

Technical Programme

Day 1, 15 th September, 2017			
Room 113, Wentian Hall, Hohai University			
8:10~8:50	Opening ceremony Chairman: Donghui Yang, Hohai University 1. Welcome message: Huiping Tang, Chair of MetFoam 2017 2. Welcome message: President of Hohai University 3. Group photos		
Plenary lectures (Room 113) Chairman: J. Banhart			
8:50~9:20	T. J. Lu Recent development in lightweight multifunctional porous metals		
9:20~9:50	Hideo Nakajima Fabrication, Properties and Applications of Porous Metals with Directional Pores		
9:50~10:15	Coffee break		
Room 102, Wentian Hall <i>Metal Foam</i> Chairman: N. Babcsán		Room 113, Wentian Hall <i>Powder Metallurgy</i> Chairman: David Dunand	
10:15~10:40	Keynote Talk Bo-Young Hur Advanced Manufacturing Process and Viscoelastic Behavior of Mechanical Properties in Metal Foam Page 33	10:15~10:40	Keynote Talk Yuyuan Zhao Properties of Metal Foams Manufactured by P/M Based Space Holder Methods Page 43
10:40~11:05	Keynote Talk Xiangyang Zhou Low-cost preparation of aluminum foam and its application in field of electrochemical energy-saving Page 34	10:40~11:05	Keynote Talk Faming Zhang Porous Titanium from macroporous to nonoporous structures Page 43

11:05~11:25	<p align="center">Invited Talk</p> <p align="center">Sompong Srimanosaowapak</p> Production of Open Cell Aluminum Foams with Different Porosity Page 34	11:05~11:25	<p align="center">Invited Talk</p> <p align="center">J.Z. Wang</p> Sintering mechanism of stainless steel fiber porous materials Page 44
11:25~11:45	<p align="center">Invited Talk</p> <p align="center">Zhuokun Cao</p> Ambient Pressure: an Important Influencing Factor on Cell Structure Control of Aluminum Foams Page 35	11:25~11:45	<p align="center">Invited Talk</p> <p align="center">Peizhong Feng</p> Porous Aluminide Intermetallic Compounds fabricated by Thermal Explosion Mode Page 44
11:45~12:00	<p align="center">Oral presentation</p> <p align="center">C. Domínguez</p> Surface modification and biological behavior of porous titanium implants in partial bone replacement Page 35	11:45~12:00	<p align="center">Oral presentation</p> <p align="center">Kunming Yang</p> High strain rate dynamic compressive properties and deformation behavior of CNT/Al composite foams Page 45
12:00~13:30	Lunch		
Plenary lectures (Room 113): Chairman: Huiping Tang			
13:30~14:00	<p align="center">Yucong Wang</p> Material Technology Challenges and Opportunities for Automotive Industry: Functional and Structural Materials		
14:00~14:30	<p align="center">Wanzhong Kang</p> Application Demands for Porous Metal in Petrochemical and Coal Chemical Industry		
14:30~14:35	Break		
<p align="center">Room102, Wentian Hall</p> <p align="center"><i>Nanoporous structures</i></p> <p align="center">Chairman: Zhaoping Lu</p>		<p align="center">Room 113, Wentian Hall</p> <p align="center"><i>Applications of porous metals</i></p> <p align="center">Chairman: Yucong Wang</p>	
14:35~15:00	<p align="center">Keynote Talk: Qing Jiang</p> High rate and high capacity nanoporous electrodes Page 54	14:35~15:00	<p align="center">Keynote Talk: N. Babcsán</p> Closed cell aluminum foams what should we produce and sell Page 57

