

Congress and Exhibition Guide

Sept. 16-20, 2018 Beijing, China



Organized by:

The Chinese Society for Metals (CSM)
China Powder Metallurgy Alliance (CPMA)

www.worldpm2018.com



Shaping the future together 一起塑造未来





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Sponsors





Greeting from WORLDPM2018

The World PM Congress is the foremost event for the international powder metallurgy community, and provides the focal point for industry personnel, researchers, and suppliers to meet, network and develop their business. The WORLDPM2018 social program will give delegates additional opportunities to network, and will include Welcome and Exhibition/Poster receptions and a Gala Dinner.

Welcome to 2018 World Congress on Powder Metallurgy (WORLDPM2018)! We are delighted to have this congress held in Beijing. We have attendees from over 40 countries worldwide and received nearly 400 technical reports including invited presentations. And 115 companies from 18 countries have applied for the Exhibition. It is a great opportunity to discover the latest developments and breakthroughs of the PM Industry.

Beijing is the capital of China and the nation's political, cultural and educational center. It has three thousand years of history and is one of the oldest cities in the world. Beijing has several UNESCO World Heritage Sites – the Palace Museum, Temple of Heaven, Summer Palace, as well as parts of the Great Wall and the Grand Canal. The city hosted the 2008 Summer Olympics and was chosen to host the 2022 Winter Olympics. China National Convention Center, the venue for WORLDPM2018, is located in the central area of the Olympic Green Park, and surrounded by the remarkable China National Stadium ("Bird Nest") and National Aquatics Center ("Water Cube"). Both display outstanding examples of contemporary architecture. We hope that you will find time to visit some of these beautiful sites and enjoy the Golden Autumn of Beijing!

We are grateful for the generous support of many organizations. We would like to express our sincere appreciation to: the Chinese Society for Metals (CSM), China Powder Metallurgy Alliance (CPMA), Asian Powder Metallurgy Association (APMA), European Powder Metallurgy Association (EPMA), Metal Powder Industries Federation (MPIF), and other operating societies and companies for organizing and supporting this congress. We would like to especially acknowledge the reviewers for handling the paper reviews. And we would like to recognize and thank the Committee members and volunteers for their enormous contributions in organizing and running this congress.

We look forward to welcoming you in Beijing!



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Organized by:

The Chinese Society for Metals (CSM)
China Powder Metallurgy Alliance (CPMA)

Supported by:

Asian Powder Metallurgy Association (APMA)
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Congress Schedule

BICC (Beijing International Convention Center)
CNCC (China National Convention Center)

Sunday,	Sept. 16	CNCC
18:00-19:00	Welcome Reception	The Patio, Convention Level 4, CNCC

Monday,	Sept. 17	BICC, CNCC		
09:00-09:10	Welcome Speeches	Convention Hall No.1, BICC		
	Global Review of PM	Convention Hall No.1, BICC		
	Overview of P/M Industry in Asia	Mr. Yoichi Inoue President of Japan Powder Metallurgy Association (JPMA)		
09:10-10:30	Status and Trend of Powder Metallurgy in Europe	Mr. Philippe Gunderman President of European Powder Metallurgy Association (EPMA)		
	Status of the PM Industry in North America - 2018	Mr. John F. Sweet President of Metal Powder Industries Federation (MPIF)		
	Situation and Trend of PM Industry in China	Prof. Huang Boyun Director of expert committee of China Powder Metallurgy Alliance (CPMA)		
10:30-11:00	Award Ceremony	Convention Hall No.1, BICC		
	Plenary Reports	Convention Hall No.1, BICC		
	Chinese New Material Industry Development and Powder Metallurgy	Yong GAN, Chinese Academy of Engineering		
11:00-12:30	Chinese Automobile Industry and PM Industry in China	Yang DONG, China Association of Automobile Manufacture (CAAM)		
	Advance in Additive Manufacturing Technology for High Performance Large Metallic Components and their Impact on Metallurgical Technology	Huaming WANG, Chinese Academy of Engineering		
12:30-14:00	Lunch	Convention Hall No.4&5, BICC		
	Plenary Reports	Ballroom A&B, CNCC		
	Nonferrous Metals and PM Industry	Shaoming ZHANG, China Iron & Steel Research Institute Group		
	Numerical Simulation of Shrinkage Distortion and Microstructural Evolution of Powder Compacts during Sintering	Kazunari SHINAGAWA, Kyushu University		
14:00-17:00	Powder based Methods of Additive Manufacturing	Bernd KIEBACK, Technische Universität Dresden		
	MIM Industry Status-2018	Matthew BULGER, MPIF		
	Application of PM Technology for Intercoonector of SOFC	Huei-Long Lee, TPMA		
	Chinese Rare Earth and PM Industry	Chunlong LI, China Rare Earth Society		
19:00-21:00	Welcome Dinner	Ballroom A&B, CNCC		

Congress Schedule

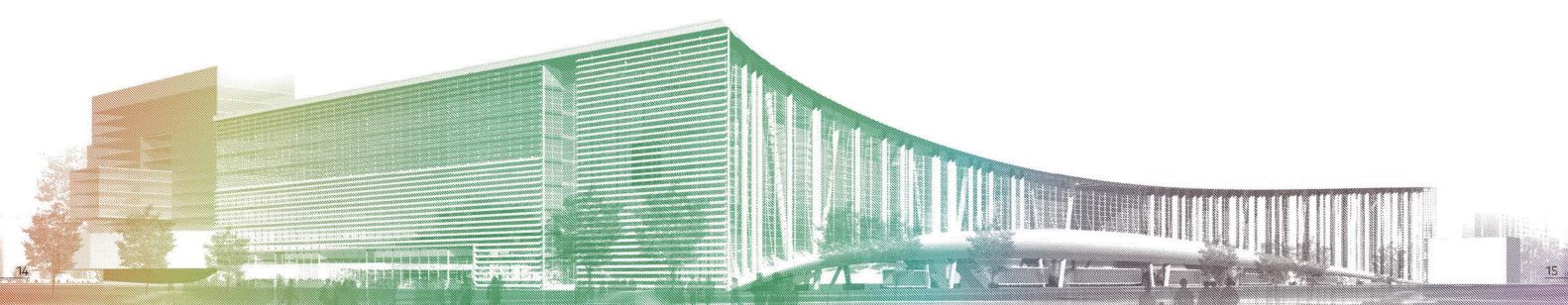
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Tues	day, Sept.	18				C	NCC
Room No.	310	311A	308	306A	306B	307A	307B
8:30- 10:05	Session 1: PM Components & Processes I	Session 2: AM I: New Material & Applications 1	Session 3: PIM I: Developments of Raw Powder, Binder System & Feedstock	Session 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 Automobile Industry & PM I
10:05- 10:25			Cof	fee Break			
10:25- 12:00	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 Automobile Industry & PM II
12:00- 14:00			Lunch (Exhibi	tion Hall 6, CNC	с)		
14:00- 16:15	Session 25: PM Components & Processes III	Session 26: AM III: Process Analysis 1	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 I
16:15- 16:35			Cof	fee Break			
16:35- 18:00	Session 38: PM Components & Processes IV	Session 39: AM III: Process Analysis 2	Session 40: PIM IV: Biomaterials and its Applications	Session 41: Steel Sintering II	Session 42: Metal Powder Preparation & Processes IV		Session 43: SIS Refractory Metals II

Congress Schedule

BICC (Beijing International Convention Center) CNCC (China National Convention Center)

Tues	day, Sept	. 18					CNCC
Room No.	301A	301B	302A	302B	303A	303B	402
8:30- 10:05	Session 8: Compaction & Forming Processes I	Session 9: Porous Materials I: Preparation & Property 1	Session 10: Magnetic Materials & Functional Materials I	Session 11: Hard Alloys I	Session 12: Non-Ferrous Metals & Rare Earth Metals I		APMA Board
10:05- 10:25			Coffee Bred	a k			Meeting (Private
10:25- 12:00	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		meeting)
12:00- 14:00			Lunch (Exhib	ition Hall 6, CNC	C)		
14:00- 16:15	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	Session 37: Compaction & Forming Processes III	Tripartite Meeting (Private
16:15- 16:35	Coffee Break					(Private meeting)	
16:35- 18:00	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		





Congress Schedule

BICC (Beijing International Convention Center) CNCC (China National Convention Center)

Wed	lnesday,	Sept. 19		CN	ICC, BICC		
Room No.	308	402B	306A	306B	307A	301A	301B
8:30- 10:05	Session 49: PM Components & Processes V		Session 50: AM IV: Material & Process Development 1	Session 51: Spark Plasma Sintering		Session 52: Refractory Metals I	Session 53: Analysis Testing, Numerical Simulation, Data and Data Mining I
10:05- 10:25		Coffee Break					
10:25- 12:00	Session 58: PM Components & Processes VI		Session 59: AM IV: Material & Process Development 2	Session 60: Novel Sintered Materials		Session 61: Refractory Metals II	Session 62: Analysis, Testing, Numerical Simulation, Data and Data Mining II
12:00- 14:00			Lui	nch (Exhibition H	all 6, CNCC)		
14:00- 16:15	Session 67: AM I: New Material and Application 2	Session 68: Sintering Light Alloys			Session 69: PIMV: Miscellaneous Functional Materials and Advanced Processes	Session 70: Hard Alloys V	Session 71: Analysis, Testing, Numerical Simulation, Data and Data Mining III
16:15- 16:35	Coffee Break						
16:35- 18:00	Session 77: AM III: Process Analysis 3	Session 78: Machining of Sintered Materials			Session 79: PIM VI: Developments in processing and sintering	Session 80: Superhard Materials & Ceramics	Session 81: Analysis, Testing, Numerical Simulation, Data and Data Mining IV
18:30-20:30 Tianyishangjia's Night (Gala Dinner) Convention Hall No.1 , BICC							

Registration	Open Hours	Exhibition Open Hours		Poster Session	Speaker's Lounge		
September 16 (Sun.)	14:00-20:30	September 17 (Mon.)	09:00-17:00	Park View Foyer, Level 3,CNCC	September 17 (Mon.)	14:00-18:30	Room 305
September 17 (Mon.)	07:00-18:00	September 18 (Tue.)	09:00-17:00		September 18 (Tue.)	08:00-18:30	Room 305
September 18 (Tue.)	08:00-18:00	September 19 (Wed.)	09:00-14:00		September 19 (Wed.)	08:00-18:30	Room 305
September 19 (Wed.)	08:00-18:00	Venue: Level 4 CNCC	Plenary Hall,		September 20 (Thu.)	08:00-12:00	Room 302B
Venue: Level 1	Access C2, CNCC						

Congress Schedule

BICC (Beijing International Convention Center) CNCC (China National Convention Center)

Wed	Wednesday, Sept. 19 CNCC, BICC								
Room No.	302A	302B	303A	303B	307B				
8:30- 10:05	Session 54: Energy Materials I	Session 55: Super Alloys & Composites I	Session 56: Metal Powder Preparation and Processes V	Session 57: SIS Metal Injection Molding I					
10:05- 10:25	Coffee Break								
10:25- 12:00	Session 63: Energy Materials II	Session 64: Super Alloys & Composites II	Session 65: Metal Powder Preparation and Processes VI	Session 66: SIS Metal Injection Molding II					
12:00- 14:00		Lor	ach (Exhibition Hall 6, C	ENCC)					
14:00- 16:15	Session 72: Non- Ferrous Metals & Rare Earth Metals III	Session 73: Super Alloys & Composites III	Session 74: Metal Powder Preparation and Processes VII	Session 75: SIS PM Magnetic Materials	Session 76: SIS Sino- Swedish Advanced Materials Forum I				
16:15- 16:35	Coffee Break								
16:35- 18:00	Session 82: Non- Ferrous Metals & Rare Earth Metals IV	Session 83: Super Alloys & Composites IV	Session 84: Metal Powder Preparation and Processes VIII		Session 85: SIS Sino- Swedish Advanced Materials Forum II				
18:30-20:30 Tianyishangjia's Night (Gala Dinner) Convention Hall No.1 , BICC									

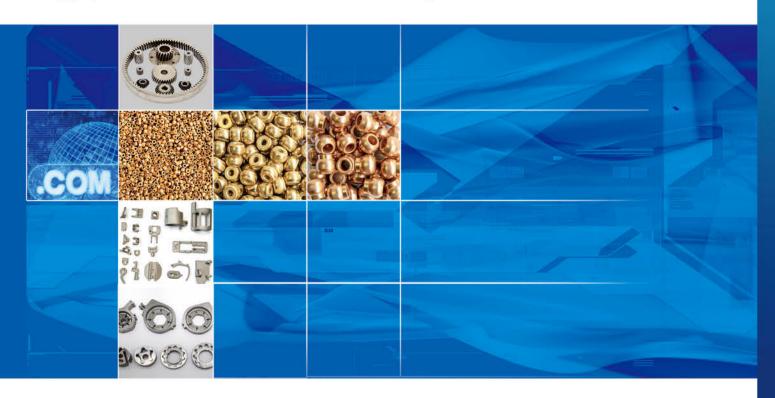
Thursday, Sept. 20 CNCC						
Room No.	301A	301B	302A			
8:30-10:05	Session 86: AM IV: Modeling and Post-processing 1	Session 87: Energy Materials III	Session 88: SIS PM Standards & Data Base I			
10:05-10:25		Coffee Break				
10:25-12:00	Session 89: AM IV: Modeling and Post Processing 2	Session 90: Super Alloys & Composites V	Session 91: SIS PM Standards & Data Base II			
14:00-18:00	Plant Tour	Beijing Automotive Group Co., Ltd (BAIC Group)				





江苏鹰球集团有限公司

JIANGSU EAGLE-GLOBE GROUP CO., LTD.



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XTC W & Mo Component BU is a core member of public-listed company Xiamen Tungsten Co., Ltd., We have three production bases located in Xiamen and Chengdu separately. We established the first "Post-Doctoral Programme" in Chinese W & Mo processing industry. We also have state level R & D center for tungsten technology.



