, Tongwei (Advanced Technology & Materials Co., Ltd, China)

Time: 14:45-15:15

**Development of High Efficiency Oil Pump for Automobiles**

Takada, Shoichi (Sumitomo Electric Sintered Alloy, Ltd, Japan)

Time: 15:15-15:35

**Effect of Fe<sub>3</sub>P Addition on Density and Magnetic Property of Low-Sintering-Temperature Powder Metallurgical Iron**

Ma, Rui (Southern University of Science and Technology, China)

Time: 15:35-15:55

**Development of Heat-Resistant Sintered Alloy Having High Wear Resistance and Salt Damage Resistance**

Fukuda, Ryosuke (Diamet Corporation, Japan)

**Session 26: AM III: Process Analysis I**

Time: 14:00-16:15

Keynote Paper

Time: 14:00-14:30

**Changes in Metal Powder Surface Chemistry during Powder Bed Fusion Processing: an Overview**

Hryha, Eduard (Chalmers University of Technology, Sweden)

Invited Presentation

Time: 14:30-14:55

**Origin and Effects of Microstructural Gradients in Powder-Based Additive Manufacturing of Ti-6Al-4V**

Zhao, Hao (3DPTEK Co., Ltd., China)

Oral Presentation

Time: 14:55-15:15

**Optimizing Process Performance through Powder Rheology**

Lu, Nephele (Freeman Technology, China)

Time: 15:15-15:35

**Effects of Powder Size on the Surface Quality, Microstructure and Mechanical Properties of Co-Cr-W alloy by Selective Laser Melting**

Mao, Xinhua (Guangdong Institute of Materials and Processing, China)

Time: 15:35-15:55

**Hot Cracking in DMLS Processed IN738**

Gruber, Hans (Chalmers University of technology, Sweden)

Time: 15:55-16:15

**Selective Cracking Development in a Selectively Laser Melted Nickel-Based Super Alloy**

Qiu, Chunlei (Beihang University, China)

**Session 27: PIM III: Processing, Microstructures and Properties**

Time: 14:00-16:05

Invited Presentation

Time: 14:00-14:25

**Investigations of the Mold Filling Process in Powder Injection Molding**

Piotter, Volker (Karlsruhe Institute of Technology, Germany)

Oral Presentation

Time: 14:25-14:45

**Improvement of Creep Rupture Life of Nickel-Based Superalloy IN713LC Fabricated by Metal Injection Molding**

Hibino, Shinya (Kawasaki Heavy Industries, Ltd., Japan)

Time: 14:45-15:05

**Effect of B and Zr in Ni-Base Superalloys Fabricated by Metal Injection Molding**

Sheng, Naicheng (Friedrich-Alexander University of Erlangen-Nuremberg (FAU), Germany)

Time: 15:05-15:25

**Processing and Properties of MIM418 Superalloy Prepared by Prealloy and Master Alloy Routes**

Zhang, Lin (University of Science and Technology Beijing, China)

Time: 15:25-15:45

**Effects of Powder Type and Sintering Condition on the Properties of MIM Kovar**

Fan, YangLiang (Taiwan Powder Technologies CO., Ltd, China)

Time: 15:45-16:05

**Effect of Particle Size Distribution and Sintering Conditions on Molding, Microstructure and Properties of MIM 17-4PH**

Hsieh, Shu-Hsu (Chenming Molding. Corp., China)

**Session 28: Steel Sintering I**

Time: 14:00-16:05

Invited Presentation

Time: 14:00-14:25

**Sintering Enhancement by the Use of Master Alloys: Important Concepts and New Possibilities**

De Oro Calderon, Raquel (TU Wien, Austria)

Oral Presentation

Time: 14:25-14:45

**Influence of Cooling Rate on Microstructure and Mechanical Properties of Different Low Alloy PM Materials**

Yang, Jie (Hoganas China Co. Ltd, China)

Time: 14:45-15:05

**Sintering of PM-Steels with C-Master Alloy Addition**

Gierl-Mayer, Christian (TU Wien, Austria)

Time: 15:05-15:25

**Influence of Carbon Potential Control during Sintering on Properties of Low Alloy Steel**

Fan, Hanjin (The Linde Group, China)

Time: 15:25-15:45

**High Temperature Sintering and Fast Cooling – the Economical Way to Produce Better Parts**

Creutziger, Martin (Eisenmann Thermal Solutions, Germany)

Time: 15:45-16:05

**Influence of Sintering Conditions on Dimensional Precision for Different PM Steels**

Tan, Zhaoqiang (Hoganas China Co., Ltd, China)

**Session 29: Metal Powder Preparation & Processes III**

Time: 14:00-15:25

Invited Presentation

Time: 14:00-14:25

**Surface Chemistry of Metal Powders and Changes during the Sintering Process**

Danninger, Herbert (Technische Universitaet Wien, Austria)

Oral Presentation

Time: 14:25-14:45

**Advanced Alloy Powders and Materials Aspects in Additive Manufacturing**

Ivanov, Eugene (Tosoh SMD Inc., United States)

Time: 14:45-15:05

**Microstructure Evolution during Laser Cladding of Nickel Aluminide / Chromium Carbide Coatings**

Gong, Karin (Chalmers University of Technology, Sweden)

Time: 15:05-15:25

**Manufacturing of Ti6Al4V Powder for SLM via Super-Speed Plasma Rotating Electrode Process**

Liu, Yang (Sino-Euro Materials Technologies of Xi'an Co., Ltd. China)

**Session 30: SIS China-Australia Joint Symposium on Powder Metallurgy III**

Time: 14:00-15:30

Oral Presentation

Time: 14:00-14:30

**Boron Nitride Nanotube – Sulfur – Polysulfone Composite Cathode of Lithium-Sulfur Batteries with an Ultra-stability and Excellent capacity**

Ye, Fan (Deakin University, Australia)

Time: 14:30-15:00

**Geometry Concept Structure Design of Advanced Anode Materials for Rechargeable Batteries and Their Storage Mechanisms**

Wang, Xi (Beijing Jiaotong University, China)

Time: 15:00-15:30

**Additive Manufacturing of an Ultra-Strong and Tough Titanium Alloys Matrix Composite Reinforced by Boron Nitride Nanotubes**

Fabijanec, Daniel (Deakin University, Australia)

**Session 31: SIS Refractory Metals & Superhard Materials I**

Time: 14:00-15:30

Oral Presentation

Time: 14:00-14:30

**Molybdenum Consumption for 2012-17 in Finished Parts**

Towey, Andrew (POLEMA JSC, Russia)

Time: 14:30-15:00

**Sintering of Nano sized Tungsten Powder and the Ductility of Ultrafine Grain Tungsten**

Fang, Zak Zhigang (University of Utah, USA)

Time: 15:00-15:30

**Development of CVD Tungsten for Fusion Energy**

Yu, Yang (China National R&D Center for Tungsten Technology, USA)

### Session 32: Surface Technology I

Time: 14:00-16:15

#### Keynote Paper

Time: 14:00-14:30

**Explore Applications of Electron Work Function in Investigation of Surface Properties and Phenomena for Composite Materials**  
Li, Dongyang (H.C. Starck Surface Technology and Ceramic Powders GmbH, Sweden)

#### Invited Presentation

Time: 14:30-14:55

**Powders and Materials on the Surface**  
Bengtsson, Sven (Höganäs AB, Sweden)

#### Oral Presentation

Time: 14:55-15:15

**Microstructure and Wear Mechanisms in Dry-Wear Testing of Laser Clad Nickel Aluminide / Chromium Carbide Coatings against Cast Iron**  
Gong, Karin (Chalmers University of Technology, Sweden)

Time: 15:15-15:35

**Cobalt Based Alloy Cladding Made with Cloth and Ultraflex™ Technologies**  
Zheng, Qingjun (Kennametal Inc., China)

Time: 15:35-15:55

**Strengthening Effect of Nano TiC Powder Addition during Laser Surface Modification: Microstructure and Mechanical Properties**  
Chen, Yanzhe (Tsinghua University, China)

Time: 15:55-16:15

**Microstructure and Wear Resistance of Ni<sub>3</sub>Al/Cr<sub>3</sub>C<sub>2</sub> Laser Cladding Composites**  
Zhao, Lin (CENTRAL IRON & STEEL RESEARCH INSTITUTE, China)

### Session 33: Porous Materials II: Porous Alloy & Intermetallics

Time: 14:00-15:55

#### Keynote Paper

Time: 14:00-14:30

**Preparation and Application of Microporous Metal Membrane**  
Wang, Tianyao (Kunming University of Science and Technology, China)

#### Invited Presentation

Time: 14:30-14:55

**Porous Intermetallic Foam Fabricated via Thermal Explosion**  
Feng, Peizhong (China University of Mining and Technology, China)

#### Oral Presentation

Time: 14:55-15:15

**Porous CuAl Intermetallics Prepared by Thermal Explosion**  
Cai, Xiaoping (China University of Mining and Technology, China)

Time: 15:15-15:35

**Sintering Behavior and Microstructure of Ni-Al/Ti-Al Porous Alloys by Elemental Powder Method**  
Jiang, Heng (Southern University of Science and Technology, China)

Time: 15:35-15:55

**Preparation and Structural Characteristics of Porous Monel by Sintering-Dissolution Process**  
Wang, Qiangbing (Northwest Institute for Non-ferrous Metal Research, China)

### Session 34: Magnetic Materials & Functional Materials III

Time: 14:00-16:15

#### Keynote Paper

Time: 14:00-14:30

**Effect of RT (R=Rare Earth; T=Cu or Ga) Additives on the Microstructure and Magnetic Properties of Hot Deformed NdFeB Magnets**

Chang, Wen-Cheng (National Chung Cheng University, Chinese Taipei)

#### Invited Presentation

Time: 14:30-14:55

**Synthesis and Characterization of Hybrid Transition Metal/Iron Nanowires**

Lin, Hong-Ming (Tatung University, Chinese Taipei)

#### Oral Presentation

Time: 14:55-15:15

**Improvement of Magnetic Performance for the Fe-6.5wt%Si Soft Magnetic Composites**

Liu, Xin (Guangdong Institute of Materials and Processing, China)

Time: 15:15-15:35

**Influence of Specific Surface Area and Particle Size Distribution on Reaction Behavior of Iron Oxide with Zinc Oxide in Mn-Zn Ferrite**

Hong, Yongxiong (China Steel Corporation, Chinese Taipei)

Time: 15:35-15:55

**Preparation of Fe-Al-Si-Ni Soft Magnetic Composites with Excellent High-Frequency Properties**

Li, Shigeng (Central South University, China)

Time: 15:55-16:15

**Effect of Heating Rate and Holding Time on Phase Structure, Density and Magnetic Properties of Sintered NiFe<sub>2</sub>O<sub>4</sub>**

Zhou, Chunxia (School of Materials Science and Engineering, China)

### Session 35: Hard Alloys III

Time: 14:00-16:15

#### Keynote Paper

Time: 14:00-14:30

**Mechanisms of Abrasive Wear in WC/Co Hardmetals**

Gee, Mark (National Physical Laboratory, United States)

#### Invited Presentation

Time: 14:30-14:55

**Interdependency of Hard Phase and Binder Phase Composition in Ti(C, N)-Based Cermets**

Lengauer, Walter (TU Vienna, Austria)

**Oral Presentation**

Time: 14:55-15:15

**Computational Materials Design of Hardmetals**

Frisk, Karin (Innomat AB, Sweden)

Time: 15:15-15:35

**Can Cobalt Be Replaced as a Binder in Hardmetals?**

Prakash, Leo (WTP Materials Engineering, Germany)

Time: 15:35-15:55

**Impact of WC-Co Powder Preparation on the SPS Sintering Behavior**

Stanciu, Victor Ioan (University of Mons, Belgium)

Time: 15:55-16:15

**Cermet Reinforced Cemented Carbides**

Zhang, Jiulai (Ceratizit Austria GmbH, Austria)

**Session 36: Biomedical Materials & Other Powders I**

Time: 14:00-15:20

**Oral Presentation**

Time: 14:00-14:20

**Optimization of Mg Content in Novel Bioactive Ti-Mg Composite for Dental Implants Produced by Warm Powder Consolidation Process**

Ibrahim, Ahmed Mohamed Hassan (The Slovak academy of sciences, Slovakia)

Time: 14:20-14:40

**Effect of Process Parameters on the Pore Formation in a Low Magnetic Zr-Based Alloy Fabricated by Powder Bed Fusion Process Using Fiber Laser**

