

Parallel Session Schedule

FIELD 1: Additive Manufacturing (3D Printing)

Session 1(AM: Process Analysis I): Tuesday Morning, Oct. 21, 9:00-10:25; Function room 22, Level 2

Chair: Zhang Deliang, Northeastern University

| Type | No. | Paper title | First Name | Last Name |
|-----------------------------|-----|---|------------|-----------|
| Invited Presentation | - | Energy-field Hybrid Laser Additive Manufacturing of Multi-material Graded Components | Guangyi | Ma |
| Keynote Speech | 342 | Understanding the sintering mechanism of multimodal powder feedstock for sinter-based additive manufacturing | Jai Sung | Lee |
| Oral Presentation | 105 | Effect of Laser Power on Microstructure and Properties of Al ₇ (VCoNi) ₉₃ Medium Entropy Alloy Fabricated by Additive Manufacturing | Yinghao | Zhu |
| Oral Presentation | 192 | Effect of processing parameters on the densification, microstructure and mechanical characterization by selective laser melting of W-25%Re alloy | Yingying | Zhang |

Session 2(AM: Process Analysis II): Tuesday Morning, Oct. 21, 10:35-12:00; Function room 22, Level 2

Chair: Zong Guisheng, 3D Printing Technology, Inc.

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| Oral Presentation | 224 | Wear performance improvement by B additions in filament-based material extrusion additively manufactured 316L alloys | Chanun | Suwanpr eeche |
| Oral Presentation | 226 | Microstructural and mechanical characterisation of bimetallic 316L/17-4PH stainless steel fabricated via filament-based material extrusion additive manufacturing | Natthaphat | Parsomp ech |

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| Oral Presentation | 323 | Nanoceramic decoration of metal powders for additive manufacturing by ultrafine bubble-assisted hetero-agglomeration | Mingqi | Dong |
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Session 3(AM: Material & Process Development I): Tuesday Morning, Oct. 21, 13:30-15:00; Function room 22, Level 2
Chair: Tang Huiping, Hangzhou City University

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| Invited Presentation | - | Nanoparticle Jetting of Zirconia Ceramics and Their Applications in Oral Products | Huiping | Tang |
| Keynote Speech | 129 | Additive Manufacturing of Segregation-free Fe-Cr-Co Magnetic Steel via Laser Powder Bed Fusion | Yuheng | Liu |
| Oral Presentation | 106 | Optimizing Cr7C3 Content in Ni3Al-Based Laser Cladding Coatings: Microstructure Evolution and Tribological Performance on 42CrMo Steel | Shiqin | Wei |
| Oral Presentation | 107 | Particle/liquid Refractive Index Coupling Introduced Light Penetration Effect Enabling High Thermal Conductivity of 3D Printing AlN | Maohang | Zhang |

Session 4(AM: Material & Process Development II): Tuesday Morning, Oct. 21, 15:10-17:00; Function room 22, Level 2
Chair: Tang Huiping, Hangzhou City University

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| Keynote Speech | 167 | Process optimization of laser powder bed melting for the preparation of superhard M2 high-speed steel | Siyu | Xu |
| Oral Presentation | 162 | Rheological Performance Optimization of Aqueous YG8 Slurry for Direct Ink Writing Formation | Xiao-Fei | Li |
| Oral Presentation | 228 | Surface quality and wear performance of 316L stainless steel fabricated by MIM and MEX: effects of shot peening | Aphichat | Sakkaeo |

Session 5(AM: Material & Process Development III): Wednesday Morning, Oct. 22,
9:00-10:25; Function room 26, Level 2

Chair: Cheng Jigui, Anhui University of Technology

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| Keynote Speech | 52 | Additive Friction Stir Deposition of AZ31B Magnesium Alloy: Microstructural Evolution, Mechanical Properties, and Thermo-Mechanical Modeling | Zhixin | Xia |
| Oral Presentation | 275 | Composition gradient structure governs scale-dependent mechanical properties in multi-materials integrated Additive Manufacturing | Yaojie | Wen |
| Oral Presentation | 319 | Electron Beam Point-Wise Fabrication of NiTi Coatings on Titanium Inspired by Additive Manufacturing Technique | Lei | Wang |

Session 6(AM: Binder Jetting &Printed Materials and Analysis): Tuesday Morning, Oct. 21, 9:00-10:25; Function room 26, Level 2

Chair: Zhao Lin, Central Iron & Steel Research Institute Co., Ltd.