We devote ourselves to the development and production of tungsten, molybdenum and other refractory materials. We placed our focus on the high purity, high density, high precision products, providing thermal management and radiation management. Our products are widely used in the applications of Lighting, Semiconductor, High Temperature Furnace, Machining & Welding, Aerospace & Automobile, 3C & Medical, etc.

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WORLDPM2018

Co-Chairmen of the Opening **General Session**



Guanhua, XU The Former Minister of Science and Technology, Academician of Chinese Academy of Sciences (CAS), China



Rang, CAI President of China Powder Metallurgy Alliance, China



Zhiling, TIAN Vice General Manager of China Iron & Steel Research Institute Group, China



Pei. ZHAO Vice President of the Chinese Society for Metals, China

Global Review of PM



Overview of P/M Industry in Asia

Mr. Yoichi Inoue President of Japan Powder Metallurgy Association (JPMA)



Status and Trend of Powder Metallurgy in Europe

Mr. Philippe Gunderman President of European Powder Metallurgy Association (EPMA)



State of The PM Industry in North America—2018

Mr. John F. Sweet President of Metal Powder Industries Federation (MPIF)



Situation and Trend of PM Industry in China

Prof. Huang Boyun Director of Expert Committee of China Powder Metallurgy Alliance (CPMA)



Plenary Reports



WORLDPM2018

Chinese New Material Industry Development and Powder

Gan Yong, metallurgical materials expert, academician of Chinese Academy of Engineering, mainly engaged in metallurgy, new materials and modern steel technology research. He was elected Vice President of Chinese Academy of Engineering June 2010. He is currently Chairman of Chinese Society of Metals, and Director of the National New Materials Industry Development Expert Advisory Committee.



Chinese Automobile Industry and PM Industry in China

Dong Yang, professor-level senior engineer. Mr. Dong Yang previously served as Deputy Chief Director of Industry Management Department of the State Administration of Mechanical Industry and the General Manger of Beijing Automotive Industry Holding Co., Ltd. He is currently the Executive Vice Chairman of China Association of Automobile Manufacturers (CAAM), the Vice President of OICA, the Vice Chairman of China Federation of Machinery Industry, the Vice Director General of Society of Automotive Engineers of China, and the expert for the reviews and examinations of the projects of the National Office for Science & Technology Awards.



Advance in Additive Manufacturing Technology for High Performance Large Metallic Components and their Impact on Metallurgical Technology

Wang Huaming, An expert in metal additive manufacturing, Academician of Chinese Academy of Engineering, Director of National Engineering Laboratory of Additive Manufacturing for Large Metallic Components, and Director of Research and Application Center of Laser Additive Manufacturing Technology of National Defense Technology Industry.



Numerical Simulation of Shrinkage Distortion and Microstructural Evolution of Powder Compacts during Sintering

Kazunari Shinagawa is Professor of Mechanical Engineering at Kyushu University. He obtained his B. Eng., M. Eng., and Dr. Eng. degrees in Metallurgical Engineering and Iron and Steel Engineering from Nagoya University. His research interests include metal forming and powder processing. He served on the board of directors for The Japan Society for Technology of Plasticity (JSTP) as well as Japan Society of Powder and Powder Metallurgy (JSPM), and is a Fellow of The Japan Society of Mechanical Engineers (JSME). He received many prizes from academic societies including JSPM Award for Distinguished Achievements in Research.

Powder Based Methods of Additive Manufacturing

Bernd Kieback is Professor of Powder Metallurgy, Sintered and Composite Materials at Technische Universität Dresden and Director of Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM Dresden. His PhD degree is from Technische Universit?t Dresden and his Diploma in Physics is from Kharkov State University. He published more than 400 articles, the book "Powder Metallurgy" and more than 80 patent applications. He was awarded with the "Skaupy Award" and with the "William Johnson International Gold Medal".



MIM Industry Status - 2018

Matthew Bulger has worked in the MIM Industry since 1989. He earned his BS from Carnegie-Mellon University and MS in Materials Science from Rensselaer Polytechnic Institute. He has worked in a variety of engineering and management roles, and has worked for MIM parts producers including Remington Arms, Flomet and NetShape Technologies. He is the former President of the Metal Powder Industry Federation (MPIF) and the Metal Injection Molding Association (MIMA), and the former MIMA Standards Committee Chairman.



Research Progress in Spherical Metal Powder Preparation Technologies

Zhang Shaoming, Professor, the Party Secretary and Chairman of China Iron & Steel Research Institute Group (CISRI). Has long been engaged in the research of metal powder metallurgy material, metallic composite, rapid solidification and semi-solid preparation technology. Member of the 13th CPPCC National Committee.



Application of PM Technology for Interconnector of SOFC

Dr. Huei-Long Lee received his PhD degree from Graduate Institute of Materials Science and Engineering department at National Taiwan University in 1993. He is now the Deputy General Manager of Research and Engineer Development Div. of Porite Taiwan Co. Ltd.. Working in Porite Taiwan for over 20 years, working experience covering new materials developments and applications, tooling design, materials and products design, process and quality standard developments. He also received distinguished awards, including Outstanding Engineer Award from Chinese Institute of Engineers in 2010 Technical Medal from Chinese Institute of Mining & Metallurgical Engineers in 2013.



Chinese Rare Earth and PM industry

Li Chunlong, metal materials and rare earth materials experts, part-time professor at Northeastern University and Central South University, mainly engaged in science research and technology development of metal materials, rare earth materials, Bayun Obo mine resources comprehensive utilization and recycling economy. He is currently Chairman of China Rare Earth Society, enjoying the special government allowances of the State Council.







设备展示 Equipment

Equipment name	Brand	Quantity	Capacity/D 1KKpcs	
In-line sintering	Creamer	4		
Injection machine	JSW	39	1.3KKpcs	
Debinding	Sinterzone	11	800Kpcs	
Batch Sintering	MITSUITOMO/Hengpu	17	800Kpcs	
Restriking machine	Jiuli	20	1KKpcs	
Sandblasting	Auto machine	4	1KKpcs	
Cleaning line	Ultrasonic	2	1KKpcs	
CNC	Brother/FANUC	194	140Kpcs	



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E-mail: a1@tyex.cn jrtye@189.cn Cellphone: +86-189 5235 5555

Technical Program

Tuesday Morning, 18 September, Part 1

Session 1: PM Components & Processes I

Time: 8:30-10:00 Room: 310

Chairman:

Li, Guoping (Central South University, China)

Keynote Speech

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 1 Time: 8:30-9:50 Room: 311A

Chairman:

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

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 CuCr1Zr for the LBM Process

Frocess

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

Time: 9:30-9:50

Fabrication of Al₂O₃-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 Room: 308

Chairman:

Petzoldt, Frank (Fraunhofer Institute for Manufacturing Technology and Advanced Materials,

Germany)

Chiou, Yau Hung (Shenzhen Shindy Technology Co., Ltd., Chinese Taipei)

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., Japan)

Time: 9:35-9:55

High Strength Austenitic Stainless Steel of Catamold Feedstock from BASF

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

Session 4: Sintering Parts and Components Time: 8:30-10:00 Room: 306A

Chairman:

Xiong, Xiang (Central South University, China) Torresani, Elisa (San Diego State University, United States)

Keynote Speech

Time: 8:30-9:00

Fabrication of Complex near Net Shape Components by 3D Printing and Spark-Plasma Sintering Torresani, Elisa (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

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 Room: 306B Chairman:

Yu, Yana (Xiamen Tunaten Co. Ltd. Sweden)

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 Room: 307A

Chairman:

Parratt, Andrew (Deakin University, Australia)

Keynote Speech

Time: 8:30-9:00

Highly Thermal Conductive Bulk Boron Nitride Synthesized from Boron Nitride Nano sheets Chen, Ying (Deakin University, Australia)

Invited Presentation

Time: 9:00-9:30

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

Fabijanic, Daniel (Deakin University, Australia)

Oral Presentation

Time: 9:30-9:50

3D Printing of 316L Stainless Steel with Superior

Mechanical, Corrosion Properties and the Effect of Post-processing Treatment

Qi. Chao (Deakin University, Australia)

Session 7: SIS Automobile Industry and PM I

Time: 8:30-10:30 Room: 307B

Chairman:

Söderhjelm, Hans (Höganäs AB, Sweden)

Invited Presentation

Time: 8:30-9:00

Research on Lightweight of Automobile

Zhana, Xumina (SAE-China, China)

Time: 9:00-9:30

The advantage of Gasoline Engines will continue

Aoki, Mikiharu (Toyota Production Consulting Corp. Japan)

Time: 9:30-10:00

Application Development and New Opportunities of PM Materials in Automotive Industry

Liu, Yona (Central South University, China)

Session 8: Compaction & Forming Processes I

Time: 8:30-10:00 Room: 301A

Chairman:

Larsson, Mats (Höganäs AB, Sweden)

Paris, Vincent (Rio Tinto Metal Powders, Canada)

Keynote Speech

Time: 8:30-9:00

Advances in the Compaction and Shaping of PM Nano powder

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

Oral Presentation

Time: 9:00-9:20

Effect of PGM-doping on Mechanical and Corrosion Properties of Stainless Steel Components Produced by Hot Isostatic Pressing

Attia, Usama (The Manufacturina Technology Center. United Kingdom

Time: 9:20-9:40

Recent Innovations on Cold Axial Die Compaction Technologies

Zwagart, Igance (OSTERWALDER AG, China)

Time: 9:40-10:00

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 1

Time: 8:30-9:45 Room: 301B

Chairman:

Yi, Ding (Tianjin University of Technology, China)

Keynote Speech

Time: 8:30-9:00

Properties of Porous Metals Manufactured By Powder Metallurgy Based Methods

Zhao, Yuyuan (University of Liverpool, United Kinadom)

Invited Presentation

Time: 9:00-9:25

Fabrication and Properties of Porous Titanium and Titanium Aluminum Carbide (Ti3AIC2)

Zhang, Faming (Southeast University, China)

Oral Presentation

Time: 9:25-9:45

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 Room: 302A

Chairman:

Actis Grande, Marco (Politecnico di Torino, Italy)

Keynote Speech

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

Synthesis and Characterization of Hybrid Transition Metal/Iron Nanowires

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

Oral Presentation

Time: 9:25-9:45

Improved Processing and Handling of Sintered Soft Magnetic Materials

Sunday, Katie Jo (Hoeganaes Corporation, United States)

Time: 9:45-10:05

Effects of Ball Milling Parameters on Structural and Magnetic Properties of SrFe12019 Sintered Ferrite Permanent Magnets

Li, Yuping (Nanjing Institute of Technology, China)

Session 11: Hard Alloys I

Time: 8:30-10:05 Room: 302B Chairman:

Llanes, Luis (Universitat Politècnica de Catalunya, Spain)

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

Keynote Speech

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,

Session 12: Non-Ferrous Metals & Rare Earth Metals I Time: 8:30-10:05 Room: 303A

Chairman:

Molinary, Alberto (University of Trento, Italy) Yana, Bin (University of Science and Technology Beijing, China)

Keynote Speech

Time: 8:30-9:00

Recent Progress in High-Entropy Materials

Zhana, Yona (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 Fatique Behavior of Blended Elemental Ti-6AI-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 Room: 310

Chairman:

Andersson, Olof (Höganäs AB, Sweden) Molin, Linnea (Höganäs AB, Korea)

Invited Presentation

Time: 10:25-10:50

Fechnical Program

WORLDPM2018

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 Fatique 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 Room: 311A Chairman:

Aumund-Kopp, Claus (Fraunhofer IFAM, Germany)

Keynote Speech

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

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

Klein, Andrew (EXONE, United States)

Session 15: PIM II: Characterizations in Metal Injection Molding

Time: 10:25-12:10 Room: 308

Chairman:

Cao, Peng (University of Auckland, New Zealand) Miura, Hideshi (Kyushu University, Japan)

Invited Presentation

Time: 10:25-10:50

X-Ray Tomography Analysis of Powder Injection Moldina

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 Sio2 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., Chinese

Time: 11:50-12:10

Taipei)

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 Room: 306A

Chairman:

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

Eklund, Anders (Quintus Technologies AB, Sweden)

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, Honaxia (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 Room: 306B

Chairman:

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

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

Kinadom)

Time: 11:05-11:25

Visualization of Water Sprays in Water Atomization of Molten Metals

Asgarian, Ali (University of Toronto, Canada)

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: 10:25-12:05 Room: 307A

Chairman:

Chen, Ying (Deakin University, Australia)

Keynote Speech Time: 10:25-10:55

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

Guo, Zaiping (University of Wollongong, Australia)

Keynote Speech 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)

Oral Presentation

Time: 11:25-11:45

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

Oral Presentation

Time: 11:45-12:05

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

Ye, Fan (Deakin University, Australia)

Session 19: SIS Automobile Industry and PM II

Chairman:

Braithwaite, Mark (Höganäs AB, Sweden)

Time: 10:25-11:55 Room: 307B

Invited Presentation

Time: 10:25-10:55

Electrification trend in China Automotive Industry

Wana, Sherry (Neuron Auto, China)

Time: 10:55-11:25

Transmission Design and Transmission Technology & Market Trends

Dheine, Henrik (AVL LIST GmbH, Autria)

Time: 11:25-11:55

Present State and Future Potential for PM Components in Modern Vehicles

Schneider, Eckart (Höganäs AB, Sweden)

Session 20: Compaction & Forming Processes II

Time: 10:25-12:10 Room: 301A Chairman:

Lee, Jai-Sung (Hanyang University ERICA, Korea) Hryha, Eduard (Chalmers University of Technology, Sweden)

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)

Technical Program

Industrial 3D Printing Systems











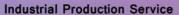








































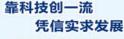
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WORLDPM2018

Time: 11:50-12:10

Microstructure Evolution and Mechanical Properties of Medical Material Mg-3Zn Alloy Prepared by Semisolid Powder Injection Moulding