Nomura, Naoyuki (Tohoku University, Japan)

Time: 14:40-15:00

**Biomimetic Porous Metal Implants Manufactured by 3D Printing and Bioactive Ceramic Coating**

Lai, Hong-Jen (Material and Chemical Research Laboratories, Industrial Technology Research Institute, Hsinchu, Taiwan, China)

Time: 15:00-15:20

**Processing of Biodegradable Magnesium Alloy WE43 Using Selective Laser Melting**

Suchy, Jan (Brno University of Technology, Czech Republic)

**Tuesday Afternoon, 18 September, Part 2**

**Session 37: PM Components & Processes IV**

Time: 16:35-18:20

**Invited Presentation**

Time: 16:35-17:00

**A Case Study for Light Weight Structural Powder Metal Solution: 10 Speed Automatic Transmission Planetary Carrier**

Demir, Semih (Stackpole International, Canada)

**Oral Presentation**

Time: 17:00-17:20

**Property of Sintered Rolling Carburized Gear without Grinding**

Taniguchi, Yuji (Kobe Steel, Ltd., Japan)

Time: 17:20-17:40

**Properties of Steel Powder Mixture with Developed Lubricant for High Density Application**

Sato, Mitsuhiro (Kobe Steel, Ltd., Japan)

Time: 17:40-18:00

**Approaches to Reach Fully Dense Powder Metallurgical Materials**

Vattur Sundaram (Chalmers University of Technology, Sweden)

Time: 18:00-18:20

**Preparation of Bonded Iron-Based Powder and the Compacting Behavior**

Chen, Yan (University of Science and Technology Beijing, China)

**Session 38: AM III: Process analysis 2**

Time: 16:35-18:05

**Keynote Paper**

Time: 16:35-17:05

**Preliminary Research of High Entropy Alloy Manufactured through SLM Process**

Zhang, Lijuan (National Innovation Institute of Additive Manufacturing, China)

**Oral Presentation**

Time: 17:05-17:25

**Effect of X-Ray Computed Tomography Magnification on Porosity Analysis of Additively Manufactured Parts**

Zekavat, Amir Reza (Örebro University, Ltd., Sweden)

Time: 17:25-17:45

**Effect of Laser Parameters on Microstructure, Metallurgical Defects and Property of AlSi10Mg Printed by Selective Laser Melting**

Wu, Hong (Central South University, China)

Time: 17:45-18:05

**Process Optimization and Mechanical Properties of 18Ni Maraging Steel Fabricated by Selective Laser Melting**

Chen, Zhong-Chun (Tottori University, Japan)

**Session 39: PIM IV: Biomaterials and its Applications**

Time: 16:35-17:55

**Oral Presentation**

Time: 16:35-16:55

**Novel Stent Prepared by Metal Injection Molding and its Biomedical Application**

He, Hao (Guangxi University of Science and Technology, China)

Time: 16:55-17:15

**The Effect of Sintering Parameter on Mechanical and Physical Properties of Hydroxyapatite (HA) through Ceramic Injection Molding (CIM)**

Muhamad, Norhamidi (Universiti Kebangsaan Malaysia, Malaysia)

Time: 17:15-17:35

**Sintering Behavior of Ti6Al4V/W Composite Fabricated by Powder Injection Molding**

Sulong, Abu Bakar (Universiti Kebangsaan Malaysia, Malaysia)

Time: 17:35-17:55  
**Metal Injection Molding of Pure Titanium and Ti-6Al-4V Alloy**  
 Ye, Shulong (Southern University of Science and Technology, China)

**Session 40: Steel Sintering II**  
 Time: 16:35-18:15

Oral Presentation  
 Time: 16:35-16:55  
**Effect of Sintering Conditions on the Properties of Lean PM Steels Produced through the Masteralloy Route**  
 De Oro Calderon, Raquel (TU Wien, Austria)

Time: 16:55-17:15  
**Effect of Mass and Geometry on Performance of Different PM Steels after Sinter-Hardening**  
 Ding, Yi (Höganäs AB, China)

Time: 17:15-17:35  
**Oxide Reduction in Water-Atomized Iron Powder and its Influence on Sintering**  
 Wendel, Johan (Chalmers University of Technology, Sweden)

Time: 17:35-17:55  
**Influence of Nanopowder Addition on Sintering of Water Atomized Iron Powder**  
 Manchili, Swathi Kiranmayee (Chalmers University of Technology, Sweden)

Time: 17:55-18:15  
**Development of Matrix Reinforced Valve Seat Materials with Improved Adhesive Wear Resistance**  
 Yamamoto, Hiroyuki (Fine Sinter Co., Ltd., Japan)

**Session 41: Metal Powder Preparation & Processes IV**  
 Time: 16:35-17:55

Oral Presentation  
 Time: 16:35-16:55  
**A Comparative Study of Ti-6Al-4V Powders for Additive Manufacturing by Gas Atomization, Plasma Rotating Electrode Process and Plasma Atomization**  
 Chen, Gang (Northwest Institute for Non-ferrous Metal Research, China)

Time: 16:55-17:15  
**Fine Spherical Powder Production through Gas Atomization of Pressurized Metal Melts**  
 Li, Xinggang (General Research Institute for Nonferrous Metals, China)

Time: 17:15-17:35  
**The Metalysis Process – A Flexible Distributed Manufacturing Route for the Production of Novel AM Powders**  
 Benson Marshall, Luke (Metalysis Ltd., United Kingdom)

Time: 17:35-17:55  
**Formation of Flake Particles during Plasma Rotating Electrode Process of Ti6Al4V**  
 Liu, Yang (Sino-Euro Materials Technologies of Xi'an Co., Ltd. China)

**Session 42: SIS China-Australia Joint Symposium on Powder Metallurgy IV**  
 Time: 16:35-15:30

Time: 16:35-17:05  
**Towards More Reliable Lithium-Sulfur Batteries**  
 Li, Feng (Chinese Academy of Science, China)

Time: 17:05-17:35  
**Two-dimensional Supramolecular Clay for Capacitive Intercalation Storage**  
 Wang, Dawei (UNSW, Australia)

Time: 17:35-18:05  
**Boron Nitride Nanotube-Sulfur-Polysulfone Composite Cathode of Lithium-Sulfur Batteries with an Ultra-stability and Excellent Capacity**  
 Ye, Fan (Deakin University, Australia)

**Session 43: SIS Refractory Metals & Superhard Materials II**  
 Time: 16:35-17:35

Oral Presentation  
 Time: 16:35-17:05  
**Refractory Metal Powders in Additive Manufacturing**  
 Cretu, Cristian (H. C. Starck INC, USA)

Time: 17:05-17:35  
**Development of W Materials and W/Cu Divertor Component**  
 Liu, Guohui (Advanced Technology & Materials Co., Ltd., China)

**Session 44: Surface Technology II**  
 Time: 16:35-18:15

Oral Presentation  
 Time: 16:35-16:55  
**Effect of Cr Addition on Microstructure and Mechanical Properties of TiCN Based Composite Coatings Prepared by Reactive Plasma Spraying**  
 Zhang, Fanyong (Hebei University of Technology, China)

Time: 16:55-17:15  
**Surface Integrity Assessment of Coated Cemented Carbides Following Laser Treatment**  
 Fang, Shiqi (EEBE- Universitat Politècnica de Catalunya, Spain)

Time: 17:15-17:35  
**Structure and Microhardness of Coatings Obtained by Cladding of Chromium Carbide and Titanium Carbide Powder Mixture on Low Carbon Steel Using High-Energy Electron Beam**  
 Yu, Baohai (Institute of Metal Research Chinese Academy of Sciences, China)

Time: 17:35-17:55  
**Microstructure and Wear Behavior of FeCoCrNiMo0.2 High Entropy Coatings Prepared by Air Plasma Spray and the High Velocity Oxy-Fuel Spray Processes**  
 Li, Tianchen (Central South University, China)

Time: 17:55-18:15  
**The Effects of Nano Oxide on Microstructure and Wear Resistance of Hardfacing Alloys for Cold Roll**  
 Chen, Cuixin (Hebei University of technology, China)

**Session 45: Porous Materials III: Porous Composites**  
 Time: 16:35-18:00

Invited Presentation  
 Time: 16:35-17:00  
**Pore Structure Characterization of Sintered Ti-Ti<sub>5</sub>Si<sub>3</sub> Composite Gradient Porous Materials**  
 Liu, Zhongjun (Xi'an Shiyou University, China)

Oral Presentation  
 Time: 17:00-17:20  
**Open-Cell 316L Foam Sandwiched Tubes Was Fabricated by Powder Metallurgy Route and its Applications**  
 Li, Guangzhong (Northwest Institute for Non-ferrous Metal Research, China)

Time: 17:20-17:40  
**Novel Preparation Technology of Aluminum Foam Sandwich Panels with Excellent Cellular Structure by Powder Metallurgical**  
 Ding, Xiang (Anhui University of Technology, China)

Time: 17:40-18:00  
**Static Three-Point Bending Behavior of Aluminum Foam Core Sandwich Panel**  
 Yu, Yang (School of Metallurgy, Northeastern University, China)

**Session 46: Magnetic Materials & Functional Materials IV**  
 Time: 16:35-18:10

Keynote Paper  
 Time: 16:35-17:05  
**Influence of SiC on Magnetic and Mechanical Properties of Hot-Deformed Nd-Fe-B Magnets**  
 Zheng, Liyun (Central Iron and Steel Research Institute, China)

Invited Presentation  
 Time: 17:05-17:30  
**Influence of Dy Content in Nd-Fe-B Base Magnet on Grain Boundary Diffusion**  
 Cheng, Xinghua (Central Iron and Steel Research Institute, China)

Oral Presentation  
 Time: 17:30-17:50  
**The Influence of Sintering Temperature on Microstructure and Magnetic Properties of Fe/Fe<sub>3</sub>O<sub>4</sub> Powder Cores Fabricated by Spark Plasma Sintering**  
 Xie, Yuye (Tongji University, China)

Time: 17:50-18:10  
**Coercivity Enhancement of High Energy Product Nd-Fe-B Magnets by Grain Boundary Diffusion**  
 Zhao, Yang (Central Iron and Steel Research Institute, China)

**Session 47: Hard Alloys IV**  
 Time: 16:35-18:10

Keynote Paper  
 Time: 16:35-17:05  
**WC-Co-Re Cemented Carbides: State of the Art**  
 Konyashin, Igor (Element Six GmbH, Germany)

Invited Presentation  
 Time: 17:05-17:30  
**Effect of Nitrogen Content and Cubic Composition on the Structure of Gradient Cemented Carbide—Computer Simulation and Experimental Investigation**  
 Wang, Shequan (Zhuzhou Cemented Carbide Cutting tools CO., LTD, China)

Oral Presentation  
 Time: 17:30-17:50  
**Niobium Carbide Based Cermets with Secondary Carbide and Carbonitride Addition**  
 Huang, Shuigen (KU Leuven, Belgium)

Time: 17:50-18:10  
**Effect of Ru Addition Amount on Microstructure and Properties of WC-Co Hardalloys**  
 Shi, Kaihua (Zigong Cemented Carbide Corp., Ltd, China)

**Session 48: Biomedical Materials & Other Powders II**  
 Time: 16:35-17:35

Oral Presentation  
 Time: 16:35-16:55  
**Developing Bioactive Ti/A-TCP/Ti-Mesh Composite by Spark Plasma Sintering**  
 Chen, Wenjuan (Central South University, China)

Time: 16:55-17:15  
**The Influence of Oxygen Content on the Grindability of Ti-15Zr-Based Alloys as Dental Materials**  
 Tang, Hanchun (Central South University, China)

Time: 17:15-17:35  
**Effect of HfO<sub>2</sub> Doping on Properties and Low Temperature Degradation of Y-TZP**  
 Zhang, Liu (University of Science and Technology Beijing, China)

### Wednesday Morning, 19 September, Part I

**Session 49: PM Components & Processes V**  
 Time: 8:30-10:00

Keynote Paper  
 Time: 8:30-9:00  
**Selective Densification of Powder Metal Components – A Review and Scope for New Product Development**  
 Shivanath, Rohith (Stackpole International, Canada)

Oral Presentation  
 Time: 9:00-9:20  
**Study on the Structure Properties of Ferritic ODS Alloy**  
 Wang, Shengxi (University of Science and Technology Beijing, China)