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| Invited Presentation | - | Binder Jetting Manufacturing | Guisheng | Zong |
| Keynote Speech | 6 | DEM-based insights into mechanisms governing the print-bed characteristics in binder jet printing additive manufacturing | Abolfazl | Malti |
| Oral Presentation | 43 | Analysis of Microstructure and Mechanical Properties of Niobium Alloy Manufactured by Laser Beam-Powder Bed Fusion (LB-PBF) Process | Sug Wan | Lee |

Session 7(AM: Printed Materials and Analysis I): Tuesday Morning, Oct. 21, 10:35-12:00; Function room 26, Level 2

Chair: Niu Zhibin, Tianjin University

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| Keynote Speech | 22 | Anodizing of 3D-printed AlSi10Mg Alloy and its Fatigue Property | Hiroataka | Kurita |
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| Oral Presentation | 241 | Strong and ductile niobium-based refractory alloy via deformable zirconia nanoparticles | Jianan | Chen |
| Oral Presentation | 299 | Microstructure and mechanical properties of C-HRA-1 nickel-based superalloy by laser melting deposition | Shaobo | Ping |
| Oral Presentation | 331 | Preparation of Oxide Thermoelectric Films via Freeze-Dry Pulsated Orifice Ejection Method and Laser Powder Bed Fusion | Zhenxing | Zhou |
| Oral Presentation | 341 | Microstructure and properties of TiC/Mo composites via laser powder bed fusion | Wenjing | Yang |

Session 8(AM: Printed Materials and Analysis II): Tuesday Afternoon, Oct. 21,
13:30-15:00; Function room 26, Level 2
Chair: Niu Zhibin, Tianjin University

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| Oral Presentation | 243 | Strong and ductile nanoscale Ti-1Fe dual-phase alloy via deformation twinning | Chang | Liu |
| Oral Presentation | 200 | Preparation of Cu-Cr-Zr-Nb alloys by selective laser melting with elemental powders | Xinyu | Yang |
| Oral Presentation | 203 | Vibration-Induced Separation of Dissimilar Mixed Metal Powders for Powder Bed Fusion Additive Manufacturing: A Digital Twin Science Study | Yuichiro | Koizumi |
| Oral Presentation | 134 | Effect of micro-strain and (100) texture intensity on corrosion behaviors of NiTi alloy via laser powder bed fusion | An | Yan |

Session 9(AM: Printed Materials and Analysis III): Tuesday Afternoon, Oct. 21,
15:10-17:00; Function room 26, Level 2
Chair: Zong Guisheng, 3D Printing Technology, Inc.

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| Oral Presentation | 244 | Development of strong and ductile titanium alloys with wear resistance and enhanced damping | Haiyue | Zhang |
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| Oral Presentation | 221 | Metallurgical Strengthening Behavior in Heterogeneous Interface of NiWCo/Cu Fabricated by Additive Manufacturing | Chenxu | Lei |
| Oral Presentation | 116 | Microstructural characteristics and mechanical properties of hypereutectic Al-Si alloy fabricated by laser powder bed fusion | Asuka | Suzuki |
| Oral Presentation | 179 | Microstructural and Mechanical Characterization of MA6000 Samples with Different Y ₂ O ₃ Contents Fabricated by L-PBF | jun-seo | Park |

Session 10(AM: Modeling and Post-processing): Wednesday Morning, Oct. 22,
10:35-12:00; Function room 26, Level 2
Chair: Niu Zhibin, Tianjin University

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| Keynote Speech | 309 | An Integrated CALPHAD-Based FEM Tool for Additive Manufacturing Simulation | Shan | Jin |
| Oral Presentation | 340 | Research on Additive Manufacturing and Hot Isostatic Pressing for Biomedical Pure Tantalum | Xin | Liu |
| Oral Presentation | 372 | A novel performance-aimed geometric tolerancing evaluation framework for topologically optimized models based on sensitivity analysis | Pengfei | Yan |
| Oral Presentation | 190 | A Novel Digital Tool for Additive Manufacturing: From LB-PBF to Sinter-Based Processes | Yan | Liu |

FIELD 2: Powder forming and sintering

Session 11(Powder Injection Molding): Tuesday Morning, Oct. 21, 9:00-10:25;
Function room 35+37, Level 3
Chair: Yau Hung Chou, XGIMI(Ningbo) Intelligent Equipment Co., Ltd.