Luo, Xia (Southwest Petroleum University, China)

Session 21: Porous Materials I: Preparation & Property 2

Time: 10:25-12:00 Room: 301B

Chairman:

Zhao, Yuyuan (University of Liverpool, United Kingdom)

Keynote Speech

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 Sona, Tinatina (RMIT University, Australia)

Oral Presentation

Time: 11:20-11:40

Effects of Porosity and Sintering Time on the Tensile Fatique Behavior of Sintered Stainless Steel Fiber

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) Zhana, Xuezhe (Northeastern University, China)

Session 22: Magnetic Materials & Functional Materials II

Time: 10:25-12:00 Room: 302A

Chairman:

Pennander, Lars Olov (Höganäs AB, Sweden)

Keynote Speech

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

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 Room: 302B

Chairman:

Kitzmantel, Michael (RHP-Technology GmbH, Austria) Trivedi, Pankaj (Kennametal Inc, United States)

Keynote Speech

Time: 10:25-10:55

In-Depth Understanding of Fatigue Micromechanisms in Cemented Carbides: Implications for Optimal Microstructural Tailoring Llanes, Luis (Universitat Politecnica de Catalunya (UPC), Spain)

Invited Presentation

Time: 10:55-11:20

Effect of Recycled Material in Cemented Carbides Trivedi, Pankai (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 Room: 303A

Chairman:

Torresani, Elisa (San Diego State University, United

Romero, Carlos (University of Waikato, New Zealand)

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 (University of Trento, Italy)

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-Al₂O₃ Composite (HITEMAL®): A Sheath Material of MgB2 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 (Fine Sinter Co., Ltd., Japan)

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 1

Session 25: PM Components & Processes III

Time: 14:00-15:55 Room: 310

Chairman:

Xu, Kai (NBTM New Materials Group Co. Ltd., China) Fukuda, Ryosuke (Diamet corporation, Japan)

Invited Presentation

Time: 14:00-14:25

Manufacturing Processes of High Density Ferrous Powder Metalluray 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 Fe3P 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 1

Time: 14:00-15:55 Room: 311A

Chairman:

Hryha, Eduard (Chalmers University of Technology, Sweden)

Zhao, Hao (3D Printing Technology, Inc, China)

Keynote Speech

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-6AI-4V Zhao, Hao (3D Printing Technology, Inc., 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

Li. Kefena (Guanadona Institute of Materials and Processing, China)

Time: 15:35-15:55

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 Room: 308

Chairman: Bose, Animesh (Desktop Metal, Inc., USA) Li. Yimin (Central South University, China)

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

Technical Program

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, Chinese Taipei)

Time: 15:45-16:05

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

Hsieh, Shu-Hsu (Chenming Mold Ind. Corp. (UNEEC),

Chinese Taipei)

Davies, Paul (Sandvik Osprey Limited, United Kinadom)

Session 28: Steel Sintering I

Time: 14:00-16:05 Room: 306A Chairman:

Hwang, Kuen-Shyang (National Taiwan University, Chinese Taipei)

De Oro Calderon, Raquel (Institute of Chemical and Technologies and Anlytics, Austria)

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 Room: 306B

Chairman:

Tan, Zhaoqiang (Hoganas (China) Co., Ltd, China) 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 Liana, Shujin (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 Room: 307A

Chairman:

Wu, Zhongshuai (Chinese Academy of Sciences,

Invited Presentation

Time: 14:00-14:30

Two-dimensional Supramolecular Clay for Capacitive Intercalation Storage

Wang, Da-Wei (UNSW, Australia)

Invited Presentation

Time: 14:30-15:00

Strong oxidizing metal oxide nanoflake arraysinduced a rapid molten Li infusion for highperformance lithium metal anodes

Tao, Tao (Guanadona University of Technology, China)

Invited Presentation

Time: 15:00-15:30

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

Wang, Xi (Beijing Jiaotong University, China)

Session 31: SIS Refractory Metals Materials I

Chairman:

Invited Presentation

Time: 14:00-14:30

Molybdenum Consumption for 2012-17 in Finished Parts

Towey, Andrew (Merezoti HK Limited, United Kinadom)

Time: 14:30-15:00

Sintering of Nano sized Tungsten Powder and the Ductility of Ultrafine Grain Tungsten Fang, Zhigang Zak (University of Utah, USA)

Time: 15:00-15:30

Development of CVD Tungsten for Fusion Energy Yu, Yana (Xiamen Tunaten Co. Ltd. Sweden)

Session 32: Surface Technology I

Time: 14:00-16:15 Room: 301A

Chairman:

Yin, Fuxing (Hebei University of Technology, China)

Keynote Speech

Time: 14:00-14:30

Explore Applications of Electron Work Function in Investigation of Surface Properties and Phenomena for Composite Materials

Li, Donayana (Department of Chemical and Materials Engineering, University of Alberta, Canada)

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 Resistance of Ni3AI/Cr3C2 Laser Cladding Composites

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

Time: 15:15-15:35

Cobalt Based Alloy Cladding Made with Cloth and UltraflexTM Technologies

Zheng, Qingjun (Kennametal Inc., United States)

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 Mechanisms in Dry-Wear Testing of Laser Clad Nickel Aluminide / Chromium Carbide Coatings against Bearing Steel Gona, Karin (Chalmers University of Technology,

Sweden)

Session 33: Porous Materials II: Porous Alloy & Intermetallics

Time: 14:00-15:55 Room: 301B Chairman:

Song, Tingting (RMIT University, Australia) Liu, Zhongjun (Xi'an Shiyou University, China)

Keynote Speech

Time: 14:00-14:30

Preparation and Application of Microporous Metal Membrane

Wang, Qiangbing (Northwest Institute for Nonferrous Metal Research, 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. Xiaopina (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

Jiana, Hena (Southern University of Science and Technology, China)

Time: 15:35-15:55

Preparation and Structural Characteristics of Porous Monel by Sintering-Dissolution Process

Wang, TianYao (Kunming University of Science and Technology, Ching)

Session 34: Magnetic Materials & Functional Materials III

Time: 14:00-16:15 Room: 302A

Chairman:

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

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

Keynote Speech

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

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

Li, An Hua (Central Iron & Steel Research Institute, China)

Oral Presentation

Time: 14:55-15:15

Improvement of Magnetic Performance for the Fe-

Time: 14:00-15:30 Room: 307B

Cristian Cretu (H. C. Starck INC, USA) Liu, Guohui (Advanced Technology & Materials Co., Ltd. Refractory Materials Branch, China)

Technical Program

Fechnical Program



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 NiFe2O4

Zhou, Chunxia (Tongii University, China)

Session 35: Hard Alloys III

Time: 14:00-16:15 Room: 302B Chairman:

Lengauer, Walter (TU Vienna, Austria) Gee, Mark (National Physical Laboratory, United Kinadom)

Keynote Speech Time: 14:00-14:30

Mechanisms of Abrasive Wear in WC/Co Hardmetals Gee, Mark (National Physical Laboratory, United Kingdom)

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 Room: 303A Chairman:

Wang, Luning (University of Science and Technology Beijing, China)

Lu, Xin (University of Science and Technology Beijing, China)

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

Time: 15:00-15:20

Institute, Chinese Taipei)

Processing of Biodegradable Magnesium Alloy WE43 Using Selective Laser Melting

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

Session 37: Compaction & Forming Processes III Time: 14:00-16:10 Room: 303B

Chairman:

Cheng, Jigui (Hefei university of technology, China) Attia, Usama (The Manufacturing Technology Centre, United Kingdom)

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

Static and of Dynamic Compaction Behavior of Atomized CoCrFeMnNi High-entropy Alloy Powders Kim, Hyoung Seop (POSTECH, Korea)

Time: 15:10-15:30

The Study on Powder Metallurgy Brake Pads of 350km/h "Fuxing" China Standard EMU Zhu, Song (CRRC Qishuyan Institute Co. LTD., China)

Time:15:30-15:50

Layered Functionally Graded Alumina Ceramic Composite with Anisotropic Properties Saffar Shamshirgar, Ali (Tallinn University of

Technology, Estonia)

Time: 15:50-16:10

Effects of the Content of Mo on Microstructure and Mechanical Properties of Powder Forging Steel Sun, Lu (Nanjing University of Science and

Technology, China)

Tuesday Afternoon, 18 September, Part 2

Session 38: PM Components & Processes IV Time: 16:35-18:20 Room: 310

Chairman:

Demir, Semih (Stackpole International, Canada)
Vattur Sundaram, Maheswaran (Chalmers University
of Technology, Sweden)

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 39: AM III: Process analysis 2

Time: 16:35-17:35 Room: 311A

Chairman:

Zong, Garrison (3D Printing Technology, Inc., China)

Oral Presentation

Time: 16:35-16:55

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

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

Time: 16:55-17:15

Effect of Laser Parameters on Microstructure, Metallurgical Defects and Property of AlSi10mg Printed by Selective Laser Melting

Wu, Hong (Central South University, China)

Time: 17:15-17:35

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

Chen, Zhong-Chun (Tottori University, Japan)

Session 40: PIM IV: Biomaterials and its Applications

Time: 16:35-18:15 Room: 308

Chairman:Piotter, Volker (Karlsruhe Institute of Technology, Germany)

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

Oral Presentation

Time: 16:35-16:55

Novel Stent Prepared by Metal Injection Molding and its Biomedical Application He. Hao (Guanaxi University of Science and

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 Kebanasaan

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)

Time: 17:55-18:15

Powder Injection Molding Process of Ti-6AI-4V Alloy Su, Shaohua (Jiangsu Gian Technology Co, Ltd, China)

Session 41: Steel Sintering II

Time: 16:35-18:15 Room: 306A

Chairman:

Yu,Yang (Xiamen Tungten Co. Ltd, Sweden) Gierl-Mayer, Christian (TU Wien, Austria)

Oral Presentation

Time: 16:35-16:55

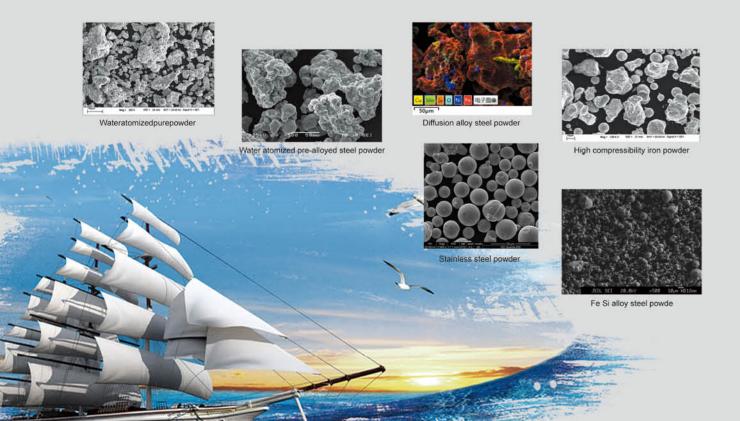
Effect of Sintering Conditions on the Properties of Lean PM Steels Produced through the Masteralloy Route



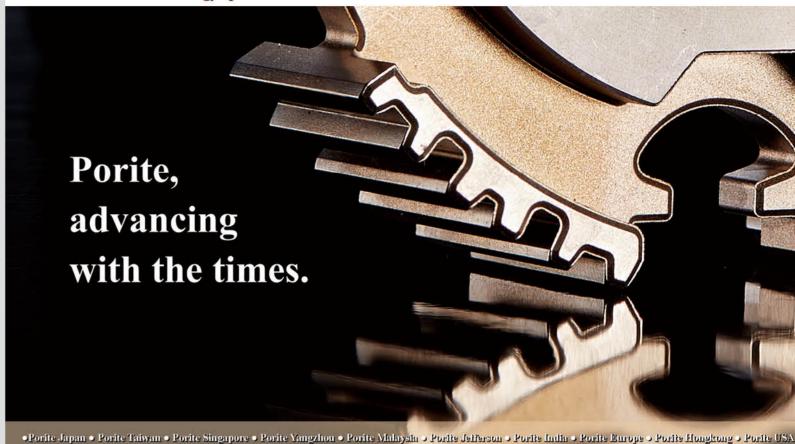
Laiwu Iron and Steel Group Powder Metàl lurgy Co.,Ltd. was founded in 1987 after 30 years of development he company has become a modern large scale and promising powder manufacturer with advanced technology sophisticated processing equipment.

The company's annual production capacity has reached to 200000 metric tons. The company has both reduced and atomized powder production line (water atomizedwater & vapor combined atomized and inert gasnon-vacuum atomized) is currently the largest and the most variety complete with fine quality powder production enterprise. The main kinds of products include reduced powder atomized powder stainless steel powder iron soft magnetic powder. Products are rewarded as the "Shandong famous brand". All products are confirmed to IS09001 quality system. Products are widely used in automobile motorcyclehousehold applicants welding chemical industryetc. Domestic market share has reached up to 25%. Products are sold well in 25 provinces and cities of China and exported to Japan Korea Vietnam Thai land and other countries.