Time: 9:20-9:40  
**Study of Suitable PM Materials for Low Pressure Heat Treatment Processes in Combination with Gas Quench**  
 Dahlstrom, Magnus (Höganäs AB, Sweden)

Time: 9:40-10:00  
**Fatigue Properties of High Strength Cr-Alloyed PM Steels Produced by High Temperature Sintering and Sinter-Hardening**  
 Bergman, Ola (Höganäs AB, Sweden)

**Session 50: AM IV: Material & Process Development I**  
 Time: 8:30-9:55

Invited Presentation  
 Time: 8:30-8:55  
**Methods for Preparation of Spherical Ti Alloy Powder**  
 Fang, Zhigang (University of Utah, United States)

Oral Presentation  
 Time: 8:55-9:15  
**Filament Metal Printing: Sintered Metal Parts Based on FFF with Reinforced Feedstock**  
 Kitzmantel, Michael (RHP-Technology GmbH, Austria)

Time: 9:15-9:35  
**Fe-50%Ni Soft Magnetic Alloy Prepared by 3D Gel-Printing**  
 Shao, Huiping (University of Science and Technology Beijing, China)

Time: 9:35-9:55  
**Microstructure and Mechanical Properties of Carbides Prepared by Selective Laser Melting (SLM)**  
 Deng, Xin (Guangdong University of Technology, China)

**Session 51: Spark Plasma Sintering**  
 Time: 8:30-9:55

Invited Presentation  
 Time: 8:30-8:55  
**Special Effect of Spark Plasma Sintering (SPS) and Application in Advanced Powder Metallurgy Materials**  
 Zhang, Jixing (Hefei University of Technology, China)

Oral Presentation  
 Time: 8:55-9:15  
**Advanced Methods for Consolidation of Powder Materials by Impulse Electromagnetic Fields**  
 Grigoryev, Evgeny (Institute of Structural Macrokinetics and Materials Science of Russian Academy of Sciences, Russia)

Time: 9:15-9:35  
**Improvement of Plasticity of Bulk Metallic Glasses by Addition of a Crystalline Phase: Manufacturing of CuZrAl Composites by Spark Plasma Sintering**  
 Cardinal, Sandrine (MATEIS, France)

Time: 9:35-9:55  
**Atomic Diffusion Coefficient Dependence on Applied Pressure during Spark Plasma Sintering**  
 Yang, Chao (South China University of Technology, China)

**Session 52: SIS Automobile Industry and PM I**  
 Time: 14:00-16:00

Oral Presentation  
 Time: 14:00-14:30  
**Research on Lightweight of Automobile**  
 Zhang, Xuming (SAE-China, China)

Time: 14:30-15:00  
**The advantage of Gasoline Engines will continue**  
 Aoki, Mikiharu (Toyota Production Consulting Corp, Japan)

Time: 15:00-15:30  
**Application Development and New Opportunities of PM Materials in Automotive Industry**  
 Liu, Yong (Central South University, China)

Time: 15:30-16:00  
**Electrification trend in China Automotive Industry**  
 Wang, Sherry (Neuron Auto, China)

**Session 53: Refractory Metals I**  
 Time: 8:30-10:05

Keynote Paper  
 Time: 8:30-9:00  
**Enhanced Sintering of Tungsten and Tungsten-Based Composites**  
 Johnson, John (Elmet Technologies LLC, United States)

Invited Presentation  
 Time: 9:00-9:25  
**Refractory Metals: Stubbornly Resistant**  
 Shields, John (PentaMet Associates, United States)

Oral Presentation  
 Time: 9:25-9:45  
**An Investigation of the Critical Factors Affecting Tungsten's Ductility through Microstructural and Mechanical Analysis of Annealed Rolled Tungsten**  
 Ren, Chai (University of Utah, United States)

Time: 9:45-10:05  
**Investigation on Microstructures and Properties of W-Cu by Extrusion Molding-Infiltration Sintering**  
 Han, Shengli (Guangdong Institute of Materials and Processing, China)

**Session 54: Analysis, Testing, Numerical Simulation, Data and Data Mining I**  
 Time: 8:30-10:00

Invited Presentation  
 Time: 8:30-8:55  
**Evaluation of Wear in Automotive Transmission Using Powder Metal Gears**  
 Flodin, Anders (Höganäs AB, Sweden)

**Invited Presentation**

Time: 8:55-9:20

**Advanced CFD Modelling of Process in a Hydrogen High-Temperature Sintering Furnace**

Liu, Yan (Simtec Soft Sweden AB, Sweden)

**Oral Presentation**

Time: 9:20-9:40

**Deep Neural Network-Based Approach for Warpage and Weight Prediction of Plastic Injection Molding**

Lee, Chihun (POSTECH, Korea)

Time: 9:40-10:00

**Micro magnetic Simulations of Magnetization Reversal in NdFeB Magnets**

Li, Lei (Central Iron & Steel Research Institute, China)

**Session 55: Energy Materials I**

Time: 8:30-10:05

**Keynote Paper**

Time: 8:30-9:00

**Lithium-Ion Battery Electrodes Materials and Technology for Vehicles**

Yunhui Huang (Tongji University, China)

**Invited Presentation**

Time: 9:00-9:25

**High-Voltage Li-ion Batteries and Materials**

Liao, Shih-Chieh (Industrial Technology Research Institute, Chinese Taipei)

**Oral Presentation**

Time: 9:25-9:45

**Synthesis Mechanism of LiFePO<sub>4</sub> with Different Carbon Content**

Tian, Na (Pulead Technology Industry Co., Ltd., China)

Time: 9:45-10:05

**Facile Synthesis of Ball-Milled SnS-Carbon Nanocomposites with Superior Lithium Storage**

Zeng, Hong (China iron & steel research institute group, China)

**Session 56: Super Alloys & Composites I**

Time: 8:30-9:50

**Oral Presentation**

Time: 8:30-8:50

**Simultaneously Enhanced Strength and Ductility of CNT/Cu Composites by Spray Pyrolysis and SPS Sintering**

Yi, Jianhong (Kunming University of Science and Technology, China)

Time: 8:50-9:10

**Segment Matrix Design and Drilling Test of Diamond Bit for Sapphire**

Xu, Liang (Beijing Gang Yan Diamond Products Company, China)

Time: 9:10-9:30

**Synthesis and Characterization of Ti-Si<sub>3</sub>N<sub>4</sub> Metal Matrix Composites Prepared by Press-and-Sinter**

Singh, Harshpreet (University of Auckland, New Zealand)

Time: 9:30-9:50

**Fabrication Be-CuCrZr/SS Joints by Hot Isostatic Pressing Diffusion Bonding**

Che, Hongyan (Advanced Technology & Materials Co., Ltd., China)

**Session 57: Metal Powder Preparation and Processes V**

Time: 8:30-9:55

**Invited Presentation**

Time: 8:30-8:55

**Copper and Copper Alloy Powder Market and Technology Developments in China**

Wang, Li-min (Beijing General Research Institute for Nonferrous Metals, China)

**Oral Presentation**

Time: 8:55-9:15

**Use of Diffusion Bonded Copper Powder for Better Powder Mix Stability**

Campbell Tremblay, Julie (Rio Tinto Metal Powders, Canada)

Time: 9:15-9:35

**Electrolytic Copper Powder with Low Fraction, Specific Surface Area and Oxygen Content for Special Applications**

Romanov, Vitaly (JSC "URALELEKTROMED", Russia)

Time: 9:35-9:55

**Effects of Cooling Rate and Copper Content on the Hardenability of Low-Prealloy**

Su, Fengge (Jiande Yitong Metal Powder Material Co., Ltd, China)

**Wednesday Morning, 19 September, Part 2**

**Session 58: PM Components & Processes VI**

Time: 10:25-11:50

**Invited Presentation**

Time: 10:25-10:50

**Analysis of Manufacturing Costs for Powder Metallurgy (PM)**

**Gear Manufacturing Processes: a Case Study of a 4th Drive Gear**

Kianian, Babak (Lund University, Sweden)

**Oral Presentation**

Time: 10:50-11:10

**Rolling Fatigue Life Behavior of PM-Steel with Different Porosity and Surface Finish**

Holmberg, Anders (Uppsala University, Sweden)

Time: 11:10-11:30

**Effect of Sintering Partial Pressure on Sintering Behavior of Al-SiC Composite Material**

Huang, Wei-Ping (Porite Taiwan Co., Ltd., Chinese Taipei)

Time: 11:30-11:50

**Development of Fully Dense and High Performance Powder Metallurgy HSLA Steel Using HIP Method**

Liu, Wensheng (Central South University, China)



### Session 59: AM IV: Material & Process Development 2

Time: 10:25-11:45

#### Oral Presentation

Time: 10:25-10:45

**Effect of Helium-Argon Mixtures as Laser-Powder Bed Fusion Processing Atmospheres on the Properties of the Built Ti-6Al-4V Parts**

Pauzon, Camille (Chalmers University of Technology, Sweden)

Time: 10:45-11:05

**Factors Affecting Printability of 316L Powders Using DMLS Process**

Riabov, Dmitri (Chalmers University, Sweden)

Time: 11:05-11:25

**Improving the Fatigue Strength of L-PBF Manufactured IN718 Samples by HIP Post Processing**

Kaletsch, Anke (RWTH Aachen University, Institute for Materials Applications in Mechanical Engineering (IWM), Germany)

Time: 11:25-11:45

**Advanced Spherical Powders of NiAl- Based Alloys and their Application in Additive Technologies**

Martynov, Dmitrii (POLEMA JSC, Russia)

### Session 60: Novel Sintered Materials

Time: 10:25-12:05

#### Oral Presentation

Time: 10:25-10:45

**Sintering of The Chalcogenide Glass Powder Compacts for Infrared Transmittance**

Woo, Seok Yang (POSTECH, Korea)

Time: 10:45-11:05

**Features of Interfaces in a Metallic Glass Matrix Composite Obtained by Densification of Amorphous Powders**

Pelletier, Jean-Marc (INSA-Lyon, France)

Time: 11:05-11:25

**Microstructures and Mechanical Properties of In-Situ Elongated B-Si<sub>3</sub>N<sub>4</sub> toughen WC-ZTA Composite**

Li, Xiaoqiang (South China University of Technology, China)

Time: 11:25-11:45

**Bioinspired Functionally Graded Alumina**

Hussainova, Irina (Tallinn University of Technology, Estonia)

Time: 11:45-12:05

**Microstructural Evolution and Mechanical Properties of a Vanadium and Yttrium TiAl Based Alloy Densified by Spark Plasma Sintering**

Gu, Xu (Harbin Institute of Technology, China)

### Session 61: SIS Automobile Industry and PM II

Time: 16:35-18:05

#### Oral Presentation

Time: 16:35-17:05

**PM Transmission Design and Transmission Technology & Market Trends**

Dhjeine, Henrik (AVL LIST GmbH, Germany)

Time: 17:05-17:35

**Present State and Future Potential for PM Components in Modern Vehicles**

Schneider, Eckart (Höganäs AB, Sweden)

Time: 17:35-18:05

Round Table Discussion about Electrification

### Session 62: Refractory Metals II

Time: 10:25-11:55

#### Invited Presentation

Time: 10:25-10:50

**Study on the Mass Preparation W-Y<sub>2</sub>O<sub>3</sub> Materials by Wet-Chemical Method and its Properties**

Luo, Laima (Hefei University of Technology, China)

Time: 10:50-11:15

**Preparation and Emission Property of W-Re Matrix Dispenser Cathode**

Wang, Jinshu (Beijing University of Technology, Canada)

#### Oral Presentation

Time: 11:15-11:35

**Preparation and Characterization of Tungsten Particulate Reinforced High Entropy Alloy (W-HEA) Composite**

Zhou, Shangcheng (Beijing Institute of Technology, China)

Time: 11:35-11:55

**The Study on Low Temperature Sintering of a New W-Ni-Cu-Sn Heavy Alloy**

Cai, Qingshan (Central South University, China)

### Session 63: Analysis, Testing, Numerical Simulation, Data and Data Mining II

Time: 10:25-12:10

#### Invited Presentation

Time: 10:25-10:50

**Matari: Intelligent Management of Material Data in Powder Metallurgy Research**

Wang, Zhuo (MatAi Company, China)

#### Oral Presentation

Time: 10:50-11:10

**The Complex Characterization of the Metallic and Ceramic Particles' Shape and Size by a Different Method**

Gacsi, Zoltan (University of Miskolc, Hungary, Hungary)