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| Invited Presentation | - | Development Status of POM Base Feedstock of PIM in Asia | Yau hung | Chou |
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| Oral Presentati on | 333 | Study on sintering behaviour of metal injection molded Ti-6Al-4V based on experimental and molecular dynamics | Haibo | Sun |
| Oral Presentati on | 135 | Formation mechanism of W-coated Cu composite powders and the metal injection molding using polyoxymethylene-based binders | Xipeng | Ding |
| Oral Presentati on | 45 | The Importance of the Particle Size Analysis of Powders in Metal-powder Injection Molding | Yau Hung | Chou |
| Oral Presentati on | 359 | Defect Analysis of Metal Powder Injection Molding | Yau hung | Chou |

Session 12(Press, Sinter& Secondary Operations I): Tuesday Morning, Oct. 21, 10:35-12:00; Function room 35+37, Level 3

Chair: Chou Yau Hung, XGIMI(Ningbo) Intelligent Equipment Co., Ltd.

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| Invited Presentati on | 13 | Process design of surface densification rolling of powder metal gears | Philipp | Scholzen |
| Keynote Speech | - | Sintering Mechanism and Application of SPS Technology | Jiuxing | Zhang |
| Oral Presentati on | 30 | Influence of ultrasonic surface rolling process on surface integrity and internal porosity in selective laser melted CP-Ti | Xingyi | Li |
| Oral Presentati on | 32 | Corrosion behavior of sintered duplex stainless steel manufactured from gas-atomized powders discarded from 3D printing | Yitong | Liu |
| Oral Presentati on | - | Atomic-Scale Insights into Powder Metallurgy and Additive Manufacturing using Atom Probe Tomography | Florian | Vogel |

Session 13(Press, Sinter& Secondary Operations II): Tuesday Afternoon, Oct. 21, 13:30-15:00; Function room 35+37, Level 3

Chair: Chen Gang, University of Science and Technology Beijing

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| Oral Presentation | 76 | Development of a "Zero-shrinkage" anaerobic sealant for powder metallurgical parts | Huangyong | Jiang |
| Oral Presentation | 87 | Microstructure and mechanical properties of ceramic nanoparticles dispersion-strengthened tungsten alloys | Fei | Lin |
| Oral Presentation | 71 | Gelcasting technology for large-scale complex-shaped titanium alloy components | Xin | Li |
| Oral Presentation | 56 | Simulation of a hot isostatic pressing furnace | Chang | Gao |

Session 14(Press, Sinter& Secondary Operations III): Tuesday Afternoon, Oct. 21, 15:10-17:00; Function room 35+37, Level 3

Chair: Chen Gang, University of Science and Technology Beijing

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| Invited Presentation | 163 | Effect of initial relative density on liquid phase sintering behavior of Al powder using Al-Cu eutectic alloy powder: In-situ observations using microscopy and synchrotron X-ray computed tomography | Ryotaro | Kusunoki |
| Oral Presentation | 178 | Analysis of the reinforcement effect of TiN and WC content to improve the mechanical properties of Ti-Grade12 | Hyun-Su | Kim |
| Oral Presentation | 252 | Development and evaluation of 17-4PH micro gears via high performance powder metallurgy | Tzu-Yao | Lin |
| Oral Presentation | 352 | Optimizing Heat Treatment and Alloying for Enhanced Performance of Astalov® CrS PM Steel | Jie | Yang |

Session 15(Press, Sinter& Secondary Operations IV): Wednesday Morning, Oct. 22, 9:00-10:25; Function room 35+37, Level 3

Chair: Xu Kai, CISRI Hydrogen & Porous Technology Co., Ltd.

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| Invited Presentation | 347 | Fabrication of MXene-reinforced silver matrix composites | Weiwei | Zhou |
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| on | | | | |
| Oral Presentati on | 260 | Effect of air oxidation time on microstructure of sintered Cr-Fe alloy | Shing-Yin | Liao |
| Oral Presentati on | 264 | Investigation of nitrogen effects on Cr-Fe alloys during high-temperature sintering | Chih-Ching | Chung |
| Oral Presentati on | 399 | Achieving strength-ductility balance in Cu matrix composite reinforced with double nanophase of CNT and intragranular in-situ TiC | Jingmei | Tao |

Session 16(Press, Sinter& Secondary Operations V): Wednesday Morning, Oct. 22,
10:35-12:00; Function room 35+37, Level 3

Chair: Xu Kai, CISRI Hydrogen & Porous Technology Co., Ltd.