The new era Laiwu Iron and Steel Group Powder Metal lurgy Co.Ltd. will provide customers with a higher quality level products and business services. The company will continue to move forward with the goal of "building an internationally competitive powder supplier"







上海汽车粉末冶金有限公司 Shanghai Automotive Powder Metallurgy Co.,Ltd 建设成为国际先进、国内一流、最值得信赖的 粉末冶金零部件供应商 Develop into the International advanced, domestic first-class, most reliable powder metallurgy parts supplier

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TEL: 021-56953382 Email: binw@shautopm.com.cn WEB: http://www.shautopm.com.cn

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,

211242117

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 42: Metal Powder Preparation & Processes IV

Time: 16:35-17:55 Room: 306B

Chairman:

Danninger, Herbert (Technische Universitaet Wien, Austria)

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 43: SIS Refractory Metals Materials II

Time: 16:35-17:35 Room: 307B Chairman:

Towey, Andrew (Merezoti HK Limited, United Kingdom)

Yu, Yang (Xiamen Tungten Co. Ltd, Sweden)

Invited 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 Room: 301A

Chairman:

Bengtsson, Sven (Höganäs AB, Sweden)

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 Room: 301B

Chairman:

Feng, Peizhong (China University of Mining and Technology, China)

Invited Presentation

Time: 16:35-17:00

Pore Structure Characterization of Sintered Ti-Ti5Si3 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 (Xiamen Tungten Co. Ltd, Sweden)

Session 46: Magnetic Materials & Functional Materials IV

Time: 16:35-18:10 Room: 302A

Chairman:

Zheng, Liyun (Central Iron & Steel Research Institute, China)

Keynote Speech

Time: 16:35-17:05

Influence of SiC on Magnetic and Mechanical Properties of Hot-Deformed Nd-Fe-B Magnets

Zheng, Liyun (Central Iron & 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 & Steel Research Institute, China)

Oral Presentation

Time: 17:30-17:50

The Influence of Sintering Temperature on Microstructure and Magnetic Properties of Fe/ Fe3O4 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 & Steel Research Institute,

China)

Session 47: Hard Alloys IV

Time: 16:35-18:10 Room: 302B

Chairman:

Konyashin, Igor (Element Six GmbH, Germany) Wang, Shequan (Zhuzhou Cemented Carbide Cutting Tools Co. Ltd, China) Keynote Speech

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 Room: 303A

Chairman:

Wang, Luning (University of Science and Technology Beijing, China)

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

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 HfO2 Doping on Properties and Low Temperature Degradation of Y-TZP

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

Wednesday Morning, 19 September, Part 1

Session 49: PM Components & Processes V Time: 8:30-10:05 Room: 308

Chairman:

Bergman, Ola (Höganäs AB, Sweden) Wang, Shengxi (CENTRAL IRON & STEEL RESEARCH

INSTITUTE, China)

Keynote Speech

Time: 8:30-9:00

Technical Program

Selective Densification of Powder Metal

Components – A Review and Scope for New Product Development

Shivanath, Rohith (Stackpole International, Canada)

Invited

Time: 9:00-9:25

Development and Applications of High Performance Powder Metallurgy Cu-based Brake Pads for Highspeed Railway Trains

Zhang, Lin (Beijing Tianyishangjia New Material Corp., Ltd., China)

Oral Presentation

Time: 9:25-9:45

Study on the Structure Properties of Ferritic ODS Alloy

Wang, Shengxi (University of Science and Technology Beijing, China)

Time: 9:45-10:05

Fatigue Properties of High Strength Cr-Alloyed PM Steels Produced by High Temperature Sintering and Sinter-Hardening

Beraman, Ola (Höganäs AB, Sweden)

Session 50: AM IV: Material & Process Development 1 Time: 8:30-9:35 Room: 306A

Chairman:

Zhang, Ying (Chinese Academy of Sciences, China)

Keynote Speech

Time:8:30-9:00

Development of Additive Manufacturing of Nanomaterials and 4D Morphing Structures: Concept, Processing and Applications

Lv, Jian (City University of Hong Kong, China)

Invited Presentation

Time: 9:00-9:25

Methods for Preparation of Spherical Ti Alloy Powder

Zhang,Ying (Chinese Academy of Sciences, China)

Oral Presentation

Time: 9:25-9:45

Filament Metal Printing: Sintered Metal Parts Based on FFF with Reinforced Feedstock

Kitzmantel, Michael (RHP-Technology GmbH, Austria)

Time: 9:45-10:05

Novel Approach for the Selective Laser Sintering of Combustion Synthesized Titanium Diboride Based Ceramic Composites

Aydinyan, Sofiya (Tallinn University of Technology, Estonia)

Time: 10:05-10:25

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 Room: 306B

Chairman:

Beiss, Paul (Institute for Materials Applications, Germany)

Zhang, Jiuxing (Hefei University of Technology, China)

Invited Presentation

Time: 8:30-8:55

Special Effect of Spark Plasma Sintering (SPS) and Application in Advanced Powder Metallurgy Materials

Zhang, Jiuxing (Hefei University of Technology, China)

Oral Presentation

Time: 8:55-9:15

Advanced Methods for Consolidation of Powder Materials by Impulse Electromagnetic Fields

Grigoryev, Évgeny (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: Refractory Metals I

Time: 8:30-10:05 Room: 301A

Chairman:

Luo, Laima (Hefei University of Technology, China) Johnson, John (Elmet Technologies LLC, United States)

Keynote Speech

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 53: Analysis, Testing, Numerical Simulation, Data and Data Mining I

Time: 8:30-10:00 Room: 301B

Chairman:

Park, Seong Jin (Pohang University of Science and Technology, Korea)

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

Yan, Zhenghua (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 54: Energy Materials I

Time: 8:30-10:05 Room: 302A

Chairman:

Huang, Yongping (Pulead Technology Industry CO., LTD., China)

Keynote Speech

Time: 8:30-9:00

Lithium-Ion Battery Electrodes Materials and Technology for Vehicles

Huang, Yunhui (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 LiFePO4 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 55: Super Alloys & Composites I

Time: 8:30-9:50 Room: 302B

Chairman:

Singh, Harshpreet (University of Auckland, New Zealand)

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- Si3N4 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 56: Metal Powder Preparation and Processes V

Time: 8:30-9:55 Room: 303A

Chairman:

Su,Liap Tat (Singapore Polytechnic, Singapore)

Invited Presentation

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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

Zheng, Zhuo (Jiande Yitong Metal Powder Material Co., Ltd, China)

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Fechnical Program



Session 57: SIS Metal Injection Molding I

Time: 8:30-10:00 Room: 303B

Chairman:

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

Invited 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 China: 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)

Wednesday Morning, 19 September, Part 2

Session 58: PM Components & Processes VI Time: 10:25-11:50 Room: 308

Chairman:

Liu, Wensheng (Central South University, China) Holmber, Anders (Uppsala University, Sweden)

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)

(diper)

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 Room: 306A

Chairman:

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

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 Room: 306B

Chairman:

Zhang, Deliang (Northeastern University, China) Pelletier, Jean-Marc (INSA-Lyon, France)

Oral Presentation

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: 10:25-10:45

Sintering of the Chalcogenide Glass Powder Compacts for Porous Structure Yang, Woo Seok (POSTECH, Korea)

Time: 11:05-11:25

Microstructures and Mechanical Properties of In-Situ Elongated B-Si3N4 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: Refractory Metals II

Time: 10:25-11:55 Room: 301A

Chairman:

Shields, John (Pentamet Associates LLC, United States)

Wang, Jinshu (Beijing University of Technology, China)

Invited Presentation

Time: 10:25-10:50

Study on the Mass Preparation W-Y $_2\text{O}_3$ 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, China)

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, Ching)

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 62: Analysis, Testing, Numerical Simulation, Data and Data Mining II

Time: 10:25-12:10 Room: 301B

Chairman:

John, Meyer (Carpenter Technology Corporation, United States)

Shinagawa, Kazunari (Kyushu University, Japan)

Invited Presentation

Time: 10:25-10:50

MatAi: 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 63: Energy Materials II

Time: 10:25-11:25 Room: 302A

Chairman:

Xu, Xuemei (Central South University, China)

Oral Presentation

Time: 10:25-10:45

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

Jiang, Yang (Hefei University of Technology, China)

Time: 10:45-11:05

Ferroelectric Polymer-Based Nanocomposite Capacitors for Energy Storage

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

Time: 11:05-11:25

Two-dimensional Supramolecular Clay for Capacitive Intercalation Storage Wang, Da-Wei (UNSW, Australia)

Session 64: Super Alloys & Composites II

Time: 10:25-12:10 Room: 302B

Chairman:

Han, Liuliu (Central South University, China)

Invited Presentation

Time: 10:25-10:50

Research on New Third Generation P/M Superalloy FGH100L

Ge, Changchun (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 Zena, 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)

Time: 11:50-12:10

Fabrication and Strengthening Behavior of Fewlayer Graphene Reinforced Al Matrix Composites Fechnical Program





Ansteel (Anshan) metallurgical powder Co., LTD. was established in 1986, which is subordinate to Anshan Iron and Steel Corp. The company's production capacity of the water-atomized green powder now is more than 300,000 tons, and the production of the water-atomized iron powder has been achieved to 100,000 tons. Our company adopts molten iron smelting model, which is consist of 75 tons Consteel furnace and 120 tons LF refining furnace. Once more, the output of water-atomized molten steel has been achieved to 800kg/min, which is now the largest in the world. The company has been established the overall quality management system, and awarded of IS09001 quality system and IS0/TS16949 certification system. On October 2017, our company has been qualified for the national high-tech enterprises. The company now has 12 national patents, and other 2 inventions are in the process of the declaration and audit. Our company now can produce six series of steel powders and hundreds varieties of products: water-atomized pure iron powder, free-cutting fron powder, valve sent powder, no-segregation mixed powder, welding electrodes powder, valve

0,000 tons reduction furnace "destigned,constructed and installed by Ansteel (Anshan) metallurgical powder Co., LTD.



WORLD'S LEADING SUPPLIER OF POWDERS

Guangdong Institute of Materials and Processing, founded in July 2015, is now affiliated to the Guangdong Academy of Sciences. It is jointly established by the former Institute of Metal Processing and Forming Technology of Guangzhou Institute of Non-ferrous Metals and the Institute of Powder Metallurgy. We mainly engaged in the research and development, design and engineering application of powder metallurgy materials, metal matrix composite materials, aluminum magnesium copper and titanium nonferrous materials, advanced forming processing technology and equipments.











We have advanced technology and equipments, focusing on metal injection molding powder, additive manufacturing powder, spray powder research and development, production and marketing. The powder performance index has reached the international advanced level, and has been praised by customers at home and abroad.

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Come visit us at booth A-168 during the World PM 2018





Zhou, Weiwei (Tohoku University, Japan)

WORLDPM2018

Session 65: Metal Powder Preparation and Processes VI Time: 10:25-11:45 Room: 303A

Chairman:

Wang,Limin (Beijing General Research Institute for Nonferrous Metals, China)

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 Bai, Yuting (Jinchuan Group Co. Ltd., China)

Session 66: SIS Metal Injection Molding II

Time: 10:25-11:55 Room: 303B

Chairman:

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

Invited 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)

Time: 11:55-12:25

Continuous MIM-Furmaces for the Next Generation. MIM-Master

Cremer, Ingo (CREMER Thermoprozessanlagen GmbH, Germany)

Wednesday Afternoon, 19 September, Part 1

Session 67: AM I: New Material and Applications 2

Time: 14:00-15:20 Room: 308 Chairman:

Kotila, Juha (EOS Finland, Finland)

Oral Presentation

Time: 14:00-14: 20

Thermal Fatigue Performance of AISI H13 Tool Steel 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 68: Sintering & Light Alloys

Time: 14:00-16:15 Room: 402B

Chairman:

Wang, Chonglin (Institute of Metal Research, Chinese Academy of Sciences, China) Wang, Zhi (South China University of Technology, China)

Keynote Speech

Time: 14:00-14:30

Sintering and Mixed Control Processes of Material Transport

Kang, Suk-Joong L. (Korea Advanced Institute of Science and Technology)

Invited Presentation

Time: 14:30-14:55

Thermomechanical Consolidation of Metallic and Metal Matrix Nanocomposite Powders

Zhang, Deliang (Northeastern University, China)

Oral Presentation

Time: 14:55-15:15

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

Time: 15:15-15:35

Mechanical Properties and Wear and Corrosion Resistance of a Super-High Strength Nanostructured Aluminum Alloy

Wang, Zhi (South China University of Technology, China)

Time: 15:35-15:55

Spark Plasma Sintering and Characterization of a Melt-spun Al-Mg-Si Alloy

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

Time: 15:55-16:15

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 69: PIM V: Miscellaneous Functional materials and Advanced Processes

Time: 14:00-16:10 Room: 307A Chairman:

Johnson, John (Elmet Technologies LLC, USA) Hwang, Kuen-Shyang (National Taiwan University, Chinese Taipei)

Invited Presentation

Time: 14:00-14:25

A Review of Metal Injection Molding for Tungsten and its Alloys

Jiupena, Sona (Xiamen Tunasten Co., Ltd. China)

Time: 14:25-14:50

Powder Injection Molding (PIM) of Hard and Soft magnetic Materials

Park, Seong Jin (POSTECH, Korea)

Oral Presentation

Time: 14:50-15:10

Sintering of a Bi-material of Two-Component Powder Injection Molded Stainless Steel (17-4PH) and Yttria Stabilized Zirconia (3YSZ)

BakarSulong, Abu (Universiti Kebangsaan Malaysia, Malaysia)

Time: 15:10-15:30

Nano Powder in Fe Bimodal Powder Injection Molding Process

Oh, Joo Won (POSTECH, Korea)

Time: 15:30-15:50

Fabrication and Pool Boiling Test of Powder Injection Molded Porous Copper Structures Using Space Holder Technology

Cho, Hanlyun (Pohang POSTECH, Korea University of Science and Technology, Korea)

Time: 15:50-16:10

Fabrication of Aluminium Nitride Ceramic by Powder Injection Molding
Lu, Huifeng (University of Science and Technology

Beijing, China)

Session 70: Hard Alloys V

Time: 14:00-15:30 Room: 301A

Chairman:

Liu, Yong (Central South University, China)

Song, Xiaoyan (Beijing University of Technology, China)

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)

Time: 15:10-15:30

Dry Semi-finishing with Niobium Carbide Based

Meier, Paul (Technische Universität Berlin, Germany)

Session 71: Analysis, Testing, Numerical Simulation, Data and Data Mining III

Time: 14:00-15:45 Room: 301B

Chairman:

Du, Qiang (SINTEF Research Institute, Norway)

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 Mo₂FeB₂-based Cermets

Yang, Guoqiang (University Science and Technology Beijing, China)