Time: 11:10-11:30

**Compacting Process Optimization of Transmission Pin Shift Finger**

Dong, Jinyang (Porite Yangzhou Technology & Industry Co., Ltd, China)

Time: 11:30-11:50

**Evolution of Microstructure and Mechanical Properties at Cryogenic Temperatures of 316L Processed by Powder Bed Fusion**

Sas, Jan (Karlsruhe Institute of Technology, Germany)

Time: 11:50-12:10  
**Thermodynamic Modeling of Solid-Liquid Interfacial Energies and its Application on Grain Growth Simulation of TiC-Based Cermets**  
 Zhang, Cong (University of Science and Technology Beijing, China)

### Session 64: Energy Materials II

Time: 10:25-11:45

#### Oral Presentation

Time: 10:25-10:45

**Lithium Germinate (Li<sub>2</sub>GeO<sub>3</sub>)-A New Anode Material for Lithium-Ion Batteries**

Rahman, Md Mokhesur (Deakin University, Australia)

Time: 10:45-11:05

**High Quality Prussian-blue Cubic Crystal Wrapped with Redox Graphene for Ultra-stable Sodium-ion Batteries**

Jiang, Yang (Hefei University of Technology, China)

Time: 11:05-11:25

**Ferroelectric Polymer-Based Nanocomposite Capacitors for Energy Storage**

zhang,dou (State Key Laboratory of Powder Metallurgy, Central South University, China)

Time: 11:25-11:45

**Two-dimensional Supramolecular Clay for Capacitive Intercalation Storage**

Wang, Da-Wei (UNSW, Australia)

### Session 65: Super Alloys & Composites II

Time: 10:25-11:50

#### Invited Presentation

Time: 10:25-10:50

**Research on New Third Generation P/M Superalloy FGH100L**

Tian, Tian (University of Science and Technology Beijing, China)

#### Oral Presentation

Time: 10:50-11:10

**Microstructures and Properties of Ti-HSS Composites Prepared by Spark Plasma Sintering**

Zeng, Han (Central South University, China)

Time: 11:10-11:30

**Microstructure and Wear Behavior of Fe-Mn-Ni-Al Matrix Self-Lubricating Steels Produced by Mechanical Alloying and Spark Plasma Sintering**

Han, Liuliu (Central South University, China)

Time: 11:30-11:50

**SWOT Analysis of the Special Steel and Metal Alloy Powder Metallurgy**

Polard, Victor (SMR Premium GmbH, Germany)

### Session 66: Metal Powder Preparation and Processes VI

Time: 10:25-11:45

#### Oral Presentation

Time: 10:25-10:45

**Metallic Glass for Arc Welding Application**

Su, Liap Tat (Singapore Polytechnic, Singapore)

Time: 10:45-11:05

**The Effect of Plasma Atomization Process Parameters on the Particle Size**

YURTKURAN, Emre (Gazi University, Turkey)

Time: 11:05-11:25

**Research on The Water-Atomized Iron Powder Production Line Of 200,000 Tons Per Annual of Ansteel (Anshan) Metallurgical Powder Materials Co., LTD**

Li, Jiang (Ansteel (Anshan) metallurgical powder materials Co., LTD, Central South University, China)

Time: 11:25-11:45

**Carbonyl Nickel Powder Production Progress**

Xiao, Dongming (Jinchuan Group Co. Ltd., China)

## Wednesday Afternoon, 19 September, Part I

### Session 67: Compaction & Forming Processes III

Time: 14:00-15:30

#### Invited Presentation

Time: 14:00-14:25

**Evaluation of High Performance Premixes in the Manufacturing of VVT Components**

Paris, Vincent (Rio Tinto Metal Powders, Canada)

Time: 14:25-14:50

**Hot Isostatic Pressing of the Water Atomized Steel Powder: Possibilities and Challenges**

Hryha, Eduard (Chalmers University of Technology, Sweden)

#### Oral Presentation

Time: 14:50-15:10

**Layered Functionally Graded Alumina Ceramic Composite with Anisotropic Properties**

Saffar Shamshirgar, Ali (Tallinn University of Technology, Estonia)

Time: 15:10-15:30

**Effects of the Content of Mo on Microstructure and Mechanical Properties of Powder Forging Steel**

Sun, Lu (Nanjing University of Science and Technology, China)

### Session 68: AM I: New Material and Applications 2

Time: 14:00-15:20

#### Oral Presentation

Time: 14:00-14:20

**The Effect of the Addition of Alloying Elements on the Microstructure and Properties in AISI H13 Processed by Selective Laser Melting**

Wang, Mei (Huazhong University of Science and Technology, China)

Time: 14:20-14:40  
**Microstructures and Mechanical Properties of C-Containing FeCoCrNi High-Entropy Alloy Fabricated by Selective Laser Melting**  
 Zhou, Rui (Central south university, China)

Time: 14:40-15:00  
**A Novel High Strength Al Alloy with Improved SLM Process Ability**  
 Casati, Riccardo (Politecnico di Milano, Italy)

Time: 15:00-15:20  
**Additive Manufacturing of Medical Device Components by DMLS**  
 Kotila, Juha (EOS Finland, Finland)

### Session 69: Sintered Light Alloys

Time: 14:00-15:45

#### Invited Presentation

Time: 14:00-14:25  
**Thermomechanical Consolidation of Metallic and Metal Matrix Nanocomposite Powders**  
 Zhang, Deliang (Northeastern University, China)

#### Oral Presentation

Time: 14:25-14:45  
**Effects of Hot Compression Process on Microstructure and Properties of Vapor-Grown Carbon Nano-Fiber Reinforced Aluminum**  
 Guo, Ying (Yanshan University, China)

Time: 14:45-15:05  
**Mechanical Properties and Wear and Corrosion Resistance of a Super-High Strength Nanostructured Aluminum Alloy**  
 Wang, Zhi (South China University of Technology, China)

Time: 15:05-15:25  
**Spark Plasma Sintering and Characterization of a Melt-spun Al-Mg-Si Alloy**  
 Li, Xia (Beijing University of Technology, China)

Time: 15:25-15:45  
**Preparation of Biomedical Ti2448 Alloy with High Strength and Low Elastic Modulus by Powder Metallurgy**  
 Li, Xia (South University of Science and Technology of China, China)

### Session 70: PIM V: Miscellaneous Functional materials and Advanced Processes

Time: 14:00-16:05

#### Invited Presentation

Time: 14:00-14:25  
**A Review of Metal Injection Molding for Tungsten and its Alloys**  
 Mori, Masaki (Mitsubishi Steel Mfg. Co., Ltd., China)

#### Oral Presentation

Time: 14:25-14:45  
**Sintering of a Bi-material of Two-Component Powder Injection Molded Stainless Steel (17-4PH) and Yttria Stabilized Zirconia (3YSZ)**  
 Sulong, Abu Bakar (Universiti Kebangsaan Malaysia, Malaysia)

Time: 14:45-15:05  
**Nano Powder in Fe Bimodal Powder Injection Molding Process**  
 Oh, Joo Won (Pohang University of Science and Technology (POSTECH), Korea)

Time: 15:05-15:25  
**Powder Injection Molding (PIM) of Hard and Soft magnetic Materials**  
 SHIN, DA SEUL (POSTECH, Korea)

Time: 15:25-15:45  
**Fabrication and Pool Boiling Test of Powder Injection Molded Porous Copper Structures Using Space Holder Technology**  
 Cho, Hanlyun (Pohang University of Science and Technology, Korea)

Time: 15:45-16:05  
**Fabrication of Aluminium Nitride Ceramic by Powder Injection Molding**  
 Lu, Huifeng (University of Science and Technology Beijing, China)

### Session 71: Hard Alloys V

Time: 14:00-15:10

#### Invited Presentation

Time: 14:00-14:25  
**Sintering Cemented Carbides: Nanograin Size or Performance?**  
 Song, Xiaoyan (Beijing University of Technology, China)

Time: 14:25-14:50  
**Research into Grain Growth and Microstructure of Double Layer Cemented Carbides with Different WC Grain Size**  
 Chen, Jian (Guangdong University of Technology, China)

#### Oral Presentation

Time: 14:50-15:10  
**Fabrication and Characterization of WC-AlCoCrCuFeNi High-Entropy Alloy Composites by Spark Plasma Sintering**  
 Luo, Wenyan (South China University of Technology, China)

### Session 72: Analysis, Testing, Numerical Simulation, Data and Data Mining III

Time: 14:00-15:25

#### Invited Presentation

Time: 14:00-14:25  
**Simulation of Cutting Behavior in Green Powder Compact by Using Distinct Element Method**  
 Yagi, Naoki (National Institute of Technology, Nara College, China)

#### Oral Presentation

Time: 14:25-14:45  
**Effect of Gas on the Flowability of Metallic Powders**  
 Lefebvre, Louis-Philippe (National Research Council Canada, Canada)

Time: 14:45-15:05  
**A Materials Informatics Approach to Powder Metallurgy Sintered Density Prediction**  
 Deng, Zhenghua (University of Science and Technology Beijing, China)

Time: 15:05-15:25  
**Effect of Sintering Process on the Microstructure and Mechanical Properties of Mo<sub>2</sub>FeB<sub>2</sub>-based Cermets**  
 Yang, Guoqiang (University Science and Technology Beijing, China)

**Session 73: Non-Ferrous Metals & Rare Earth Metals III**  
 Time: 14:00-16:10

Invited Presentation

Time: 14:00-14:25  
**Powder Metallurgy of High-entropy Alloys**  
 Ji, Wei (Wuhan University of Technology, China)

Time: 14:25-14:50  
**Spark Plasma Sintering of Micro- and Nano-Powders of Tungsten and Molybdenum**  
 Olevsky, Eugene (San Diego State University, Nara College, United States)

Oral Presentation

Time: 14:50-15:10  
**Through Ball-Milling Process Eliminating Micron Level of Al<sub>2</sub>O<sub>3</sub> Particle on Powder Particle Boundary and its Effect on Mechanical Properties**  
 Li, Pei (University of Science and Technology Beijing, China)

Time: 15:10-15:30  
**Dissolvable Fracturing Ball of Magnesium Alloy**  
 Lei, Chaonan (University of Science and Technology Beijing, China)

Time: 15:30-15:50  
**Microstructural Characterization and Mechanical Properties of Nanostructured Al-10Zn-3.0Mg-1.8Cu Alloy**  
 Peng, Guangyao (University Science and Technology Beijing, China)

Time: 15:50-16:10  
**Study on the Growth Kinetics of Interphases at Al/Mg Diffusion Interface**  
 Ma, Yunzhu (Central South University, China)

**Session 74: Super Alloys & Composites III**  
 Time: 14:00-16:00

Oral Presentation

Time: 14:00-14:20  
**Tribological Behavior of the Ni<sub>3</sub>Al-Based Composites/Gray Cast Iron Tribo-Pairs at High Temperatures**  
 Fu, Lihua (Central Iron and Steel Research Institute, China)

Time: 14:20-14:40  
**Nickel Modified Graphene-Nanoplates Reinforce Aluminum Matrix Composites with Simultaneously Enhanced Strength and Toughness**  
 Han, Tielong (Tianjin University, China)

Time: 14:40-15:00  
**Tensile Deformation Mechanisms of Advanced High Performance PM Nickel-based Superalloy**  
 Huang, Hailiang (School of Materials Science and Engineering, University of Science and Technology Beijing, China)

Time: 15:00-15:20  
**In Situ Synthesis of Boride Whiskers for Preparing Reinforced Aluminum Matrix Composites**  
 Wang, Fucheng (Tianjin University, China)

Time: 15:20-15:40  
**Effect of B<sub>4</sub>C Addition on Microstructure and Mechanical Properties of Powder Metallurgy M3: 2 High-Speed Steel**  
 Li, Songlin (Central South University, China)

Time: 15:40-16:00  
**Development of a High-Performance Cu-based Sintered Alloy Contact Strip**  
 Ryota, Kobayashi (Fine Sinter Co., Ltd, Japan)

**Session 75: Metal Powder Preparation and Processes VII**  
 Time: 14:00-15:25

Invited Presentation

Time: 14:00-14:25  
**Development and Design of Self-Organized Composite Powders in Liquid Phase Separated System**  
 Liu, Xingjun (Xiamen University, China)

Oral Presentation

Time: 14:25-14:45  
**Characterization of Nanostructured Ni-Binary and Ternary Alloys Developed via Spark Plasma Sintering Technique**  
 Babalola, Bukola (Tshwane University of Technology, South Africa)