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| Oral Presentati on | 378 | Benefits of high-performance mixes solution in consistency and efficiency of PM part production | Xiaolin | Huang |
| Oral Presentati on | - | Interfacial bonding enhancement in laser clad Ni45 coatings on martensitic stainless steel through CeO ₂ modification | Boliang | Hu |
| Oral Presentati on | - | Multi-scale Mechanism of Sintering and Density Enhancement of Molybdenum Powder and Prediction Model | Chengfang | Chai |
| Oral Presentati on | 343 | Microstructural and mechanical properties of oxide dispersion strengthened (ODS) ferritic steels fabricated by mechanical alloying and powder forging | Himanshu | Pal |

FIELD 3: Refractory Metals& Cemented Carbide

Session 17(Refractory Metals& Cemented Carbide I): Tuesday Morning, Oct. 21,
9:00-10:25; Function room 31+33, Level 3

Chair: Wang Tiejun, CISRI Hydrogen & Porous Technology Co., Ltd.

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| Invited Presentati on | 267 | Rare earth oxide turns molybdenum alloy into a feasible functional material | Jinshu | Wang |
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| Oral Presentation | - | The recent development of tungsten-molybdenum alloy materials in China | Tiejun | Wang |
| Oral Presentation | 29 | Effect of FeCoNiMoW high entropy alloy binder on mechanical properties of high entropy (Ti,W,Mo,Nb,Ta)(C,N) based cermets | Houan | Zhang |
| Oral Presentation | - | With the tenacity of molybdenum, safeguard the flexibility of life—The Application of Molybdenum Alloys in the Medical Field | Di | Dong |

Session 18(Refractory Metals&Cemented Carbide II): Tuesday Morning, Oct. 21, 10:35-12:00; Function room 31+33, Level 3

Chair: Liu Bin, Central South University

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| Invited Presentation | 83 | High-Temperature Mechanical Properties and Irradiation Behavior of Tungsten-Rich Multiple Principle Element Alloys | Bin | Liu |
| Oral Presentation | 113 | Vacuum diffusion bonding Nb521 and GH3230 alloys via different interlayers | yuanyi | Peng |
| Oral Presentation | 49 | Study On Microstructure And Mechanical Properties Of Molybdenum Rhenium Alloy | Guangda | Wang |
| Oral Presentation | 140 | Creep Behavior and Life Prediction of Rhenium: A Multi-scale Investigation Integrating Constitutive Modeling and Machine Learning | Di | Zhang |

Session 19(Refractory Metals&Cemented Carbide III): Tuesday Morning, Oct. 21, 13:30-15:00; Function room 31+33, Level 3

Chair: Qin Yongqiang, Hefei University of Technology

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| Invited Presentation | - | Research on the irradiation resistance modification of tungsten materials for nuclear fusion reactors | Hongyu | Chen |
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| Oral Presentation | 272 | Research on preparation and properties of CeO ₂ -modified WC-FeNiCo ultrafine-grained cemented carbides | Yongqiang | Qin |
| Oral Presentation | 148 | Interfacial structure evolution and fracture toughness of polycrystalline diamond with medium-entropy alloy binder | Tianxu | Qiu |
| Oral Presentation | 288 | High stress twinning in High-Stacking-Fault-Energy M6C carbides of M42 high speed steel | Qiangqiang | Yuan |

Session 20(Refractory Metals & Cemented Carbide IV): Tuesday Afternoon, Oct. 21, 15:10-17:00; Function room 31+33, Level 3

Chair: Xiong Ning, ATTL Advanced Materials Co.,Ltd.

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| Oral Presentation | 286 | Synergistic multi-objective Optimization for Refractory High-Entropy Alloys | Ruixia | Sun |
| Oral Presentation | 72 | Nitride dispersion strengthened tungsten alloy based on in-situ synthesis | Xingyu | Li |
| Oral Presentation | 114 | The high temperature tensile properties and mechanisms of Re-0.1ZrO ₂ | Wenqing | Ying |

FIELD 4: HIP

Session 21(HIP materials): Tuesday Morning, Oct. 21, 9:00-10:25; Function room 24, Level 2

Chair: Chen Hongxia, CISRI HIPEX Technology Co., Ltd.