Time: 15:25-15:45

Fechnical Program

Mechanical and Electrical Wear Performances of Metal/Sintered-carbon Composites Produced by Pressure Infiltration

Jiang, Yang (Hefei University of Technology, China)

Session 72: Non-Ferrous Metals & Rare Earth Metals III

Time: 14:00-16:10 Room: 302A Chairman:

Lagos, Miguel (TECNALIA, Spain)

Zhang, Yong (University of Science and Technology

Beijing, China)

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

Torresani, Elisa (San Diego State University, United States)

Oral Presentation

Time: 14:50-15:10

Through Ball-Milling Process Eliminating Micron Level of Al₂O₃ 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

Peng, Guangyao (University Science and Technology Beijing, China)

Time: 15:50-16:10

Study on the Growth Kinetics of Interphases at AI/ Mg Diffusion Interface

Ma, Yunzhu (Central South University, China)

Session 73: Super Alloys & Composites III

Time: 14:00-15:40 Room: 302B

Chairman:

Huang, Hailiang (University of Science and Technology Beijing, China)

Oral Presentation

Time: 14:00-14:20

Nickel Modified Graphene-Nanoplates Reinforce Aluminum Matrix Composites with Simultaneously Enhanced Strength and Toughness

Han, Tielong (Tianjin University, China)

Time: 14:20-14:40

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: 14:40-15:00

In Situ Synthesis of Boride Whiskers for Preparing Reinforced Aluminum Matrix Composites

Wang, Fucheng (Tianjin University, China)

Time: 15:00-15:20

Effect of B4C Addition on Microstructure and Mechanical Properties of Powder Metallurgy M3: 2 High-Speed Steel

Li, Songlin (Central South University, China)

Time: 15:20-15:40

Development of a High-Performance Cu-based Sintered Alloy Contact Strip

Ryota, Kobayashi (Fine Sinter Co., Ltd, Japan)

Session 74: Metal Powder Preparation and Processes VII

Time: 14:00-15:25 Room: 303A

Chairman:

Liu, Xingjun (Xiamen University, Ching)

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

Zheng, Zhuo (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

Yuan, Kang (BGRIMM Technology Group, China)

Session 75: SIS PM Magnetic Materials

Time: 14:00-16:00 Room: 303B

Chairman:

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

Invited Presentation

Time: 14:00-14:30

Research and Development of Rare Earth Permanent

Magnet

Li, Wei (Chinese Academy of Engineering, 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, Shaoxiong (The Asian Union of Magnetics Societies (AUMS), China)

Time: 15:30-16:00

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

Takashita, Takuya (JFE Steel Corporation, Japan)

Session 76: SIS Sino-Swedish Advanced Materials

Time: 14:00-15:30 Room: 307B

Invited 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 77: AM III: Process Analysis 3 Time: 16:35-17:55 Room: 308 Chairman:

Paplewski, Peter (Bruker AXS GmbH, Germany) Kirihara, Soshu (Osaka University, Japan)

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 78: Machining of Sintered Materials

Time: 16:35-17:55 Room: 402B Chairman:

Kraus, Neal (Hoeganaes Corporation, United States) Li, Bo (Jiangxi Yuean Superfine Metal Co., Ltd., China)

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 79: PIM VI: Developments in Processing and Sintering

Time: 16:35-18:40 Room: 307A

Chairman:

Cremer, Ingo (CREMER Thermoprozessanlagen GmbH, Germany)

Song, Jiupeng (China National R&D Center for Tungsten Technology & Xiamen Tungsten Co., Ltd, China)

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.,

50

Ltd, China)

Time: 17:20-17:40

Development of Powder Injection Molding Process for Si3N4 Ceramic Ball

Kim, Doohee (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 80: Superhard Materials & Ceramics

Time: 16:35-17:40 Room: 301A

Chairman:

Song, Xiaoyan (Beijing University of Technology,

China

Liu, Yong (Central South University, China)

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

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: 17:20-17:40

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)

Time: 17:40-18:00

Cr doping WCoB-Based Ceramic with Improved Mechanical Property by using SPS

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

Session 81: Analysis, Testing, Numerical Simulation, Data and Data Mining IV

Time: 16:35-18:00 Room: 301B

Chairman:

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

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

Liu, Yan (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 82: Non-Ferrous Metals & Rare Earth Metals IV

Time: 16:35-18:25 Room: 302A

Chairman:

Balog, Martin (Slovak Academy of Sciences, Slovak) Li, Peiyong (Beijing Institute of Aeronautical Materials, China)

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

Lin, Bin (Central South University, China)

Oral Presentation

Time: 17:25-17:45

Effects of Different Carbon Sources on Synthesis of ZrB₂ by Carbothermal Reduction

Gui, Tao (CNMC Ningxia Orient Group Co., Ltd, 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 83: Super Alloys & Composites IV

Time: 16:35-17:55 Room: 302B

Chairman:

Cao, Yuankui (Central South University)

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 South University)

Time: 16:55-17:15

Influence of Plastic Working on Mechanical Properties of Al2O3/B4C/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, Ching)

Session 84: Metal Powder Preparation and Processes VIII

Time: 16:35-17:15 Room: 303A

Chairman:

Paris, Vincent (Rio Tinto Metal Powders, Canada)

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 85: SIS Sino-Swedish Advanced Materials Forum II

Time: 16:35-17:35 Room: 307B

Invited 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 1

Session 86: AM IV: Modeling and Post-processing 1 Time: 8:30-9:30 Room: 301A

Chairman:

Eklund, Anders (Quintus Technologies AB, Sweden)

Oral Presentation

Time: 8:30-8:50

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

Dai, Ling (A*STAR, 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)

Session 87: Energy Materials III

Time: 8:30-10:15 Room: 301B Chairman:

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

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., Chinese Taipei)

Time: 9:15-9:35

Characteristics of NdBa0.5Sr0.5Co2-xNixO5+ δ Cathode Materials for Solid Oxide Fuel Cells

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

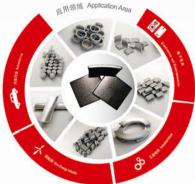
Time: 9:35-9:55

Fechnical Program



Advanced Technology & Materials Co., Ltd Beijing Capital Airport District Branch was established in 2003, located in the Shunyi District airport industrial zone. As one of the leading companies in research and production of Sintered NdFeB magnets in China, AT&M had a production capacity of 4000 tons for NdFeB magnets annually nowadays based on the advanced production line and dozens of enterprise qualifications and patents. We can provide our customer with high quality magnets products and perfect solutions for after service.

As the core business of AT&M Ltd(Stock Code:000969), AT&M Capital Airport Industrial Base has performed the high capability of research and development from the time it is established by China Iron & Steel Research Institute Group (CISRI). AT&M has won state invention awards, state awards for science and technology advancement for many times, owning dozens of patents. Many products have been widely used to different field, which also motivated the development of the economy, the national defense technology and the aerospace industry.





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E-mail: zhujingguo@atmcn.com Web: www.atmcn.com

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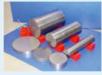


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Application









株洲硬质合金集团有限公司简介

株洲硬质合金集团有限公司地处"长株潭城市群"核心地带和中国南方交通枢纽中心的湖南省株洲市。1954年开始建厂,是国家"一五"期间建设的156项重点工程之一,被誉为"我国硬质合金工业的摇篮"。2009年12月成为世界500强中国五矿集团公司旗下企业,是国内大型的硬质合金生产、科研、经营和出口基地。

公司主要生产金属切削工具、矿山及油田钻探采掘工具、硬质材料、钨钼制品、钽铌制品、稀有金属粉末制品等六大系列产品,广泛应用于冶金、机械、地质、煤炭、石油、化工、电子、轻纺及国防军工等领域。公司着力构建多层次、多渠道的全球营销网络,先后在德国、美国、印度等国家设立了销售分支机构,在英国、丹麦、韩国、澳大利亚、加拿大等60多个国家和地区进行了产品"钻石牌"商标注册,产品销往世界70多个国家和地区。

Zhuzhou Cemented Carbide Group Corp. Ltd. (hereafter referred to as ZCC) is located in the city of Zhuzhou, Hunan, a city at the heart of the Greater Changsha Metropolitan Region (Changsha-Zhuzhou-Xiangtan City Cluster) and is one of the most important transportation junctions in south China. Ever since 1954, when the ground was broken for the company, as one of the nation's 156 key projects constructed in China's "First Five-Year Plan", ZCC was honored to be the beginning of China's cemented carbide industry. In December 2009, ZCC was merged into China Minmetals Corporation (one of the world's top 500). Currently, it is China's biggest base in the production, R&D, sales and export of cemented carbide.

ZCC mainly engages in the production of metal cutting tools, drilling and exploiting tools for mines and oil fields, hard materials, tungsten & molybdenum products, tantalum & niobium products and rare metal powders. These products are widely used in the industries of metallurgy, machinery, mining, petroleum-chemistry, electronics, textile and national defense. A global sales network characterized by multi-level and multi-channel is built, with sales branches established in Germany, USA and India, ZCC' s trademark Diamond® cemented carbide registered in more than 60 countries and regions including Great Britain, Denmark, South Korea, Australia, Canada, etc., and ZCC' s products exported to more than 70 countries and regions.



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-, AIYZr-Oxides as Electrolyte Materials for Medium and Low Temperature SOFCs

Yuan, Kang (BGRIMM Technology Group, China)

Session 88: SIS PM Standards & Data Base I

Time: 8:30-10:00 Room: 302A

Chairman:

Adams, James P. (MPIF, APMI Internationa, USA)

Invited Presentation

Time: 8:30-9:00

Development and Trend of International Standardization

Zhana, Xiaoaana (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 89: AM IV: Modeling and Post-processing 2

Time: 10:35-11:35 Room: 301A

Chairman:

Eklund, Anders (Quintus Technologies AB, Sweden)

Oral Presentation

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

Bidulsky, Robert (Technical University of Košice, Slovakia)

Time: 10:55-11:15

Process-Structure-Properties Modeling Of Selective Laser Melting with Continuum Thermomechanics and Phase Field Modeling

Pinomaa, Tatu (VTT Technical Research Centre of Finland, Finland)

Time: 11:15-11:35

High Pressure Heat Treatment of AM parts-Combining HIP and Heat treatment

Eklund, Anders (Quintus Technologies AB, Sweden)

Session 90: Super Alloys & Composites V

Time: 10:35-11:55 Room: 301B Chairman:

Xu, Shenghang (University of Science and Technology Beijing, China)

Oral Presentation

Time: 10:35-10:55

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

Xu. Shenahana (Central South University, China)

Time: 10:55-11:15

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

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

Time: 11:15-11:35

Numerical Model of the First Facility for Manufacturing Ultra-Clean Nickl-based Superalloy

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 Banoparticle with Enhanced Nechanical Properties Pu, Bowen (Tianjin University, China)

Session 91: SIS PM Standards & Data Base II

Time: 10:25-11:55 Room: 302A

Adams, James P. (MPIF, APMI Internationa, USA)

Invited 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

001. Spherical Ti2AINb Pre-alloyed Powder Prepared by EIGA Method for 3D Printing

Jin, Ying (Zhejiang Asia General Solderina & Brazina Material Co., Ltd, China)

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

Xiao, Chunfana (Chanasha Aeronautical Vocational & Technical College, China)

003. Effect of Separator on the Preparation of Ultrafine Nickel Powder by Solid Phase Reduction

Wang, Zhubo (Central South University, China)

004. Preparation of High Quality Ti-6Al-4V Alloy Powder and Its Densification by Hot Isosatic Pressing

Zou, Limina (Guanadona Institute of Materials and Processing, China)

005. A New Preparation Technology of Nano-MoO3

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

006. Effect of Copper Powder on the Properties of Iron-Based Powder Metallurgy Sintered

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

007. Preparation of SnO2 Nanoparticles with Controlled Particle Sizes and Morphologies

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

008. Advances in Powder Processing Beryllium-**Containing Materials**

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

009. 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)

010. 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)

011. The Characterization of Ceramic Particles Reinforced Molybdenum Powder Produced by High **Energy Ball Milling**

Petho, Daniel (Institute of Physical Metallurgy, Hungary)

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

Angel, David Adam (Institute of Physical Metallurgy,

013. Study on Magnetic Properties of Iron-Based Nanocrystalline Magnetic Powder Core

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

014. Characterization of Spherical AlSi10Mg Powder Produced by Double-Nozzle Gas Atomization Using 015. Different Parameters

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

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

Teng, Huaj (Chongging Three Gorges University,

017. 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 Beijina, China)

018. 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)

019. Analysis and Pressing Mould Design of CAM Shaft Timing Gear Forming Process Gu, Wenjin (XINGCHEG POWDER METALLURGY CO., LTD, China)

020. The Precision Design of Powder Metallurgy Cycloidal Rotor Pressing Mould Gu. Weniin (XINGCHEG POWDER METALLURGY

CO., LTD. China)

021. Preliminary Research on Ultra-Clean High-Speed-Steel Powders

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

Session 2: Compaction & Forming Processes

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

Chen, Wenchao (Hefei University of Technology, China)

023. Hot Hydrostatic Extrusion Process of Pure Tunasten

Hong, Kaijun (Hefei University of Technology, China)

Poster Program

O24. Effect of Cu Alloy Element on the Performance of Powder Metallurgy Surface Rolling Densification

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

O25. Experimental Study on the Application of New Modified Paraffin Molding Agent for Cemented Carbide

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

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

Chen, Wenchao (Hefei University of Technology, China)

027. Application of Ferrous PM Joining and Welding Technology in Automotive Parts

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

028. Developments and Applications of Mechanical Friction Pairs by Powder Forming Technology Xu, Jiabing (Hefei University of Technology, China)

Session 3: Sintering & Post Processing

029. Sintering Powdered Metal Compacts Using Little or No Hydrogen

Hammond, Dennis (Apex Advanced Technologies, United States)

030. 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)

031. Preparation of Sintered Fe-W-Mo-Cr-V-C
Materials by Adding Alloy Carbide Powders
Luan, Huaizhuana (Central South University, China)