Time: 14:45-15:05  
**Effect of Binder Treated Process on Powder**  
 Su, Fengge (Jiande Yitong Metal Powder Material Co., Ltd, China)

Time: 15:05-15:25  
**Oxygen Content Control in ppm Level of Nickel-Based Alloy Powders Made by Vacuum Atomization and the Influence on Oxidation Resistance**  
 Xu, Zhenyuan (BGRIMM Technology Group, China)

**Session 76: SIS PM Magnetic Materials I**  
 Time: 14:00- 15:30

Oral Presentation

Time: 14:00-14:30  
**Research and Development of Rare Earth Permanent Magnet**  
 Li, Wei (Chinese Academy of Sciences (CAS), China)

Time: 14:30-15:00  
**Electrification a Great Opportunity for Soft-Magnetic Composites-SMC**  
 Pennander, Lars-Olov (EMA Höganäs AB, Sweden)

Time: 15:00-15:30  
**Advances and Applications of Fe-Based Amorphous Materials**  
 Zhou, Shaoxing (The Asian Union of Magnetics Societies (AUMS), China)

**Session 77: SIS Sino-Swedish Advanced Materials Forum I**  
Time: 14:00-15:30

Oral Presentation

Time: 14:00-14:30

**12 Years Annual Reports of Sino-Swedish Advanced Materials Exchange Center**

Tian, Zhiling (CISRI, China); Lars Nyborg (Chalmers University of Technology, Sweden)

Time: 14:30-15:00

**Strategic Innovation Program for Metallic Materials: Industrialization of AM for Metallic Materials**

Maren, Anders (VINNOVA, Sweden)

Time: 15:00-15:30

**Prospective of Future Cooperation between NSFC and STINT**

Gao, Ruiping (NSFC, China); Erik Forsberg (STINT, Sweden)

**Wednesday Afternoon, 19 September, Part 2**

**Session 78: AM III: Process Analysis 3**

Time: 16:35-17:55

Oral Presentation

Time: 16:35-16:55

**Effect of Powder Size, Droplet Size, and Layer Thickness on the Resolution of Binder Jet 3D Printed Parts**

Klein, Andrew (EXONE, United States)

Time: 16:55-17:15

**Effect of the Residual Oxygen Content in the Processing Atmosphere on the Properties of Stainless Steel 316L Built by Laser-Powder Bed Fusion**

Pauzon, Camille (Chalmers University of Technology, Sweden)

Time: 17:15-17:35

**Relevance and Application of Oxygen and Hydrogen Determination in Additive Manufacturing and Powder Recycling**

Paplewski, Peter (Bruker AXS GmbH, Germany)

Time: 17:35-17:55

**Ceramic Additive Manufacturing for Energy Storage by Nanoparticles Paste Stereo Lithography**

Kirihara, Soshu (Osaka University, Japan)

**Session 79: Machining of Sintered Materials**

Time: 16:35-17:55

Oral Presentation

Time: 16:35-16:55

**Ferrous PM Machinability; Examining the Effectiveness and Stability of Additives**

Kraus, Neal (Hoeganaes Corporation, United States)

Time: 16:55-17:15

**Selecting Productive and Cost-Effective Machining Solutions for PM Materials**

Hu, Bo (North American Hoganas, United States)

Time: 17:15-17:35

**New Machinability Enhancers for Improved Drilling of PM Steels**

Yang, Jing (AMES-Sintered Metal Components, Spain)

Time: 17:35-17:55

**Influence of Additives on Machined Surface Quality of Sintered Steel**

Qin, Xiaodong (NBTM New Materials Group Co. Ltd., China)

**Session 80: PIM VI: Developments in Processing and Sintering**

Time: 16:35-18:40

Invited Presentation

Time: 16:35-17:00

**The Size Effect in Micro Powder Injection Molding**

Yin, Haiqing (University of Science and Technology Beijing, China)

Oral Presentation

Time: 17:00-17:20

**Research on Sintering of Plastic Base 17-4PH Stainless Steel by Metal Powder Injection Molding**

Wang, Chunguan (HaiAn ENGLE-GLOBE Group Co., Ltd, China)

Time: 17:20-17:40

**Development of Powder Injection Molding Process for Si3N4 Ceramic Ball**

Gal, Chang Woo (POSTECH, Korea)

Time: 17:40-18:00

**The Effects of Sintering Temperature on Micro-MIM Carbonyl Fe Parts**

Xu, Hui (Anton Medical Group, China)

Time: 18:00-18:20

**Effect of Carbon on Sintering Densification Behavior of MIM420 Stainless Steel**

Yu, Yong (Central South University, China)

Time: 18:20-18:40

**Development of Micro-Powder Injection Molding Process for Manufacturing a Piezoelectric Structure with High-aspect-ratio**

Park, Jae Man (Pohang University of Science and Technology, Korea)

**Session 81: Superhard Materials & Ceramics**

Time: 16:35-18:00

Invited Presentation

Time: 16:35-17:00

**High Entropy Alloy-Based Composites: Promising Wear-Resistant Hard Materials**

Liu, Yong (Central South University, China)

Oral Presentation

Time: 17:00-17:20

**Preparation and Microstructure of H-BN/SiC Multiphase Ceramics via Spark Plasma Sintering**

Lun, Huilin (Central South University, China)

Time: 17:20-17:40

**Ion-Electron-Plasma Modification of Structure, Tribological and Strength Properties of the Surface Layer of a Metal-Ceramic Composite**

Yu, Baohai (Institute of Metal Research Chinese Academy of Sciences, China)

Time: 17:40-18:00

**Beneficial Effects of Ti-Si Eutectic Alloy as Sintering Aid on Densification, Microstructure and Mechanical Properties of Hot-Pressed B4C-Based Ceramic Composite**

Zhong, Zhihong (Hefei University of Technology, China)

**Session 82: Analysis, Testing, Numerical Simulation, Data and Data Mining IV**

Time: 16:35-18:20

Invited Presentation

Time: 16:35-17:00

**Powder Characterization Methods for Additive Manufacturing: Repeatability, Reproducibility and Relevancy**

Meyer, John (Carpenter Technology Corporation, United States)

Oral Presentation

Time: 17:00-17:20

**3-D CFD Analysis of Gas Flow inside a Hot Isostatic Pressing Apparatus**

Yan, Zhenghua (Simtec Soft Sweden AB, Sweden)

Time: 17:20-17:40

**Microstructural Characterization of Cemented Carbides by Means of Sequential Polishing and 3D Volume Reconstruction**

Fang, Shiqi (EEBE- Universitat Politècnica de Catalunya, Spain)

Time: 17:40-18:00

**A Novel Approach to Predict Green Density by HVC Based on Materials Informatics Method**

Zhang, Kaiqi (University of Science and Technology Beijing, China)

Time: 18:00-18:20

**FEA Auxiliary Design of Large Tonnage Mold in Powder Metallurgy**

Lu, Dongbai (Porite Yangzhou Technology & Industry Co., Ltd, China)

**Session 83: Non-Ferrous Metals & Rare Earth Metals IV**

Time: 16:35-18:25

Invited Presentation

Time: 16:35-17:00

**ERS of Titanium Alloys: Processing, Microstructure and Analysis of the Oxygen Content**

Lagos, Miguel (TECNALIA, Spain)

Time: 17:00-17:25

**Mechanical Properties Optimization and Application of Low-Cost Elemental P/M Ti-Al-M (V, Fe, Mo) Alloys**

Xu, Rongjun (Central South University, China)

Oral Presentation

Time: 17:25-17:45

**Effects of Different Carbon Sources on Synthesis of ZrB<sub>2</sub> by Carbothermal Reduction**

Gui, Tao (General Research Institute for Non-Ferrous Metals AB, China)

Time: 17:45-18:05

**Effect of Solution Treatment on Microstructure and Mechanical Properties of Ti-35Nb-10Zr Alloy Hot-Rolled Rods**

Zhu, Baohui (CNMC Ningxia Orient Group Co. Ltd)

Time: 18:05-18:25

**Microstructure and Mechanical Properties of Low-Cost Ti-Al-Fe-Mo-O Alloy Prepared by Powder Metallurgy**

Xu, Rongjun (State Key Lab of Powder Metallurgy, Central South University, China)

**Session 84: Super Alloys & Composites IV**

Time: 16:35-17:55

Oral Presentation

Time: 16:35-16:55

**Precipitation Behavior during Hot Deformation of Powder Metallurgy Ti-Nb-Ta-Zr-Al High Entropy Alloys**

Cao, Yuankui (Central Iron and Steel Research Institute, China)

Time: 16:55-17:15

**Influence of Plastic Working on Mechanical Properties of Al<sub>2</sub>O<sub>3</sub>/B<sub>4</sub>C/Al Composite**

Zan, Yuning (Chinese academy of science, China)

Time: 17:15-17:35

**Hot Deformation of CNTs/7055Al Composite**

Ma, Kai (Chinese Academy of Science, China)

Time: 17:35-17:55

**Enhanced Strength for Carbon Nanotube-Reinforced 7055 Al Alloy Composites through Aligned Reinforcement Distribution**

Bi, Sheng (Chinese Academy of Sciences, China)

**Session 85: Metal Powder Preparation and Processes VIII**

Time: 16:35-17:15

Oral Presentation

Time: 16:35-16:55

**The Microstructure of EP741NP Powder by PREP and Heat Treatment**

Han, Zhiyu (Sino-Euro Materials Technologies of Xi'an Co., Ltd, China)

Time: 16:55-17:15

**Particle Shape Modification and Related Properties of Iron Powder**

Zheng, Fengshi (General Research Institute for Nonferrous Metals, China)



### Session 86: SIS PM Magnetic Materials II

Time: 16:35-18:05

#### Oral Presentation

Time: 16:35-17:05

**Influence of the Iron Powder Characteristics on the Iron Loss of Iron Powder Cores**

Takashita, Takuya (JFE Steel Corporation, Japan)

Time: 17:05-17:35

**Some Possible Ways for Improving the Coercivity of the Hot Deformed NdFeB Magnets**

Chang, W.C. (National Chung Cheng University, Taiwan)

Time: 17:35-18:05

Round Table Discussion

### Session 87: SIS Sino-Swedish Advanced Materials Forum II

Time: 16:35-17:35

#### Oral Presentation

Time: 16:35-17:05

**Prospective of Future Cooperation between STINT and NSFC**

Löwhagen, Mattias (STINT, Sweden)

Time: 17:05-17:35

**Joint Project Review and Exchange**

Zhang, Ji (CISRI, China); Bengtsson, Sven (Höganäs AB, Sweden)

## Thursday Morning, 20 September, Part I

### Session 88: AM IV: Modeling and Post-processing I

Time: 8:30-9:50

#### Oral Presentation

Time: 8:30-8:50

**Discrete Element Simulation of Metal Powder Dynamics and Calibration for Additive Manufacture**

Dai, Ling (Scientist, Singapore)

Time: 8:50-9:10

**Effect of Heat Treatment on the Properties of GH4169 Alloy Fabricated by Selective Laser Melting**

Cao, Xuanyang (Changsha Advanced Material Industry Research Institute Co., Ltd, China)

Time: 9:10-9:30

**Evaluation of Nitriding and Surface Machining Effects on Tensile and Fatigue Properties of Additively**

Mukhtar, Aamir (Titanium Industry Development, New Zealand)

Time: 9:30-9:50

**Heat Treatment of AM parts by Hot Isostatic Pressing**

Eklund, Anders (Quintus Technologies AB, Sweden)

### Session 89: Energy Materials III

Time: 8:30-10:15

#### Invited Presentation

Time: 8:30-8:55

**An Overview of Recycling Method and Technology for Spent Five Types of Lithium-Ion Batteries in China**

Xu, Xuemei (Central South University, China)

#### Oral Presentation

Time: 8:55-9:15

**Study of Sintering Behavior in High Iron Content Sintering Fe-Cr Alloy**

Yao, Chih-Kai (Porite Taiwan Co., Ltd., China)

Time: 9:15-9:35

**Characteristics of NdBa<sub>0.5</sub>Sr<sub>0.5</sub>Co<sub>2-x</sub>Ni<sub>x</sub>O<sub>5+δ</sub> Cathode Materials for Solid Oxide Fuel Cells**

Tsai, Jeng-Ting (National Taipei University of Technology, Chinese Taipei)

Time: 9:35-9:55

**The Oxidation Behavior of Stainless Steel Powder-Made SOFC Supports By Spark Plasma Sintering Technique**

Yuan, Kang (BGRIMM Technology Group, China)