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| Invited Presentation | 366 | Research Status and Industrial Application Progress of High Performance Silicon Nitride Ceramics | Weiru | Zhang |
| Invited Presentation | 151 | The Booster for Large-Scale High-Performance Powder Metallurgy Products — Development of Ultra-Large Hot Isostatic Pressing Equipment | Hongxia | Chen |
| Oral Presentation | 330 | Complex effects of capsule structure and powder particle size on the mechanical properties of | Xiaosheng | Tian |

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| | | powder metallurgy Inconel 718 alloys | | |
| Oral Presentation | 41 | The structure control of precipitates in heat-resistance steel and its mechanical properties | Peng | Zhang |
| Oral Presentation | 410 | Innovative Applications of Hot Isostatic Pressing (HIP) and Its Integration into the Product Value Chain | Tianshu | Zhang |

Session 22(HIP Simulation): Tuesday Morning, Oct. 21, 10:35-12:00; Function room 24, Level 2

Chair: Chen Hongxia, CISRI HIPEX Technology Co., Ltd.

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| Invited Presentation | 186 | Holistic Simulation Approaches for Hot Isostatic Pressing: Bridging Physics, Materials, and Digital Twins | Zhenghua | Yan |
| Invited Presentation | 277 | Digital twin of the PM-HIP manufacturing chain from powder filling and pre-consolidation to near-net-shape components | Yuanbin | Deng |
| Oral Presentation | 401 | Research on Numerical Simulation and Capsule Design and Manufacturing for Near Net Shaping Hot Isostatic Pressing | Chengjian | Zhang |
| Oral Presentation | 271 | Multiscale Simulation of Hot Isostatic Pressing in Iron and Steel Manufacturing: Advances in DEM-CFD Coupled Modeling | Guangming | Chen |

Session 23(HIP materials and simulation I): Tuesday Afternoon, Oct. 21, 13:30-15:00; Function room 24, Level 2

Chair: Christoph Broeckmann, RWTH Aachen University

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| Oral Presentation | 155 | Influence of Hot Isostatic Pressing Temperature on Compositional Distribution Uniformity of Ni-Ti Alloyed Molybdenum Targets Fabricated via Powder Metallurgy | Zhanfang | Wu |
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| Oral Presentation | 398 | Research on the microstructure and properties of "mechanics-shielding" integrated magnesium matrixed composite | Zunyan | Xu |
| Oral Presentation | 409 | The current situation and development trends of hot isostatic pressing (HIP) | Songtao | Meng |
| Oral Presentation | 396 | Strengthening and deformation mechanism of high-strength CrMnFeCoNi high entropy alloy prepared by powder metallurgy | Caiju | Li |

Session 24(HIP materials and simulation II): Tuesday Afternoon, Oct. 21, 15:10-17:00;
Function room 24, Level 2

Chair: Qi Wen, CISRI HIPEX Technology Co., Ltd.

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| Oral Presentation | 403 | Investigation of HIP-NNS for SAF2205 Duplex Stainless Steel | Pengjie | Zhang |
| Oral Presentation | 402 | Key Technologies and Industrial Application of Hot Isostatic Pressing in Near-Net-Shape Manufacturing of Maintenance-Free Wear-Resistant Roller Sleeves | Haonan | Zheng |
| Oral Presentation | 411 | Research Progress of Hot Isostatic Pressing Diffusion Bonding Between Steel and Dissimilar Materials | Haofeng | Li |

FIELD 5: Metal Powder Preparation and Processes

Session 25(Metal Powder Preparation and Processes I): Tuesday Afternoon, Oct. 21, 13:30-15:00; Function room 25, Level 2

Chair: Yu Yang, Tiangong International Co., Ltd.

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| Invited Presentation | - | The principle of plasma milling and its application in materials synthesis | Min | Zhu |
| Oral Presentation | 374 | Co-manufacturing gas atomization technology for powder | Pengfei | Yan |
| Oral Presentation | 23 | Monitoring and Optimisation of Powder Outgassing for Sintering | Erik | Cox |

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| Oral Presentati on | 34 | Producing ultrafine electrolytic copper powder | Roman | Voinkov |

Session 26(Metal Powder Preparation and Processes II): Tuesday Afternoon, Oct. 21,
15:10-17:00; Function room 25, Level 2

Chair: Huang Zanjun, Advanced Technology & Materials Co., Ltd.