032. Spark Plasma Sintering Behavior of TiB2 – Reinforced Fe Matrix Composites and Their Microstructures

Ke, Yujiao (Hiroshima University, Japan)

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

Han, Cuiliu (Hefei University of Technology, China)

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

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

035. Sintering Behavior of Carbon Nano-Fiber and Ceramic Particle Reinforced Aluminum Matrix Composites in the Plasma Sintering Process Xu, Zhefeng (Hiroshima University, Japan)

036. 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)

O37. 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)

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

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

039. High Pressure High Temperature Consolidation
of ZrC Based Ceramic Composites

Minasyan, Tatevik (Tallinn University of Technology, Estonia)

040. 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)

O41. The Development of Microwave Heating
Furnace for Powder Selective High Temperature
Sintering

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

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

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

043. 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)

044. Analysis on the Cost of Large-scale Hot Isostatic Pressing

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

Session 4: Powder Injection Molding

Zealand)

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

Luo, Tiegan (Guangdong Insitute of Materials and Processing, China)

046. Mechanical Properties of MIM 17-4PH Stainless Steel

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

047. Refinement of PEG/PMMA Binder System for Titanium Metal Injection Moulding Zhang, Hongzhou (University of Auckland, New

048. Influence of Gas Atomization Powder Content on Microstructure and Mechanical Properties of 316L Stainless Steel Prepared by Metal Injection Moldina

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

O49. Microstructure and Mechanical Properties of MIM491 Superalloy Prepared by Master Alloy Technique

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

050. The Metal Injection Molding Technical Study of Corrosion Resistant Automobile Door Lock Parts Huang, Ruo (Beijing Institute of Technology, China)

O51. Metal Injection Molding (MIM) in the Laptop Shaft Parts Processing Applications Jiang, Ronggao (SHANGHAI JINGKE POWDER METALLURGY TECHNOLOGY CO., LTD, China)

052. Study on the Manufacturing Technology of MIM Cupronickel Instrument

Huang, Ruo (Beijing Institute of Technology, China)

053. The Metal Injection Molding Technical Study of Electronic Control System's Armature
Huang, Ruo (Beijing Institute of Technology, China)

O54. 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

O55. The Effect of Elevated Temperature on Mechanical Properties of Al/B4C Neutron Absorber Material

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

056. Study on Technology of MHC Alloy Diffusion Joining

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

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

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

058. Effect of Cold Processing on the Properties of Molybdenum-Rhenium Foils

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

O59. Research into Functionally Graded Cemented Carbide: Microstructure Evolution of Specifically Engineered Surface Layer and Gradient Formation Mechanisms

Ji, Hongwei (Guangdong University of Technology, China)

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

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

061. Investigation of Cryogenic Mechanical Properties and Fracture Mechanism of Tungsten Alloy

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

062. 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)

063. Research of W-La2O3 Alloy Designed by an Innovative Combustion-based Approach
Chen, Penaai (Hefei University of Technology, China)

064. Study on the Matrix of High Sharpness Diamond Saw Blade

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

065. Evolution of Microstructure and Performance in WC-Co Cemented Carbides with TaC Addition Wei, Jianqing (Xiamen Golden Egret Special Alloy Co., Ltd., China)

O66. Effects of Rare Earths on the Microstructure, Mechanical Properties of Ti(C,N)-Based Cermets

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

067. 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, Ching)

068. Grain Structure of Selective Laser Melted Tungsten

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

069. Regular Changes of Coercive Forces of Cemented Carbide Compacts during Sintering Nie, Hongbo (Xiamen Tungsten Co., LTD., China)

070. Effects of Different Iron Powders on Properties of Diamond Fickert

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

071. The Effect of Gas Elements on the Properties of TiCN Cermet

Poster Program



中国超硬材料领军企业安泰的研,

做全球最好用的金刚石工具制造商!







Xingcheng Powder Metallurgy Co. Ltd..

Xingcheng Powder Metallurgy Co., Ltd. was founded in 1971 and has 40 years of experience in the production of powder products. In December 1996, under the leadership of the Xingcheng Municipal Party Committee and the municipal government, it was restructured into a private enterprise with 350 employees, including engineering and technical personnel. 50 people. The company's existing total assets of 144.706 million yuan, of which 92.159 million yuan in liquid assets, the original value of fixed assets of 11.423 million yuan, the main machinery processing equipment more than 500 units. Our company was awarded "Hi-tech Enterprise" by the People's Government of Huludao City, and joined the member units of the Powder Metallurgy Association of the General Parts Industry Association of China Machinery and the member units of the China Forging Association all year round. The national tax and local tax of Huludao City were rated as tax credit A. Our company's products were awarded famous brand products by the People's Government of Huludao City. The company was authorized by China FAW Automobile Company to use the trademark permanently. In 2009, it was certified by SGS company TS16949 product quality system. In 2011, it was awarded the "Provincial Technology Center" by the People's Government of Liaoning Province. In 2012, it was awarded the title of "Defending Contracts and Reacting" by the People's Government of Huludao City. In 2012, it was awarded the "AAA-rated credit enterprise of enterprise credit evaluation" by the China Forging Association. In 2012, it won the "National High-tech Enterprise". The company has nine patents for independent intellectual property rights, including one patent for invention.



The company's leading products are powder metallurgical products, refined forging gear wheel products and automotive synchronizers products, which are mainly used in the automotive field. The products are sold to Changchun FAW Liberation Automobile Manufacturing Company and Changchun FAW Industrial Parts Co., Ltd., Luzhou Qunxing Machinery Co., Ltd., Tinijin Tianhai Synchronous Technology Co., Ltd., Xinxiang Bosettel, Co., Ltd., Zhuzhou Gear Manufacturing Co., Ltd., Nanjing Superstar Automobile Co., Ltd., etc., drill clamping gear ring, nuts, market share of about 35 %; Bigh-estrength powder metallurgical powder products have a market share of about 35 %; Planetary gears account for 70 % of the FAW market, and heavy vehicle drive bridge products have a market share of about 60 %. The above products have won national patents except for the introduction of German technology in the heavy vehicle drive bridge series. And is the drafting unit of the product industry standards. Our company's product application market is a top-class market in China, reflecting the processing level of parts in the automotive industry; in China, out of the high-end products of the market.

Xingcheng Powder Metallurgy Co., Ltd., under the leadership of Chairman Suquanyong and General Manager Sudongying, based on the national industry, vigorously develop the real economy, leading all employees to meet new challenges and innovate their performance.





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tongmuo@pm-china.com

WORLDPM2018

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

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

Li, Jianfeng (HeFei University of Technology, China)

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

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

074. Research on MoCoB Ternary Boride Hard Material

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

075. 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)

076. The Effect of Titanium Content on the Microstructure and Property of Mo-Ti Alloy Niu, Xuanyana (Henan University of Science and Technology , China)

077. Preparation and Microstructure of h-BN/SiC Multiphase Ceramics via Spark Plasma Sinterina Lun, Huilin (Central South University, China)

Session 6: Non-Ferrous Metals & Rare Earth Metals

078. 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)

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

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

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

Chen, Shengchuan (China)

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

082. 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

Group, China)

083. Effects of Hafnium on Mechanical Properties in FGH4097 Powder Metallurgy Superalloy Zhana, Yiwen (China Iron & Steel Research Institute

084. The Microstructure of P/M Nickel Base Superalloys Prepared by Spark Plasma Sintering (SPS)

Qin, Zijun (Central South University, China)

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

086. Current-Carrying Friction and Wear Performance of Copper-Graphite Composites Reinforced by Graphene

Lin, Xueyana (Central South University, China)

087. Graphene Oxide as Carbon Source for Sintered W6Mo5Cr4V2 Iron-based Alloy

Wu, Wendena (Central South University, China)

088. Influence of Ta Content on Prior Particle Boundary Precipitation In the As-HIPed Powder Metallurgy Superalloy FGH4098

Jia, Jian (Steel Research Institute Group, China)

089. Solid Solution Cooling y' Precipitation Evolution Rule in Powder Metallurgy Superalloy FGH98 Zhana, Honafei (University of Science and Technology Beijina, China)

090. Effect of Alloying Element Ta on Microstructure and Properties of High Performance P/M Superallov

Wang, Zhicheng (University of Science and Technology Beijing, China)

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

092. Powder Metallurgy as Efficient Way in Manufacture of Aerospace Grade Magnesium Metal Matrix Nanocomposites

Makovskyi, Spartak (Motor Sich JSC | Eduard Tzyvirko, Ukraine)

093. 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

094. 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)

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

096. Mechanical Properties of Al-Based Auxetic Lattice Structures Fabricated by 3-D Printing Combined with Investment Casting

Xue, Yingying (Chinese Academy of Sciences, China)

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

098. Preparation and Properties of Reaction Bonded Porous SiC Ceramics by Adding Micro SiC and Al2O3 Powders

Liu, Jiadong (Chinese Academy of Sciences, China)

099. Dependence of the Ferrovanadium Power as Additive on Mechanical Property in Porous Ti Qiu, Guibao (Chongaina University, China)

100. 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

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

102. Adhesion of PACVD Coatings on Nanostructured Cemented Carbides

Sakoman, Matija (Faculty of Mechanical Engineering and Naval Architecture, Croatia)

103. Microstructure and Cutting Performance of Nanostructured TiAISiN Films by Cathodic Arc Method

Zhao, Xiaoxiao (Xiamen Golden Egret Special Alloy Co., Ltd., China)

104. Study on Microstructure and Wear Resistance of Laser Claddina Fe3AI/Cr3C2 Composites Lin, Shuangping (Iron and Steel Research Institute,

105. 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)

106. 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)

107. Study on Corrosion Resistance of CMAS of **Environmental Barrier Coatings** Hou, Weigo (BGRIMM Technology Group, China)

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

Li, Zhengqiu (BGRIMM Technology Group, China)

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

Zhao, Zuofu (Liaoning University of Technology, China)

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

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

111. Micro-hardness and Structure of a Laser Cladded Martensitic Heat Resistant Steel Ren, Kai (Tianjin University of Technology, China)

112. Study on the Effects of Oxides on the Properties of YSZ Thermal Barrier Coatings

Ji. Xigojuan (Northeastern University, China)

Session 10: Magnetic Materials & Functional Materials

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

Yan, Liang (Tongji University, China)

114. Improvement of the Mechanical Properties in the NdFeB Magnets

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

115. Study on Bump Losing Protection of Nd-Fe-B Magnetic In Transportation and Storage Xing, Shuhai (Advanced Technology & Materials Co., Ltd., China)

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

Chen, Jie (Advanced Technology & Materials Co., Ltd.,

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

Wang, Naijuan (Tsinghua University, China)

118. Effect of Cool Isostatic Pressure on Magnetic Properties of Sintered Nd-Fe-B Magnet Deng, Zhiwei (Advanced Technology & Materials Co., Ltd., China)

Poster Program

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

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

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

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

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

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

122. 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)

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

Wana, Xin (Central Iron & Steel Research Institute, China)

124. Effects of Heat Treatment on the Microstructures and Mechanical Properties of Sintered Nd-Fe-B Permanent Magnets Jia, Bei (Advanced Technology & Materials Co., Ltd.,

125. The Development of Sintered (Nd, Ce)-Fe-B Corrosion Behavior in Different Environment Shi, Xiaoning (Central Iron & Steel Research Institute,

126. The Present Status and Trends of Radially Oriented NdFeB Integrated Ring Magnets Wana, Yu (China Iron & Steel Research Institute Group, China)

127. Characterization of Fe3O4@CS Composite Magnetic Particles

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

128. Magnetic Properties of Iron-Based Soft Magnetic Composites with ZrO2 Coating Obtained by Sol-Gel Method Hou, Zhenguo (Tongji University, China)

129. Properties of FeSiCr Soft Magnetic Powder Coated with Phosphates

Yu, Haichen (Advanced Technology (Bazhou) Special Powder Co., Ltd., China)

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

Yu, Xiao-jie (Central Iron & Steel Research Institute,

131. Progress in Micromagnetic Modeling and Numerical Simulation for Exchange Coupled Nd2Fe14B/A-Fe Nanocomposite Magnets Ryo, Hyok-Su (Harin Institute of Technology, China)

132. The FeNi Soft Magnetic Composites Coated with Al2O3 Prepared by a Sol-gel Processing Peng, Yuandong (Central South University, China)

133. Soft Magnetic Powders with High Magnetization Saturation Produced by Refinement of Amorphous

Kowalczyk, Maciei (Warsaw University of Technology, Poland)

134. Study of Assembly on Sintered NdFeB Magnets in Automotive Motor

Han, Weiping (Advanced Technology & Materials Co., Ltd., China)

Session 11: Additive Manufacturing (3D Printing)

135. Fe-50%Ni Soft Magnetic Alloy Prepared by 3D Gel-Printing

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

136. Microstructures and Mechanical Properties of Fe-Cu-C Alloys Manufactured by Selective Laser

Xu, Jie (Central South University, China)

137. 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)

138. Influence of Laser Energy Density and Re-Meltina Process on Surface Roughness. Microstructure and Tensile Property of AlSi10ma Manufactured by Selective Laser Melting Xie, Yanjun (China Iron & Steel Research Institute

Group, China)

139. 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)

140. Fundamental Study on Ceramic Parts Made by Supersonic Cold Spraying and Micro Rolling Composite Additives Manufacturing Zhang, Haiou (Huazhong University of Science & Technology, China)

141. Material Design for 3D Printing of Novel Biomedical Titanium Alloys

Huang, Jian (Shanghai Institute of Ceramics, Chinese Academy of Sciences, China)

142. Laser Metal Deposition of Al-Cu-Fe Powder on Al 6061 Substrate

Lai, Hong-Jen (Industrial Technology Research Institute, China)

143. Preparation and Characterization of Prealloyed Ti-6AI-4V Alloy Powders from EIGA Method for Additive Manufacturing

Liu, Zhongqiang (South China University of Technology, China)