Time: 9:55-10:15

**The Sintering Behavior of ScZr-, SmCe-, AlY<sub>2</sub>Zr-Oxides as Electrolyte Materials for Medium and Low Temperature SOFCs**

Yuan, Kang (BGRIMM Technology Group, China)

### Session 90: SIS PM Standards & Data Base I

Time: 8:30-10:00

#### Oral Presentation

Time: 8:30-9:00

**Development and Trend of International Standardization**

Zhang, Xiaogang (Former President of ISO, China)

Time: 9:00-9:30

**China's Standardization System of Materials**

Wang, Haizhou (Chinese Academy of Sciences (CAS), China)

Time: 9:30-10:00

**Anatomy of a Powder-Based Standards Program: The MPIF Standards**

Adams, James (MPIF, USA)

### Session 91: AM IV: Modeling and Post-processing 2

Time: 8:30-9:10

#### Oral Presentation

Time: 8:30-8:50

**Influence of Heat Treatment in Fracture Surfaces of Type 316L SS Prepared by Powder Bed Fusion**

Bidulsky, Robert (Technical University of Košice, Slovakia)

Time: 8:50-9:10

**Process-Structure-Properties Modeling Of Selective Laser Melting with Continuum Thermomechanics and Phase Field Modeling**  
Pinomaa, Tatu (VTT Technical Research Centre of Finland, Finland)

### **Session 92: Super Alloys & Composites V**

Time: 10:35-11:55

#### Oral Presentation

Time: 10:35-10:55

**Compositionally Gradient Ti-Ta Metal-Metal Composite with Ultra-High Strength**

Xu, Shenghang (Central South University, China)

Time: 10:55-11:15

**Microstructure Evolution and Tensile Properties of Spray-Formed FGH4095M during Quasi-Isothermal Forging**

Wu, Haixin (University of Science and Technology Beijing, China)

Time: 11:15-11:35

**Numerical Model of the First Facility for Manufacturing Ultra-Clean Nickel-based Superalloy Powders**

Feng, Shan (University of Science and Technology Beijing, China)

Time: 11:35-11:55

**Fabrication of in-situ Grown Graphene Nanosheets/Al laminated Composites via Synergistic-Strengthening and Catalytic Effect of Cu Nanoparticle with Enhanced Mechanical Properties**  
Pu, Bowen (Tianjin University, China)

### **Session 93: SIS PM Standards & Data Base II**

Time: 10:25-11:55

#### Oral Presentation

Time: 10:25-10:55

**Strategies for Cross-referencing Powder Characteristics for Sintered Material**

Nyborg, Lars (Chalmers University of Technology, Sweden)

Time: 10:55-11:25

**Introduction to China Knowledge Centre for Engineering Sciences and Technology**

Ren, Baijun (Inspur Group, China)

Time: 11:25-11:55

Round Table Discussion



## Poster Program

### Session 1: Metal Powder Preparation and Processes

#### Spherical Ti<sub>2</sub>AlNb Pre-alloyed Powder Prepared by EIGA Method for 3D Printing

Jin, Ying (Zhejiang Asia General Soldering & Brazing Material Co., Ltd, China)

#### Processing Mechanism and Experimental Study of C/Si C Composite Material AUAG

Xiao, Chunfang (Changsha Aeronautical Vocational & Technical College, China)

#### Effect of Separator on the Preparation of Ultrafine Nickel Powder by Solid Phase Reduction Method

Wang, Zhuo (Central South University, China)

#### Preparation of High Quality Ti-6Al-4V Alloy Powder and Its Densification by Hot Isostatic Pressing

Zou, Liming (Guangdong Institute of Materials and Processing, China)

#### A New Preparation Technology of Nano-MoO<sub>3</sub> Powders

Pang, Jianming (China Iron & Steel Research Institute Group, China)

#### Effect of Copper Powder on the Properties of Iron-Based Powder Metallurgy Sintered Products

Pang, Jianming (China Iron & Steel Research Institute Group, China)

#### Preparation of SnO<sub>2</sub> Nanoparticles with Controlled Particle Sizes and Morphologies

Zhong, Jingming (State Key Laboratory of Special Rare Metal Materials, China)

#### Advances in Powder Processing Beryllium-Containing Materials

Xu, Demei (Northwest Rare Metal Materials Research Institute, China)

#### Study on the Influence of Different Copper Infiltrant Composition on the Properties of Sintered Steel and Its Infiltration Process

Wang, Yonghui (GRIPM Advanced Materials Co., Ltd., China)

#### Study on Powder and 3D Printing Properties of Vacuum Atomized High Speed Steel

Li, Likun (Wuhan branch of Central Research Institute of Bao steel Co. Ltd., China)

#### The Characterization of Ceramic Particles Reinforced Molybdenum Powder Produced by High Energy Ball Milling

Petho, Daniel (Institute of Physical Metallurgy, Hungary)

#### The Effect of the Mechanical Alloying on Rutile Reinforced Titanium Powder by High Energy Ball Milling

Angel, David Adam (Institute of Physical Metallurgy, Hungary)

#### Study on Magnetic Properties of Iron-Based Nanocrystalline Magnetic Powder Core

Pang, Jianming (China Iron & Steel Research Institute Group, China)

#### Characterization of Spherical AlSi10Mg Powder Produced by Double-Nozzle Gas Atomization Using Different Parameters

Gao, Chaofeng (South China University of Technology, China)

#### Study on Sintering Behavior and Mechanism of Cu-Al-Ni Alloy

Teng, Huaj (Chongqing Three Gorges University, China)

#### Process and Properties of Automobile Shock Absorber Piston Using Reduction Iron Powder Made by Steel Scrap from Bearing Rollers Production

Liu, Jing (University of Science and Technology Beijing, China)

#### Effect of Ce Addition on the Microstructural Evolution and Mechanical Properties of Sintered M2E High Speed Steel from Overspray Powder

Liu, Bowen (University of Science and Technology Beijing, China)

#### Analysis and Pressing Mould Design of CAM Shaft Timing Gear Forming Process

Gu, Wenjin (XINGCHEG POWDER METALLURGY CO., LTD, China)

#### The Precision Design of Powder Metallurgy Cycloidal Rotor Pressing Mould

Gu, Wenjin (XINGCHEG POWDER METALLURGY CO., LTD, China)

#### Preliminary Research on Ultra-Clean High-Speed-Steel Powders

Tian, Tian (University of Science and Technology Beijing, China)

### Session 2: Compaction & Forming Processes

#### Effects of Cr<sub>2</sub>AlC Content on the Compressive and Densification Behaviors of Cu-Cr<sub>2</sub>AlC Mixed Powder

GUO, Biao (Xihua University, China)

#### Preparation and Friction Behavior of Novel Premixed Fe-2Cu-0.8C Powders

Chen, Wenchao (Hefei University of Technology, China)

#### Hot Hydrostatic Extrusion Process of Pure Tungsten

Hong, Kaijun (Hefei University of Technology, China)

#### Recent Innovations on Cold Axial Die Compaction Technologies

Zwagart, Igance (OSTERWALDER AG, China)

#### Effect of Cu Alloy Element on the Performance of Powder Metallurgy Surface Rolling Densification

Ding, Xia (Shanghai Automotive Powder Metallurgy Co., LTD, China)

#### Experimental Study on the Application of New Modified Paraffin Molding Agent for cemented carbide

Li, Yi (Jiangsu Taier Novel Material Co., Ltd., China)

#### Effects of Molybdenum Addition Ways on the Warm Compaction Behaviors of Fe-Cu-C-Mo Powders

Chen, Wenchao (Hefei University of Technology, China)

**Application of Ferrous PM Joining and Welding Technology in Automotive Parts**

Lei, Xiangbing (Chongqing Huafu Industrial Co., Ltd, China)

**Developments and Applications of Mechanical Friction Pairs by Powder Forming Technology**

Xu, Jiabing (Hefei University of Technology, China)

**The Study on Powder Metallurgy Brake Pads Of 350km/H "Fuxing" China Standard EMU**

Zhu, Song (CRRC Qishuyan Institute Co., LTD., China)

**Session 3: Sintering & Post Processing**

**Sintering Powdered Metal Compacts Using Little or No Hydrogen**

Hammond, Dennis (Apex Advanced Technologies, United States)

**Study on the Mechanical Properties and Wear Resistance in Sinter Steel after Heat Treatment**

Cheng, Chaohsu (Chung Chou University of Science and Technology, Chinese Taipei)

**Preparation of Sintered Fe-W-Mo-Cr-V-C Materials by Adding Alloy Carbide Powders**

Luan, Huaizhuang (Central South University, China)

**Spark Plasma Sintering Behavior of TiB<sub>2</sub> –Reinforced Fe Matrix Composites and Their Microstructures**

Ke, Yujiao (Hiroshima University, Japan)

**Preparation and Properties of the Carbon Nanotube Reinforced Copper Matrix Composite by Spark Plasma Sintering**

Han, Cui Liu (Hefei University of Technology, China)

**Microstructure and Mechanical Properties of Power Metallurgy 7055 Aluminum Alloy Processed by Hot Extrusion**

Han, Weihao (Institute of Advanced Materials and Technology, China)

**Sintering Behavior of Carbon Nano-Fiber and Ceramic Particle Reinforced Aluminum Matrix Composites in the Plasma Sintering Process**

Xu, Zhefeng (Hiroshima University, Japan)

**Study on Microstructure and Wear Resistance of 316L+Ni60A Gradient Coating by Laser Cladding on Q345b Steel Surface**

Zhu, Jia-lei (Beijing Institute of Petrochemical Technology, China)

**The Effect of Binder System on Retained Carbon Content of Injection Molded Ti-6Al-4V Alloy and Its Influence on the Mechanical Properties**

Lee, Eunhye (Kyerim Metal Injection Molding, Department of Advanced Root Industry Engineering, Korea)

**Ultrasonic Bending Fatigue and Fracture Characteristic of a Chromium Containing Iron-Based Sintered Material**

Ke, Mei-Yuan (South China University of Technology, China)

**High Pressure High Temperature Consolidation of ZrC Based Ceramic Composites**

Minasyan, Tatevik (Tallinn University of Technology, Estonia)

**A Study on The Wear Behavior of Valve Seat According to the Addition of Ods Alloy Powder and Sintering Conditions**

SHIN, MINHO KOREA (SINTERED METAL, Korea)

**The Development of Microwave Heating Furnace for Powder Selective High Temperature Sintering**

Ao, Wenqing (Central Iron and Steel Research Institute, China)

**Mechanical Property of a Melt-Spun and Hot Extruded 6061 Al Alloy**

Ou, Yongliang (South China University of Technology, China)

**Short-Time Heat Treatment and In-Situ Reaction Layer in Multi-Layer Graphene (MLG)-Reinforced Titanium Matrix Composites**

Mu, Xiaonan (Beijing Institute of Technology, China)

**Analysis on the Cost of Large-scale Hot Isostatic Pressing**

Chen, Hongxia (CHINA IRON & STEEL RESEARCH INSTITUTE GROUP, China)

**Session 4: Powder Injection Molding**

**Study on Properties of TC4 Titanium Alloy Formed by Powder Injection Molding**

Luo, Tiegang (Guangdong Institute of Materials and Processing, China)

**Influence of the Metal Injection Moulding Process on the Corrosion Behavior of 17-4PH Parts**

Rodriguez, Pedro Pablo (MIMTECH ALFA, S. L., Spain)

**Mechanical Properties of MIM 17-4PH Stainless Steel**

Chen, Lei (Shanghai Future High-tech Co., Ltd, China)

**Refinement of PEG/PMMA Binder System for Titanium Metal Injection Moulding**

Zhang, Hongzhou (University of Auckland, New Zealand)

**Influence of Gas Atomization Powder Content on Microstructure and Mechanical Properties of 316L Stainless Steel Prepared by Metal Injection Molding**

Zhang, Yongyun (Southern University of Science and Technology, China)

**Microstructure and Mechanical Properties of MIM491 Superalloy Prepared by Master Alloy Technique**

Chen, Xiaowei (University of Science and Technology Beijing, China)

**High Strength Austenitic Stainless Steel of Catamold® Feedstock from BASF**

Huang, Allen (BASF (China) Company Ltd., China)

**The Metal Injection Molding Technical Study of Corrosion Resistant Automobile Door Lock Parts**

Huang, Ruo (Beijing Institute of Technology, China)