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| Invited Presentati on | - | Technical and market development of PM high speed and tool steels in China | Yang | Yu |
| Keynote Speech | - | Development status of stainless steel powder industry for powder metallurgy | Lintao | Du |
| Oral Presentati on | 237 | Controlled One-Pot Synthesis of Copper Nanospheres through Green Aqueous Reduction | Chengjun | Wang |
| Oral Presentati on | 304 | Ultrasonic Atomization of Refractory Medium Entropy Alloys | Tomasz | Choma |
| Oral Presentati on | 38 | Mechanical properties and applications of Cr-containing PM sintered steel | Jing | Yang |

FIELD 6: Functional Materials & Magnetic Materials

Session 27(Functional Materials & Magnetic Materials I): Tuesday Morning, Oct. 21,
9:00-10:25; Function room 25, Level 2

Chair: Wencheng Chang, National Chung Cheng University

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| Invited Presentati on | - | Rare earth based high-frequency soft magnetic material | Jinbo | Yang |
| Oral Presentati on | 88 | High-performance Nd-saving hot-deformed permanent magnets | Jung-Goo | Lee |
| Oral Presentati on | 266 | Dramatically improving thermoplasticity of by regulating γ' phase | Hua | Zhang |
| Oral Presentati on | 82 | Additive manufacturing of Mn-Cu alloys: microstructure and mechanical properties | Liying | Sun |

Session 28(Functional Materials & Magnetic Materials II): Tuesday Morning, Oct. 21, 10:35-12:00; Function room 25, Level 2

Chair: Yang Jinbo, Peking University

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| Invited Presentation | - | Technological progress of weightless rare earth permanent magnet materials | Rui | Han |
| Invited Presentation | 112 | Improved soft magnetic properties of FeSi/FeSiCrBC compound powder core induced by enhanced magnetic coupling | Hongzhen | Li |
| Oral Presentation | 168 | Microstructure and properties of W-Cu functional graded materials prepared by combining tape casting with infiltration sintering method | Changcheng | Sang |

Session 35(Functional Materials & Magnetic Materials III): Wednesday Morning, Oct. 22, 10:35-12:00; Function room 31+33, Level 3

Chair: Han Rui, Central Iron & Steel Research Institute Co., Ltd.

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| Oral Presentation | 208 | Radiation resistance of 9Cr oxide dispersion strengthened steels at different temperatures | Xiaosheng | Zhou |
| Oral Presentation | 314 | Design of high-performance Mo-Re alloys with customized mechanical properties through controlled microstructure and strategic second-phase additions | Yuhang | Song |
| Oral Presentation | - | Preparation of atomized FeSi alloy powder and study on magnetic properties of magnetic core | Boliang | Hu |
| Oral Presentation | 368 | Effect of dewaxing process on magnetic properties of SMC material | Le | Liu |

FIELD 7: Metal Matrix Composites

Session 29(Metal Matrix Composites): Wednesday Morning, Oct. 22, 9:00-10:25; Function room 24, Level 2

Chair: Yin Haiqing, University of Science and Technology Beijing

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| Oral Presentation | 59 | Enhanced High-Temperature Performance of Powder Metallurgy Al–Cu–Mg Alloy via Dispersoid Strengthening and Delayed θ' Phase Precipitation | Yang | Li |
| Oral Presentation | 60 | Mechanical property and microstructure of in-situ (TiB+TiC)/TA15 composites via adding B4C in TA15 powder | Zhaohong | Feng |
| Oral Presentation | 394 | Enhancing the mechanical and electrical properties in CNTs/Cu composites via chemical vapor deposition introducing ex-situ interfacial WC | Junqin | Feng |
| Oral Presentation | 153 | Achieving high strength and large recoverable strain by designing honeycomb-structural dual-shape-memory-alloy composite | Weisi | Cai |
| Oral Presentation | 393 | Break through the strength-ductility trade-off dilemma in titanium matrix composites via precipitation assisted interface tailoring and solid solution | Qiong | Lu |