144. 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)

145. Fatigue Property of Ti-6Al-4V Cellular Structures Fabricated by Selective Laser Melting Dhinakar, A. (National Taipei University of Technology, Chinese Taipei)

146. Effect of Powder Steel Recycling on Porosity of SLM Parts

Palousek, David (Brno University of Technology, Czech Republic)

147. X-Ray Computed Tomography Investigation on Effect of Surface Morphology on Dimensional Measurement of Additively Manufactured Thin-Wall

Zekavat, Amir Reza (Orebro University, Sweden)

148. 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)

149. 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)

150. Degradation of In718 Powder During EBM Processing

Henriksson, Mikael (Chalmers University of Technology, Sweden)

151. Additive Manufacturing of Titanium Parts by Solvent Jetting on TiH2-based Granule Beds Carreño-Morelli, Efrain (University of Applied Sciences and Arts Western Switzerland, Switzerland)

152. 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)

153. Effect of Powder Characteristics on the Properties of Parts Fabricated by Selective Laser Melting

Wang, Fuchao (Huazhong University of Science and

Technology, China)

154. 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)

155. Mechanism of the Phase Evolution and Hydrogen Storage Thermodynamics and Kinetics of Ternary Ce5Mg90Sm5 Alloys

Yong, Hui (Central Iron and Steel Research Institute, China)

156. 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)

157. The Influence of Melt Spinning and Annealing Treatment on Structures and Hydrogen Storage Properties of LaO.8PrO.2MgNi3.6CoO.4 Alloy Zhai, Tinatina (Inner Monaolia University of Science and Technology, China)

158. 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)

159. 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

160. Effect of Phase Composition on Microstructure and Mechanical Properties of Nano mica/apatite Glass-ceramics by Powder Metallurgy Wana, Yamina (Henan University of Science and

161. Biocompatible Ag-Doped Multicomponent Coatings Obtained by Pulsed Electrospark Deposition with Using of Composite SHS Electrodes

Technology, China)

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

162. Microstructure and Mechanical Behavior of Ti-30Nb Metal-Metal Composite

Cheng, Wenjuan (Central South University, China)

Session 14: PM Components & Processes

163. The Application of Impregnation and Local Densification Technology on the Production of PM Automobile VVT Pulley Stator

Shi, Changxu (Jiangsu Advanced Engineering Ltd, China)

Poster Program



Chen, Feixiong (Advanced Technology & Materials Co., Ltd, China)

165. Study on Ti-6AI-4V Alloy Produced by Powder Metallurgy Process

Chen, Feixiong (Advanced Technology & Materials Co., Ltd, China)

166. Application of the Powder Metallurgy Process in Productb of Cathodes for Deposition of Hightemperature Thermal-barrier Coatings (TBCs) on Gas Turbine Blades

Pedash, Oleksii (MOTOR SICH JSC, Ukraine)

167. Study on Mechanical Properties of Iron Based High Density Sintered Material

Noda, Munehiro (Functional Materials Department, Japan)

168. 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)

169. Fabrication and Properties of Iron-based Soft Magnetic Composites Coated with Polyimide Chen, Fangfang (University of Science and

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

170. Microstructure and Properties of Graphene Enhanced Copper Matrix Composites via Coprecipitation and Powder Metallurgy

Ji, Qingzhu (University of Science and Technology Beijing, China)

171. Research on Wear Resistance of Sintered Metal Oil-Impregnated Bearing

Wang, Chunguan (Jiangsu Eagle-Globe Group Co., Ltd., China)

172. Comparison of Mechanical Properties Produced by Aluminium Based and Iron Based Powder Metallurgy Composites

Do, Kyoung-Rok (Korea Sintered Metal, Korea)

173. Enhanced Hardenability of Lean Sintered Steels by the Use of Fine Masteralloy Powders

De Oro Calderon, Raquel (TU Wien, Austria)

174. Optimization of Cu13Al4Ni Alloy Sintering Parameters

Bruce Fialho, Michaella (Socorro University of Brasilia, Brazil)

175. Integrated Product and Process Development of Powder Metallurgy Hub for Automotive Clutch Yan, Zhengfeng (Hefei University of Technology, China)

Session 15: Analysis, Testing, Numerical Simulation, Data and Data Mining

176. 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)

177. Fracture Failure Analysis of Ball Head Hanging Rings on Overhead Transmission Line

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

178. 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)

179. Investigation of Failure Characteristics in Iron Powder Compact

Mizuta, Kohei (National institute of technology, Nara college, Japan)

180. Identification of Friction Angle and Cohesion for Iron Powder Compact

Yoshimura, Taichi (National institute of technology, Nara college, Japan)

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

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





50 H		機能 配置	最高圧制 压力/KN	最大出模 カ/KN	最大裝粉 高度/mm	上海块行 程/mm	上滑块阀 整星/mm	即模定承 受力/KN	成形次数 /spm	PIRK.S INSTITUTE /mm	##UBD #VKW	競技店 カ (居住 行税) /mm	5369.000 52/mm	松机坦泉 (不含铝 架)/kg
中小型粉	FY15	上一下三	150	75	40	90	50	75	13-30	4	5.5	0.5-10	±5	2000
	FY25	上二下三	250	125	60	110	so	125	10-25	4	5.5	0.5-10	±5	3500
	FY25D	上二下三	250	125	90	140	50	125	10-20	4	5.5	0.5-10	±5	3600
	FY50	上二下三	500	250	110	160	80	250	6-16	5	7.5	0.5-10	±5	6500
	FY60G	上二下三	600	300	90	130	80	300	8-22	5	7.5	0.5-10	*5	6700
	FY60	上二下三	600	400	120	160	80	300	6-16	5	7.5	0.5-10	±5	7000
	FY80	上二下三	800	400	135	180	110	400	6-16	6	11	0.5-10	A7.5	10000
大型粉束成形机	FY100	上二下三	1000	500	140	180	110	500	6-16	6	15	0.5-15	±7.5	12800
	FY140	上二下三	1400	700	140	190	130	700	6-16	7	22	0.5-15	±7.5	16000
	FY160G	上二下三	1600	800	105	160	130	800	6-17	7	22	0.5-15	±7.5	17500
	FY160	上二下三	1600	1000	150	200	130	800	6-16	7	22	0.5-15	±7.5	19800
	FY200	上二下三	2000	1000	150	200	150	1000	5-14	7	30	0.5-15	±7.5	30000
	FY200D	上三下四	2000	1000	150	200	150	1000	5-14	8	30	0.5-15	±7.5	32000
	FY260	上二下三	2600	1300	150	200	150	1300	5-14	8	37	0.5-15	±7.5	32000
	FY300G	上二下三	3000	1500	130	175	150	1500	5-14	8	37	0.5-15	±7.5	33000
超大型粉	FY300D	上三下四	3000	1500	130	175	150	1500	5-14	8	37	0.5-15	±7.5	34500
宋成形机	FY450D	上三下四	4500	2250	150	200	150	2250	5-12	9	45	0.5-15	±10	50000
	FYSOOD	上三下四	5000	2500	150	188	150	2500	5-12	9	45	0.5-15	#10	52000
	FY800D	上三下四	8000	4000	150	200	150	4000	5-12	10	55	0.5-15	±10	88000
	FY900D	上三下四	9000	4500	150	200	150	4500	5-12	10	55	0.5-15	±10	90000
		384932033		最大競形压力 /KN	最大原模力 /KN	上海块		块理整施 /mm	同模様承受力 /KN	提形次数 /spm	HLIDUL /KV		Elletti (an	無机阻線(3 含模制)/kg
	1		FZ25	250	125	64		50	125	15~27	5.5		ETFE	2500
FZ 系列粉末額 形机			FZ60	600	300	160		80	300	9-17	7.5		上二下二	5500
			2100	1000	500	180		110	500	10-22	15		上二下二	9500
	RICH	9 8	Z160	1600	800	180		130	800	6~18	22		上二下二	14000
		5	Z300	3000	1500	175		150	1500	9-15	37		上二下二	26000
			Z500	5000	2500	170		100	2500	9~15	45		上二下二	40000
	FZ80		Z800	8000	4000	200	kiji .	150	4000	7-14	55		上二下二	65000



60 years' R&D and industrialization on PM materials We provide effective and reliable filtration and purification solutions

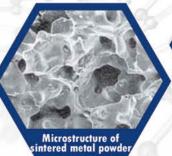
AT&M Environmental Engineering Technology Co., Ltd (AEET) is an integrated Environmental Management Service Provider in Products R&D and Manufacturing, Supporting Facilities, System Integration, Engineering Design and EPC projects.

- + Advanced manufacturing equipments
- + Full range of sintered metal products
- + Authorized patents

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BOOTH A360

- + Independent intellectual properties
- + First prize of the National Invention Award
- + Authorized manufacturer by SHELL
- One of the largest manufacturing base of sintered metal porous products in China





HTHP fly ash filter

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Other Events

Plant Tour

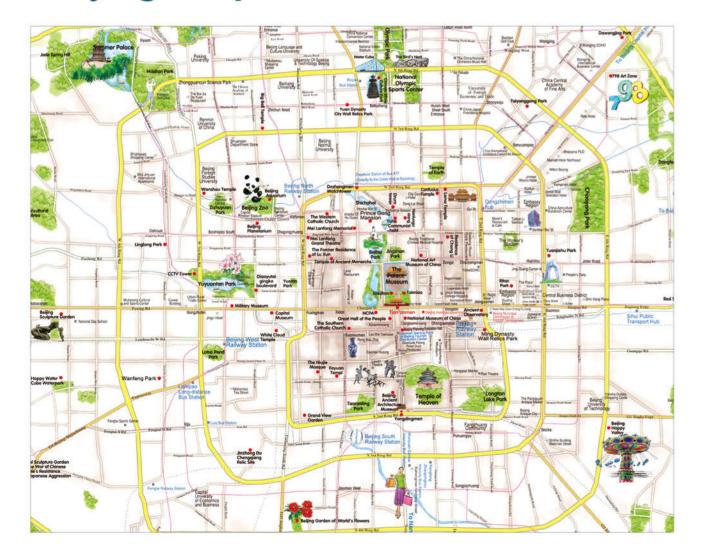
About

BAIC Motor is a leading passenger car manufacturer and service provider in China. BAIC Motor has a wide range of brands, from JV luxury passenger cars, JV luxury commercial vehicles, JV middle-end and high-end passenger cars, to passenger cars of self-owned brands, making us capable of maximum satisfaction to different demands from diverse consumers. BAIC Motor is also the leading company for the pure electric passenger car business in China.

Founded in September 2010, BAIC Motor is the platform of Beijing Automotive Group Co., Ltd (BAIC Group) for complete passenger car resource integration and business development, and is one of enterprises to which the Beijing municipal government offers focused support.



Beijing Map



Exploring Beijing

Tian'an men Square and Forbidden City

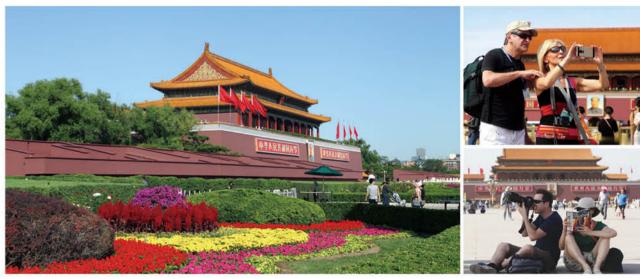
08:30-09:30 Transfer from hotel to the Tian'an Men Square
09:30-12:00 Visit to the Tian'an men Square and the Forbidden City

12:00-12:30 Transfer back CNCC Grand Hotel

USD\$110 per person Remarks:

The cost is based on a group of minimum 2 paying guests.

The cost includes a private English speaking guide & car, entrance fee to the Forbidden City.



Located in the center of Beijing City is Tian'an men Square, where you can visit Tian'an men Tower, Monument to the People's Heroes, Great Hall of the People, Mao Zedong Memorial Hall and see the national flag raising ceremony.

Situated at the heart of Beijing, the Forbidden City is approached through Tian'an men Gate. It is a location endowed with cosmic significance by ancient China's astronomers. The Forbidden City was built from 1406 to 1420 by the third Ming emperor Yongle who, upon usurping the throne, determined to move his capital north from Nanjing to Beijing. In 1911 the Qing dynasty fell to the republican revolutionaries. The last emperor, Puyi, continued to live in the palace after his abdication until he was expelled in 1924. Twenty-four emperors lived and ruled from this palace during this 500-year span.







Exploring Beijing

Mutianyu Great Wall & 798 Art Zone

08:30-09:30 Transfer from hotel to the Mutianyu Great Wall

09:30-11:40 Visit to the Mutianyu Great Wall
11:40-12:00 Transfer to the local restaurant for lunch

12:00-13:00 Lunch at The local restaurant 13:00-14:30 Transfer to the 798 Art Zone 14:30-16:30 Visit to the 798 Art Zone

16:30-17:30 Transfer back to CNCC Grand Hotel

USD\$170 per person Remarks:

The cost is based on a group of minimum 2 paying guests.

The cost includes a private English speaking guide & car, entrance fee and lunch at local

restaurant.











798 Art District is SoHo and Greenwich Village with Chinese characteristics. Since 2001, artists have converted this cluster of abandoned Bauhaus-style factories into the country's top studios and galleries. Alongside the studios and galleries, there are also chic cafés, bars, and restaurants, and a growing number of small designer shops and showrooms.