**Metal Injection Molding (MIM) in the Laptop Shaft Parts Processing Applications**

Jiang, Ronggao (SHANGHAI JINGKE POWDER METALLURGY TECHNOLOGY CO., LTD, China)

**Study on the Manufacturing Technology of MIM Cupronickel Instrument**

Huang, Ruo (Beijing Institute of Technology, China)

**The Metal Injection Molding Technical Study of Electronic Control System'S Armature**

Huang, Ruo (Beijing Institute of Technology, China)

**Deterioration Causes Reduction of Recycled Feedstocks in Metal Injection Molding**

Mohammadi, Farhad (National Tsing Hua University, Chinese Taipei)

**Session 5: Refractory Metals, Hard Alloys, Superhard Materials & Ceramics**

**The Effect of Elevated Temperature on Mechanical Properties of Al/B4C Neutron Absorber Material**

Liu, Guiong (Advanced Technology & Materials Co., Ltd, China)

**Study on Technology of MHC Alloy Diffusion Joining**

Dong, Di (Advanced Technology & Materials Co., Ltd, China)

**Synthesis of Stainless Steel Matrix Composite Reinforced with SHS-Produced Ni-TiC Master Alloy**

Zhang, Zhiheng (China Iron & Steel Research Institute Group, China)

**Effect of Cold Processing on the Properties of Molybdenum-Rhenium Foils**

Wang, Guangda (Advanced Technology & Materials Co., Ltd, China)

**Research into Functionally Graded Cemented Carbide: Microstructure Evolution of Specifically Engineered Surface Layer and Gradient Formation Mechanisms**

Ji, Hongwei (Guangdong University of Technology, China)

**Research on the Preparation and Properties of Tungsten Coating on the Surface of Oxygen Free Copper**

Zhang, Danhua (Advanced Technology & Materials Co., Ltd., China)

**Investigation of Cryogenic Mechanical Properties and Fracture Mechanism of Tungsten Alloy**

Wang, Ling (Advanced Technology & Materials Co., Ltd. Refractory Materials Branch , China)

**Effect of Mo2C on the Microstructure and Corrosion Resistance of Fine Wc-6Co Cemented Carbides Fabricated by SPS**

Guo, Shengda (Jiangxi University of Science and Technology, China)

**Research of W-La2O3 Alloy Designed by an Innovative Combustion-Based Approach**

Chen, Pengqi (Hefei University of Technology, China)

**Study on the Matrix of High Sharpness Diamond Saw Blade**

Zhang, Jianqiong (Beijing Gang Yan Diamond Products Company, China)

**Evolution of Microstructure and Performance in WC-Co Cemented Carbides with Tac Addition**

Wei, Jianqing (Xiamen Golden Egret Special Alloy Co., Ltd., China)

**Effects of Rare Earths on the Microstructure, Mechanical Properties of Ti(C,N)-Based Cermets**

Qiu, Hao (South China University of Technology, China)

**Effect of Selective Laser Melting Process Parameters on Microstructure of Molybdenum**

Li, Xiaodong (Institute of Advanced Materials and Technology University of Science and Technology Beijing, China)

**Grain Structure of Selective Laser Melted Tungsten**

Li, Xingyu (Institute of Advanced Materials and Technology University of Science and Technology Beijing, China)

**Regular Changes of Coercive Forces of Cemented Carbide Compacts during Sintering**

Nie, Hongbo (Xiamen Tungsten Co., LTD., China)

**Effects of Different Iron Powders on Properties of Diamond Fickert**

Lin, Tao (University of Science and Technology Beijing, China)

**The Effect of Gas Elements on the Properties of TiCN Cermet**

Lin, Fei (Institute of iron and Steel Research, China)

**Preparation and Properties of Ultrafine-Grained WC-10Co Cemented Carbides**

Li, Jianfeng (HeFei University of Technology, China)

**Fabrication and Tribological Properties of In-Situ Reduced Graphene Oxide Reinforced Zirconia Ceramic**

Zeng, Zhaoyubo (South China University of Technology, China)

**Research on MoCoB Ternary Boride Hard Material**

Xu, Zhifeng (University of Science & Technology Beijing, China)

**Study on Fabrication of (WSi2)X(W0.67Cr0.33)Y Alloy Through Spark Plasma Sintering and Its Antioxidant Performance**

Luo, Laima (Hefei University of Technology, China)

**The Effect of Titanium Content on the Microstructure and Property of Mo-Ti Alloy**

Niu, Xuanyang (Henan University of Science and Technology, China)

**Session 6: Non-Ferrous Metals & Rare Earth Metals**

**Effects of Cyclic Solid Solution Treatment on Microstructures of as-HIP PM Ti-45Al-8.5Nb-(W, B, Y) Compacts**

Lang, Zebao (Aerospace Research Institute of Materials & Processing Technology, China)

**Synthesis of Low-Cost Titanium Alloys with Wrought-Like Mechanical Properties by Sintering Blended Elemental Powder in Pressure-Less Vacuum**

Zhang, Ce (University of Science and Technology Beijing, China)

**Study on the Process of Small Size TA16 Titanium Alloy Tube for High Temperature Pressure**

Chen, Shengchuan (China)

**Preparation of High-Performance Gel-Casting Titanium Parts With Anaerobic Gel System**  
Shao, Yanru (University of Science and Technology Beijing, China)

**Study on Hot Multi-Spinning Processing of Shearing and Rheological Deformation of Molybdenum Plate**  
Feng, Pengfa (Jinduicheng Molybdenum Co., Ltd, China)

### Session 7: Super Alloys & Composites

**Effects of Hafnium on Mechanical Properties in FGH4097 Powder Metallurgy Superalloy**  
Zhang, Yiwen (China Iron & Steel Research Institute Group, China)

**The Microstructure of P/M Nickel Base Superalloys Prepared by Spark Plasma Sintering (SPS)**  
Qin, Zijun (Central South University, China)

**Hot Pressed Invar Alloy: Structure, Microstructure and Mechanical Properties**  
FILGUEIRA, MARCELLO (UNIVERSIDADE ESTADUAL DO NORTE FLUMINENSE, Brazil)

**Carbides Evolution of FGH4096 PM Superalloy Powders during Pre-Heat Treatment Process**  
Liu, Jiantao (Central Iron & Steel Research Institute, China)

**Current-Carrying Friction and Wear Performance of Copper-Graphite Composites Reinforced by Graphene**  
Lin, Xueyang (Central South University, China)

**Graphene Oxide as Carbon Source for Sintered W6Mo5Cr4V2 Iron-based Alloy**  
Wu, Wendeng (Central South University, China)

**Pulsed Plasma Sintering of Pre-Alloyed Fe-50Cu-25Nb Powders**  
FILGUEIRA, MARCELLO (UNIVERSIDADE ESTADUAL DO NORTE FLUMINENSE, Brazil)

**Mechano-Synthesis of Invar Alloy Powders with Nb Addition**  
FILGUEIRA, MARCELLO (UNIVERSIDADE ESTADUAL DO NORTE FLUMINENSE, Brazil)

**Spark Plasma Sintering of the Pre-Alloyed Fe-36%Ni-15%Nb Powders**  
FILGUEIRA, MARCELLO (UNIVERSIDADE ESTADUAL DO NORTE FLUMINENSE, Brazil)

**Influence of Ta Content on Prior Particle Boundary Precipitation In the As-HIPed Powder Metallurgy Superalloy FGH4098**  
Jia, Jian (Steel Research Institute Group, China)

**Solid Solution Cooling  $\gamma'$  Precipitation Evolution Rule in Powder Metallurgy Superalloy FGH98**  
Zhang, Hongfei (University of Science and Technology Beijing, China)

**Effect of Alloying Element Ta on Microstructure and Properties of High Performance P/M Superalloy**  
Wang, Zhicheng (University of Science and Technology Beijing, China)

**The Effect of Al, Ti And Nb Content on Microstructure of Powder Superalloy**  
Shao, Yinlong (University of Science & Technology Beijing, China)

**Powder Metallurgy as Efficient Way in Manufacture of Aerospace Grade Magnesium Metal Matrix Nanocomposites**  
Makovskiy, Spartak (Motor Sich JSC|Eduard Tzyvirko, Ukraine)

**Microstructure and Properties of Cu/Graphite Composites with Different Volume Fraction of Modified Expanded Graphite**  
Liu, Ben (Chinese Academy of Sciences, China)

### Session 8: Porous Materials

**Comparative Study on the High Temperature Sulfur Corrosion Resistance of Fe-Al and Ni-Al Intermetallic Compound Porous Materials**  
Yang, Junjun (AT&M Environmental Engineering Technology Co., Ltd., China)

**Preparation and Properties of Nickel Porous Materials with Micro-Pores and High Porosity**  
Liu, Rutie (Central South University, China)

**Mechanical Properties of Al-Based Auxetic Lattice Structures Fabricated by 3-D Printing Combined with Investment Casting**  
Xue, Yingying (Chinese Academy of Sciences, China)

**Experimental Research on Convective Heat Transfer Performance of NiCu Alloy Foams**  
Zhao, Peng (Central Iron & Steel Research Institute, China)

**Preparation and Properties of Reaction Bonded Porous SiC Ceramics by Adding Micro SiC and Al<sub>2</sub>O<sub>3</sub> Powders**  
Liu, Jiadong (Chinese Academy of Sciences, China)

**Dependence of the Ferrovandium Power as Additive on Mechanical Property in Porous Ti**  
Qiu, Guibao (Chongqing University, China)

**Preparation and Properties of Porous SiC Ceramic Membrane Supports by In Situ Reaction Bonding Technique**  
Luo, Zhiyong (China Iron & Steel Research Institute Group, China)

### Session 9: Surface Technology

**The Study of Microstructure and Property of CVD Mt-Ti (C, N) Coating with Varied C/N Ratio**  
Zhuang, Limin (Xiamen Golden Egret Special Alloy Co., Ltd., China)

**Adhesion of PACVD Coatings on Nanostructured Cemented Carbides**  
Sakoman, Matija (Faculty of Mechanical Engineering and Naval Architecture, Croatia)

**Microstructure and Cutting Performance of Nanostructured TiAlSiN Films by Cathodic Arc Method**  
Zhao, Xiaoxiao (Xiamen Golden Egret Special Alloy Co., Ltd., China)

**Study on Microstructure and Wear Resistance of Laser Cladding Fe3Al/Cr3C2 Composites**

Lin, Shuangping (Iron and Steel Research Institute, China)

**Fabrication of Niobium Layer of Coated Fuel Particle for High-Temperature Gas-Cooled Reactor by Chemical Vapor Deposition**

Lv, Pengpeng (Institute of Process Engineering, Chinese Academy of Sciences, China)

**Fluidized Bed Chemical Vapor Deposition of Iron through Hydrogenous Reduction Reaction from Ferric Iron Halide**

Lv, Pengpeng (Institute of Process Engineering, Chinese Academy of Sciences, China)

**Study on Corrosion Resistance of CMAS of Environmental Barrier Coatings**

Hou, Weiao (BGRIMM Technology Group, China)

**The Research on Microstructure and Performance of Cladding Sulfuric Acid Corrosion Resistant Alloy by Laser Cladding**

Li, Zhengqiu (BGRIMM Technology Group, China)

**Effect of Electric Pulse Treatment on Microstructure and Properties of Nitrided Layer on Cr12MoV Steel**

Zhao, Zuofu (Liaoning University of Technology, China)

**Phase Stability and Thermal Shock Resistance of Gd2O3 Doped La2Ce2O7 Thermal Barrier Coatings**

Gao, Lihua (Beijing General Research Institute of Mining and Metallurgy, China)

**Micro-hardness and Structure of a Laser Cladded Martensitic Heat Resistant Steel**

Ren, Kai (Tianjin University of Technology, China)

**Study on the Effects of Oxides on the Properties of YSZ Thermal Barrier Coatings**

Ji, Xiaojuan (Northeastern University, China)

**Session 10: Magnetic Materials & Functional Materials**

**High Density and Excellent Magnetic Properties of Nickel Ceramics Produced by Spark Plasma Sintering (SPS)**

Yan, Liang (Tongji university, China)

**Improvement of the Mechanical Properties in the NdFeB Magnets**

Zhou, Lei (Advanced Technology & Materials Co., Ltd., China)

**Study on Bump Losing Protection of Nd-Fe-B Magnetic In Transportation and Storage**

Xing, Shuhai (Advanced Technology and Materials co. Ltd., China)