Session 30(Ceramic Matrix Composites): Wednesday Morning, Oct. 22, 10:35-12:00;
Function room 24, Level 2
Chair: Yin Haiqing, University of Science and Technology Beijing

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| Invited Presentation | 180 | Upcycling waste MoSi ₂ into high-performance composite coatings for protecting refractory alloys across a wide temperature range | Peizhong | Feng |
| Oral Presentation | 324 | Design of Toughened TiB ₂ via Reactive Sintering and DFT Simulations | Wondayehu Yeshewas | Alemu |

FIELD 8: Energy Materials, Fundamentals and Materials Genome Engineering

Session 31(Fundamentals and Materials Genome Engineering): Wednesday Morning, Oct. 22, 9:00-10:25; Function room 25, Level 2
Chair: Li Xiang, Research Institute of Advanced Materials (Shenzhen) Co., Ltd.

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| Invited Presentation | 328 | AI-Driven Multimodal Fusion Platform for Powder Metallurgy: Revolutionizing Material Design and Analysis | Shaohua | Su |
| Invited Presentation | 282 | Deep-thinking LLM agents for automated literature review and taxonomy in powder metallurgy | Xiang | Li |
| Oral Presentation | 259 | Research on Intelligent Design and Performance Influence Mechanism of Precipitation-Strengthened High-Strength, High-Ductility and Corrosion-Resistant High-Entropy Alloys | Youpeng | Song |
| Oral Presentation | 212 | Multi-Field Numerical Simulation of the 45 Carbon Steel Welding Process | Shaobo | Ping |
| Oral Presentation | 339 | CALPHAD Thermodynamic and Kinetic Simulations for Powder Metallurgy: Applications from Binder Design, Atomization to Sintering | Johan | Bratberg |

Session 32(Energy Materials): Wednesday Morning, Oct. 22, 10:35-12:00; Function room 25, Level 2

Chair: Lee Huei-Long, Porite Taiwan Co., Ltd.

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| Invited Presentation | - | Metal Hydrides and Application | Shumao | Wang |
| Oral Presentation | - | Optimization of Dehydrogenation and Mechanism of Rare Earth Nitrides in Aluminum Hydroxide | Shaolei | Zhao |
| Oral Presentation | - | Preparation and Application of W–Cu Conductive Pastes for HTCC | Wangzhi | Xu |
| Oral Presentation | 161 | Solid State Hydrogen Storage Materials and Devices: Current Advances and Challenges from Material Dynamic Response to System Integration Optimization | Hu | Gu |

FIELD 9: Porous materials

Session 33(Porous materials): Wednesday Morning, Oct. 22, 9:00-10:25; Function room 22, Level 2

Chair: Gu Hu, CISRI Hydrogen & Porous Technology Co., Ltd.

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| Invited Presentation | - | The Application and Development Trend of Porous Metal Materials in the Hydrogen Energy Field | Hu | Gu |
| Oral Presentation | 47 | Short-Process Fabrication and Uniformity Control Technology for Large-Scale Porous Titanium Gas Diffusion Layer | Baoguang | Zhang |
| Oral Presentation | 392 | 3D Microstructure and Corrosion Behavior of Porous Co-Al-Cr Intermetallic Fabricated via Rapid Low-Energy Self-Exothermic Reaction for Advanced Filtration Applications | Zhichao | Shang |
| Oral Presentation | 61 | Electrical resistance characteristics of Al ₂ O ₃ fillers as a component in immersion heaters for Al alloys melting. | Kazuya | Maeda |

FIELD 10: Powder Metallurgy Superalloy

Session 34(Powder Metallurgy Superalloy): Wednesday Morning, Oct. 22, 9:00-10:25; Function room 31+33, Level 3

Chair: Zhang Lin, University of Science and Technology Beijing

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| Invited Presentation | - | The effect of Ta on Nickel-based Powder Metallurgy Superalloys | Haopeng | Zhang |
| Oral Presentation | 67 | The Mechanism of Oxygen Content on the Microstructure and Performance of FGH96 Alloy | Lin | Zhang |
| Oral Presentation | 150 | Microstructure Evolution and Mechanism of Nickel-based Powder Superalloy during Cooling after Hot Deformation | Hailiang | Huang |
| Oral Presentation | 274 | Investigation of the Dynamic Degassing Behavior of Argon-Atomized Nickel-Based Superalloy Powders | Qiang | Zhang |