Contact us

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Congress Venu

Congress Venue



CNCC

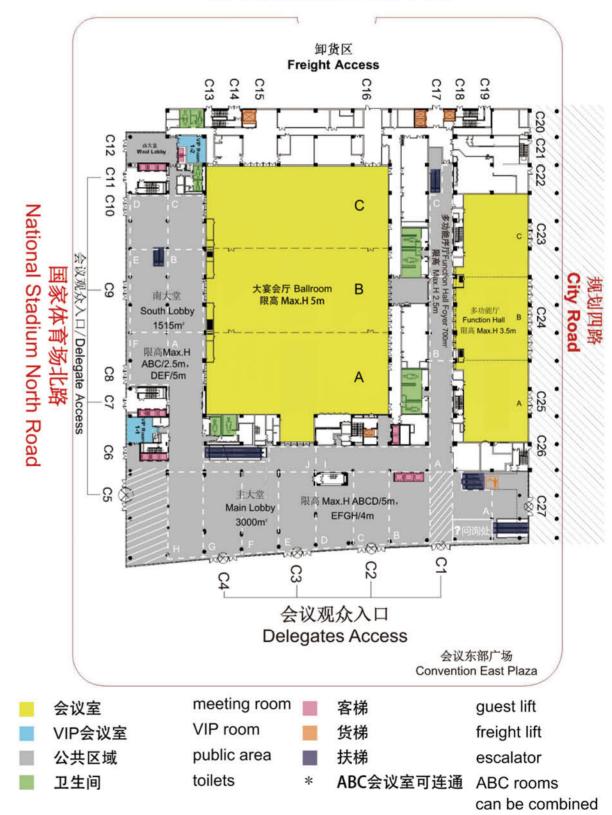


BICC

Congress Venue-CNCC

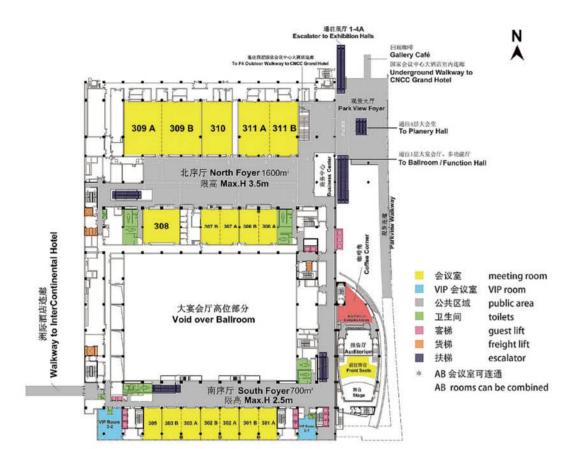
一层会议平面图

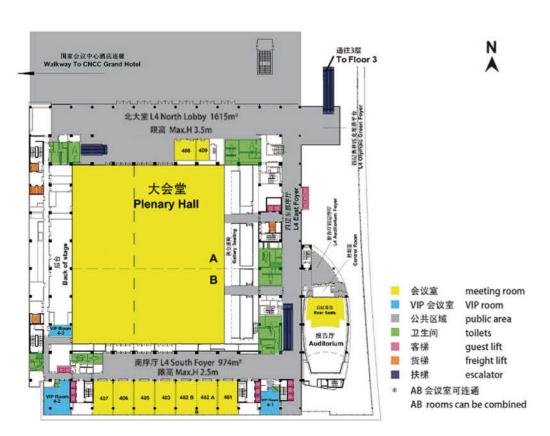
L1 Convention Floor Plan



Congress Venue

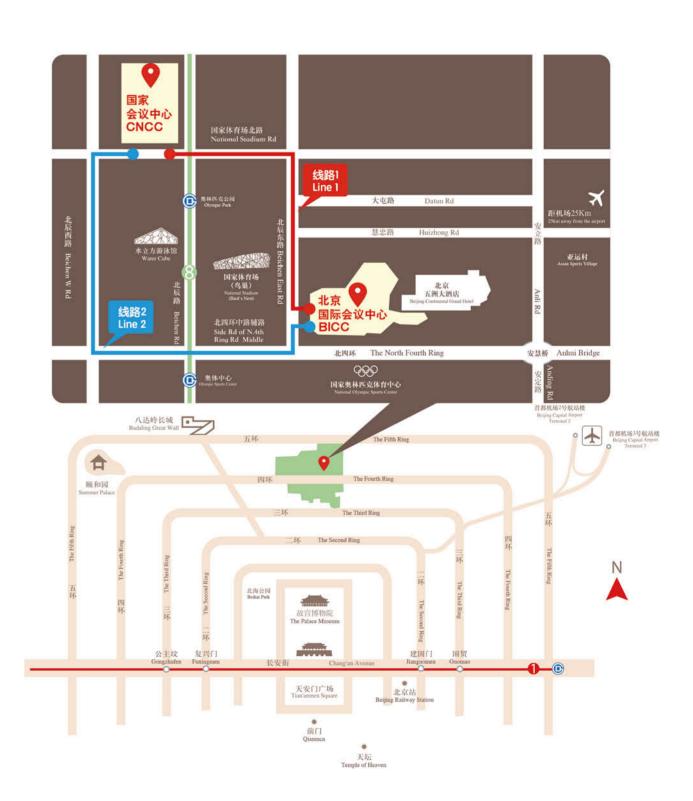
Congress Venue-CNCC





Congress Venue:

CNCC == BICC





Important Notice

Kindly note that the Opening Ceremony of the Congress will be held:

*Time: 9:00-12:30

*Date: September 17, 2018

*Venue: Convention Hall No. 1 of Beijing International Convention Center (BICC)

For your convenience, shuttle buses will be provided every 15 minutes between 07:45 to 09:30, from CNCC Grand Hotel, Intercontinental Beijing Beichen and CNCC, to BICC.

Registration & Information Desk will be located at Level 1 Access C2 of CNCC. Therefore, we strongly recommend delegates register either on the afternoon of September 16 or early morning of September 17 before Opening Ceremony.

After the Opening Ceremony, lunch will be provided at the Convention Hall No. 4&5 of BICC at 12:30. Shuttle buses will be provided from BICC to CNCC starting at 13:00, for the Plenary Reports taking place in the afternoon.

Schedule (September 17, 2018)					
07:45-9:30 (every 15 mins)	Shuttle Bus to BICC	CNCC Grand Hotel, Intercontinental Beijing Beichen and CNCC			
9:00	Opening Ceremony	Convention Hall No.1, BICC			
12:30	Lunch	Convention Hall No. 4&5, BICC			
13:00 (every 15mins)	Shuttle Bus to CNCC	BICC			
14:00-17:00	Plenary Reports	Ballroom A&B, CNCC			
18:30-20:30	Welcome Dinner	Ballroom A&B, CNCC			

Simultaneous Interpretation and Translation Equipment

Headsets can be collected at the entrance of Convention Hall No.1 of Beijing International Convention Center in the morning of September 17. Official ID is required for collecting the headset.

Please bring your headset to China National Convention Center for Plenary Reports in the afternoon. Return point will be outside of Ballroom A & B of China National Convention Center.



General Information

The WORLDPM2018 Registration and Information Desk at the China National Congress Center will be open:

Sunday 14:00-20:30 Monday: 07:00-18:00 Tuesday: 08:00-18:00 Wednesday: 08:00-18:00

Venue: Level 1 Access C2, CNCC



Name Badge:

Delegates are requested to wear their badge at all times during WORLDPM2018 in order to allow access to the technical sessions, exhibition and other associated events.



To Join the WiFi network:

Select 'CNCCfree' from your device's list of available networks, no passwords needed.





The Congress Proceedings on USB are included in the registration package for all Full Delegates: Presenting Authors, Session Chairmen, CPMA Members, Non-Members and Students.

Other delegates and exhibitors can purchase the proceedings on USB priced at 2000 RMB from the registration and information desk, subject to availability.



Speaker's Guide:

All Technical Session and Special Interest Session speakers must meet your session chairman in the session room at least 20 minutes before your session starts. Your session chairman will give you important instructions to ensure the smooth progress of the session.

Speaker's Lounge is available for all speakers to practice and socialize at Room 305 of CNCC from 14:00 on September 17 to 18:30 on September 18, Room 302B is available from 08:00-12:00 on September 19.

All speakers must copy your Powerpoint to the computer in your session room half day in advance.



Poster Venue:

Posters will be on display from Tuesday to Thursday at the Park View Foyer, Convention Level 3 of China National Convention Center. Authors must report in person with their posters on Tuesday, September 18, 2018 between 12:45 to 13:45. Each poster area will be clearly identified with the poster group, poster title, authors' names and countries (as shown in the Congress program and provided by the Congress sponsors). Authors are responsible for removing posters. Posters must remain on display until 11:30 on Thursday, September 20, 2018. All posters must be removed after the poster exhibition. Posters not removed will be discarded. Congress sponsors are not responsible for returning/shipping posters to authors.



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WORLDPM2018

Local Information

Electricity

The electric current used in China is 220V 50Hz. Hotels provide 220V and 110V (shavers only) power outlets. Please note that plug adapters and converters might be required.

Currency and Exchange

The currency used in China is the Renminbi Yuan (RMB or ¥) and the value is pegged to the US dollar with a current exchange rate of US\$ 1: RMB 6.45 (May 2018). The Yuan is divided into 10 Jiao or 100 Fen. Notes come in denominations of ¥100, 50, 20, 10, 5 and 1. Exchange your leftover Yuan before returning home as it can only be exchanged within China's borders.

Euros and US Dollars can be exchanged at your hotel or at any bank. Traveller's cheques can only be exchanged at the Bank of China. Banks usually open from 9 a.m. to 5 p.m. From Monday to Friday and 9 a.m. to 4 p.m. on Saturday and Sunday. Currency exchange services are available for the following foreign currencies: US Dollar, British Pound Sterling, Euro, Japanese Yen, Australian Dollar, Canadian Dollar, Hong Kong Dollar, Swiss Franc, Danish Krone, Norwegian Krone, Swedish Krone, Singapore Dollar, Malaysian Ringgit, and Macao Pataca. Major credit cards are accepted at many establishments, such as American Express, Diners Club, JCB, Master Card and Visa.

Insurance

Organizers of the Congress do not take any liability for personal accidents or injury or loss or damage to private property of any participant indirectly arising from travelling to Beijing and/or attending the Congress. Participants are advised to purchase adequate travel and health insurance before leaving their own countries.

Tipping

Gratuities are not customary in China. However, in hotels and during group travels, tipping is practiced for porters, tour guides and drivers.

Smokina

Smoking in indoor public places has been banned in Beijing from June 1, 2015 following the rolling out of the toughest ever anti-smoking regulation in China. The regulation extends smoking bans to all indoor public areas and workplaces.

Time

China covers four time zones. Beijing time is the only official time throughout the country; punctuality is highly appreciated.

Communications

The international access code for China is +86. The outgoing code is 00 followed by relevant country code. The main emergency number for fire emergency is 119, medical emergency is 120, and for Police it is 110.

Transportation / Public Buses

Buses are the main means of transport in Beijing. Please prepare small bills as not all buses will carry change. Buses can be very crowded during peak times, which are generally from 7-9 a.m. and 4-6 p.m.

The Subway

The subway system in Beijing has 15 lines. The fare is 3 - 9 yuan. Trains run from 5:30 in the morning until 11:00 in the evening. A ticket can be bought at the ticket office at each station or at an automatic ticketing machine. Subway stops are announced over the train's speaker system in Chinese and English.

Taxis

Taxis in Beijing have several colours. All of them show a taximeter inside. You can easily find them in every part of Beijing. All Taxis will charge 2.3 yuan per kilometer with a base rate or minimum charge of 13 yuan.



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企业简介 Brief Introduction



北京天宜上佳高新材料股份有限公司成立于2009年11月,位于海淀区上庄镇,是专业从事高速列车、动车组、 机车车辆、城市轨道交通车辆制动闸片、闸瓦等系列产品研发和生产的国家高新技术企业。

天宜上佳是率先实现了高速列车/动车组闸片的国产化,已申请各类专利近190余项,授权发明专利14项,实用新型专利85项,外观专利4项,PCT(国际专利)授权4项。天宜上佳是唯一获得时速350公里中国标准动车组资质证书供应商,也是唯一获得中国高寒动车组(哈大线)资质证书供应商,其系列产品TS399B制动闸片于2017年9月获得欧洲铁路联盟产品认证(UIC)。我公司高铁闸片产品已经覆盖铁总全部18个铁路局,并已成为高速列车/动车组制动闸片研发与制造的国内领军企业,其产品最大的核心优势是完全自主研发、车型覆盖广泛,目前共持有5张动车组闸片CRCC产品认证证书,覆盖17个动车组车型,涵盖时速300-350公里及200-250公里的主流车型。

Beijing Tianyishangjia New Material Corp., Ltd., found in November, 2009 and located in Shangzhuang Town in Haidian District, is a national high-tech enterprise specialized in the R&D and manufacturing of a series of products including high-speed EMU train, CRH train, rolling stock, brake pad and brake block for urban rail transit vehicle.

Tianyishangjia takes the leading in realizing the localization of brake pad for high-speed EMU train and has applied for almost 190 patents, 14 authorized patents for invention, 85 patents for utility model, four appearance patents and PCT (international patent) authorization for four items. It is the only supplier who acquired the qualification certificate for 350km/h Chinese Standard EMU train, and the only one obtaining the qualification certificate for Chinese high cold EMU train (Harbin-Dalian Railway), in which the products of TS399B brake pad series passed the product certification of UNIFE (UIC) in September 2017. Our brake pads for high-speed train has covered all the 18 Railway Bureaus of National Railway Administration of the People's Republic of China and our Company has also become the national leading enterprise in R&D and manufacturing of brake pad for high-speed EMU train. Fully independent R&D and extensive coverage of train models are the greatest core advantages of our products. At present, there are total five CRCC Product Certificates for high speed EMU brake pad, which cover 17 models of CRH train, including the mainstream models with a speed of 300–350 km/h and 200–250km/h.



TS588A 粉末冶金闸片 350km/h (中国标准动车组"复兴号")



TS399 粉末冶金闸片(高寒) 300-350km/h



军用特种车辆高性能粉末冶金刹车片





GKN Hoeganaes – Advanced materials solution provider of Ancorsteel® metal powders for high precision Powder Metallurgy and AncorAM™ metal powders for Additive Manufacturing.