**Effect of Fast Neutron Irradiation on Sintered Nd-Fe-B Magnets**

Chen, Jie (Advanced Technology and Materials Co., Ltd, China)

**The Effects of Alloying Elements on the Microstructure and Magnetic Properties of the TbDyFe Alloys**

Wang, Najuan (Tsinghua University, China)

**Effect of Cool Isostatic Pressure on Magnetic Properties of**

**Sintered Nd-Fe-B Magnet**

Deng, Zhiwei (Advanced Technology and Materials co. Ltd., China)

**Study on the Performance of Metal Magnetic Powder Cores and High Green Density with Body Enhance Technology**

Nie, Junwu (NBTM New Materials Co., Ltd., China)

**Relationship between the Remanence and Microstructure of Cylindrical Hot Deformed Nd-Fe-B Magnets**

Jing, Zheng (Central Iron and Steel Research Institute, China)

**Correlation between Phase Homogenization and Magnetic Properties For 2:17-Type Sm-Co Sintered Magnets**

Wang, Shuai (Central Iron and Steel Research Institute, China)

**Effect of Misch-Metal (Mm) with the Nature Ratio on Phase Composition and Magnetic Properties in Nanocrystalline R30Fe68.45Al0.5B1.05 Ribbons**

Liu, Fei (Central Iron & Steel Research Institute, China)

**The Phase Composition and Magnetic Properties of Pr-Nd-Mm-Fe-B Nanocrystalline Magnets Prepared Bby Spark Plasma Sintering Method**

Wang, Xin (Central Iron and Steel Research Institute, China)

**Effects of Heat Treatment on the Microstructures and Mechanical Properties of Sintered Nd-Fe-B Permanent Magnets**

Jia, Bei (Advanced Technology & Materials Co.Ltd, China)

**The Development of Sintered (Nd, Ce)-Fe-B Corrosion Behavior in Different Environment**

Shi, Xiaoning (Central Iron and Steel Research Institute, China)

**The Present Status and Trends of Radially Oriented NdFeB Integrated Ring Magnets**

Wang, Yu (China Iron & Steel Research Institute Group, China)

**Characterization of Fe3O4@CS Composite Magnetic Particles**

Shao, Huiping (University of Science and Technology Beijing, China)

**Magnetic Properties of Iron-Based Soft Magnetic Composites with ZrO2 Coating Obtained by Sol-Gel Method**

Hou, Zhenguo (Tongji University, China)

**Properties of FeSiCr Soft Magnetic Powder Coated with Phosphates**

Yu, Haichen (Advanced Technology (bazhou) special Powder co., Ltd, China)

**Mechanism of Interaction Between Sm-Co Magnets and Glass Coatings Doped with Different Adherent Oxides**

Yu, Xiao-jie (Central Iron and Steel Research Institute, China)

**Progress in Micromagnetic Modeling and Numerical Simulation for Exchange Coupled Nd2Fe14B/A-Fe Nanocomposite Magnets**

Ryo, Hyok-Su (Harin Institute of Technology, China)

**The FeNi Soft Magnetic Composites Coated with Al2O3 Prepared by a Sol-gel Processing**

Peng, Yuandong (Central South University, China)



**Soft Magnetic Powders with High Magnetization Saturation Produced by Refinement of Amorphous Ribbons**

Kowalczyk, Maciej (Warsaw University of Technology, Poland)

**Study of Assembly on Sintered NdFeB Magnets in Automotive Motor**

Han, Weiping (Advanced Technology and Materials co. Ltd., China)

**Session 11: Additive Manufacturing (3D Printing)**

**Advanced Melt Pool Image Processing for Additive Manufacturing Systems**

Sampson, Robert (TWI, United Kingdom)

**Fe-50%Ni Soft Magnetic Alloy Prepared by 3D Gel-Printing**

Shao, Huiping (University of Science and Technology Beijing, China)

**Microstructures and Mechanical Properties of Fe-Cu-C Alloys Manufactured by Selective Laser Melting**

Xu, Jie (Central South University, China)

**The Influence of Cooling Rates in the HIP Process on SLM UNS N07718 API for Use in Oil & Gas Applications**

Burns, Madison (Baker Hughes, a GE Company, Germany)

**Influence of Laser Energy Density and Re-Melting Process on Surface Roughness, Microstructure and Tensile Property of AlSi10Mg Manufactured by Selective Laser Melting**

Xie, Yanjun (China Iron & Steel Research Institute Group, China)

**Fine-Structured Copper Alloy by Selective Laser Melting of Pre-Alloyed Cu-15Ni-8Sn Powder**

Zhang, Gengming (State Key Laboratory of Powder Metallurgy, Central South University, China)

**Fundamental Study on Ceramic Parts Made by Supersonic Cold Spraying and Micro Rolling Composite Additives Manufacturing**

Zhang, Haiou (Huazhong University of Science & Technology, China)

**Material Design for 3D Printing of Novel Biomedical Titanium Alloys**

Huang, Jian (Shanghai Institute of Ceramics, Chinese Academy of Sciences, China)

**Laser Metal Deposition of Al-Cu-Fe Powder on Al 6061 Substrate**

Lai, Hong-Jen (Industrial Technology Research Institute, China)

**Preparation and Characterization of Prealloyed Ti-6Al-4V Alloy Powders from EIGA Method for Additive Manufacturing**

Liu, Zhongqiang (South China University of Technology, China)

**Influence of Processing Parameters on the Surface Structure, Porosity and Mechanical Properties in Ti-6Al-4V Alloy Parts Fabricated by Selective Laser Melting**

Wang, Zhen (South China University of Technology, China)

**Fatigue Property of Porous Ti-6Al-4V Structures Made by Selective Laser Melting**

Chen, J.K. (National Taipei University of Technology, Chinese Taipei)

**Effect of Powder Steel Recycling on Porosity of SLM Parts**

Palousek, David (Brno University of Technology, Czech Republic)

**X-Ray Computed Tomography Investigation on Effect of Surface Morphology on Dimensional Measurement of Additively Manufactured Thin-Wall Part**

Zekavat, Amir Reza (Orebro University, Sweden)

**Improvement of Yield Rate of Cobalt-Based Powder for Additive Manufacturing by Controlling Gas Atomization Process**

Chen, Yi-Chun (ThinTech Materials Technology Co., Ltd., Chinese Taipei)

**How Porosity is Affected by Different Residual Oxygen Concentrations in the Building Chamber during Laser Powder Bed Fusion (L-PBF)**

Dietrich, Kai (Linde AG, Germany)

**Degradation of In718 Powder During EBM Processing**

Henriksson, Mikael (Chalmers University of Technology, Sweden)

**Additive Manufacturing of Titanium Parts by Solvent Jetting on TiH<sub>2</sub>-based Granule Beds**

Carreño-Morelli, Efrain (University of Applied Sciences and Arts Western Switzerland, Switzerland)

**The Concept of the Possibility of Using a 3d Printer for Manufacturing Metal Monoliths of Catalytic Converter's**

Karpiński, Marcin (Institute of Non-Ferrous Metals, Poland)

**Influence of Post Heat Treatments on Mechanical Properties of Powder Bed Fusion Electron Beam Processed Alloy 718**

Harlin, Peter (Sandvik Materials Technology, Sweden)

**Effect of Powder Characteristics on the Properties of Parts Fabricated by Selective Laser Melting**

Wang, Fuchao (Huazhong University of Science and Technology, China)

**Research on the Effect of Rf Plasma Spheroidized Powders on SLM**

Xiao, Mengzhi (Lanzhou University of Technology, China)

**Session 12: Energy Materials (Lithium Battery, FC Battery, Super Capacitor, Hydrogen Storage)**

**Mechanism of the Phase Evolution and Hydrogen Storage Thermodynamics and Kinetics of Ternary Ce<sub>5</sub>Mg<sub>90</sub>Sm<sub>5</sub> Alloys**

Yong, Hui (Central Iron and Steel Research Institute, China)

**Study of the Effect of Y Partial Substituting La on the Phase Structure and Hydrogen Storage Properties of La-Mg-Ni Alloys**

Zhang, Wei (Central Iron and Steel Research Institute, China)

**The Influence of Melt Spinning and Annealing Treatment on Structures and Hydrogen Storage Properties of La<sub>0.8</sub>Pr<sub>0.2</sub>MgNi<sub>3.6</sub>Co<sub>0.4</sub> Alloy**

Zhai, Tingting (Inner Mongolia University of Science and Technology, China)

**Improved Dielectric Constant and Energy Density of P(VDF-HFP) Composites Using NBT-xST (x=0, 0.10, 0.26) Whiskers**  
Zhou, Xuefan (State Key Laboratory of Powder Metallurgy, Central South University, China)

**High Energy Density in PVDF Nanocomposites Using an Optimized Nanowire Array**  
Guo, Ru (State Key Laboratory of Powder Metallurgy, Central South University, China)

### Session 13: Biomedical Materials & Other powders

**Effect of Phase Composition on Microstructure and Mechanical Properties of Nano mica/apatite Glass-ceramics by Powder Metallurgy**  
Wang, Yaming (Henan University of Science and Technology, China)

**Biocompatible Ag-Doped Multicomponent Coatings Obtained by Pulsed Electrospark Deposition with Using of Composite SHS Electrodes**  
Zaitsev, Alexandr (National University of Science and Technology, Russia)

**Microstructure and Mechanical Behavior of Ti-30Nb Metal-Metal Composite**  
Cheng, Wenjuan (Central South University, China)

### Session 14: PM Components & Processes

**The Application of Impregnation and Local Densification Technology on the Production of PM Automobile VVT Pulley Stator**  
Shi, Changxu (Jiangsu Advanced Engineering Ltd, China)

**Application of Powder Metallurgy High Speed Steel in Cold Rolling Working Roll**  
Chen, Feixiong (Advanced Technology & Materials Co., Ltd, China)

**Study on Ti-6Al-4V Alloy Produced by Powder Metallurgy Process**  
Chen, Feixiong (Advanced Technology & Materials Co., Ltd, China)

**Application of the Powder Metallurgy Process in Product of Cathodes for Deposition of High-temperature Thermal-barrier Coatings (TBCs) on Gas Turbine Blades**  
Pedash, Oleksii (MOTOR SICH JSC, Ukraine)

**Study on Mechanical Properties of Iron Based High Density Sintered Material**  
Noda, Munehiro (Functional Materials Department, Japan)

**Study on the Mechanical Properties of the Matrix of the Diamond Bit Enhanced by the Beta -SiC Whisker**  
Xu, Qiang (Iron and Steel Research Institute, China)

**Fabrication and Properties of Iron-based Soft Magnetic Composites Coated with Polyimide**  
Chen, Fangfang (University of Science and Technology Beijing, China)

**Microstructure and Properties of Graphene Enhanced Copper Matrix Composites via Coprecipitation and Powder Metallurgy**  
Ji, Qingzhu (University of Science and Technology Beijing, China)

**Research on Wear Resistance of Sintered Metal Oil-Impregnated Bearing**  
Wang, Chunguan (Jiangsu Eagle-Globe Group Co., Ltd., China)

**Comparison of Mechanical Properties Produced by Aluminium Based and Iron Based Powder Metallurgy Composites**  
Do, Kyoung-Rok (Korea Sintered Metal, Korea)

**Enhanced Hardenability of Lean Sintered Steels by the Use of Fine Masteralloy Powders**  
De Oro Calderon, Raquel (TU Wien, Austria)

**Optimization of Cu13Al4Ni Alloy Sintering Parameters**  
Bruce Fialho, Michaella (Socorro University of Brasilia, Brazil)

### Session 15: Analysis, Testing, Numerical Simulation, Data and Data Mining

**Effect of Grain Boundaries and Dispersed Particles on Electrical Properties of ODS Copper Studied by In Situ AFM Measurement**  
Lu, Tianxing (University of Science and Technology Beijing, China)

**Fracture Failure Analysis of Ball Head Hanging Rings on Overhead Transmission Line**  
Lin, Shuangping (Iron and Steel Research Institute, China)

**The Evaluation Method and Properties of Environment-Friendly Molding Agent for Cemented Carbide on the Modification of Paraffin Wax**  
Li, Yi (Jiangsu Taier Novel Material Co., Ltd., China)

**Investigation of Failure Characteristics in Iron Powder Compact**  
Mizuta, Kohei (National institute of technology, Nara college, Japan)

**Identification of Friction Angle and Cohesion for Iron Powder Compact**  
Yoshimura, Taichi (National institute of technology, Nara college, Japan)