15:00~15:25	<p align="center">Keynote Talk Yi Ding</p> <p>Dealloyed nanoporous Metals for Fuel Cell Technologies Page 54</p>	15:00~15:20	<p align="center">Invited Talk Zhongliang Shi</p> <p>A review of open-cell metal foams and their wider engineering applications Page 57</p>
15:25~15:40	<p align="center">Oral presentation Ning Wang</p> <p>Nucleation and growth of nanoporous copper by chemical dealloying of Cu-Y metallic glasses Page 55</p>	15:20~15:40	<p align="center">Invited talk K. Kitazono</p> <p>Impact energy absorbing system for space lander using hemispherical open-cell porous aluminum Page 61</p>
15:40~15:55	<p align="center">Oral presentation Karen Chen-Wiegart</p> <p>3D Morphological and Chemical Evolution of Nanoporous Stainless Steel by Metallic Melt Dealloying Page 55</p>	15:40~15:55	<p align="center">Oral presentation Mohammed Shbeh</p> <p>Bio-functionalised Titanium Foams for Biomedical Applications Page 58</p>
15:55~16:10	<p align="center">Oral presentation Linkai Guo</p> <p>Shock response of nanoporous copper Page 56</p>	15:55~16:10	<p align="center">Oral presentation X.H. Nguyen</p> <p>A proton exchange membrane fuel cell with a Shellular structure Page 59</p>
16:10~16:25	Coffee break		
Room102, Wentian Hall <i>Gasar Process</i> Chairman: Qing Jiang		Room 113, Wentian Hall <i>Applications of porous metals</i> Chairman: Hongjie Luo	
16:25~16:50	<p align="center">Keynote Talk Yuan Liu</p> <p>Solidification velocity scope for coupled growth of solid/gas two phases in Gasar process Page 63</p>	16:25~16:50	<p align="center">Keynote Talk L.P. Lefebvre</p> <p>Properties of Titanium Foams for Orthopedic Applications Page 59</p>

16:50~17:15	<p align="center">Keynote Talk Qinglin Jin</p> <p>Fabrication of ordered porous Cu-Cr alloy Page 63</p>	16:50~17:15	<p align="center">Keynote Talk Nihad Dukhan</p> <p>Metal-Foam Bipolar Plate for PEM Fuel Cells: Simulations and Preliminary Results Page 60</p>
17:15~17:30	<p align="center">Oral presentation Haijun Jin</p> <p>The surface effect on the strength of nanoporous gold Page 63</p>	17:15~17:40	<p align="center">Keynote Talk Yinjiang Wu</p> <p>Research Progress of Sintered Porous Metal and Its Application in Filtration and Separation Industry Page 60</p>
17:30~17:45	<p align="center">Oral presentation Siyu Wei</p> <p>Simulated mechanical behavior around nano holes of nanoporous copper Page 64</p>	17:40~18:00	<p align="center">Invited Talk Keju Ji</p> <p>Functional applications of metal foam structures with different surface wettability Page 61</p>
17:45~18:00	<p align="center">Oral presentation Chuanyu Cui</p> <p>Sliding properties of the lotus-type porous copper impregnated with solid lubricants Page 64</p>	18:00~18:15	<p align="center">Oral presentation Ming Chen</p> <p>The application of aluminum foam and market analysis in China Page 61</p>
18:00~18:15	<p align="center">Oral presentation Huawei Zhang</p> <p>Heat Transfer Performance of Directional Solidified Gasar Porous Copper Microchannel Heatsink Page 65</p>		

Day 2, 16th September, 2017

Room 113, Wentian Hall, Hohai University

Plenary lectures

Chairman: Louis-Philippe Lefebvre

8:00~8:30	Huiping Tang Recent development in sintered porous metal materials		
8:30~9:00	David Dunand Metal Micro-lattices by Reduction and Sintering of 3D-Printed Oxide Particle Inks		
9:00~9:30	Francisco Garcia-Moreno In-situ X-ray tomography: Insights into the evolution of liquid Al foams		
9.30~10:00	Zhaoping Lu Development of high-performance nanoporous metals and their composites based on metallic glasses		
10:00~10:15	Coffee break		
Room102, Wentian Hall <i>Additive manufacturing</i> Chairman: Bo- Young Hur		Room 113, Wentian Hall <i>Properties of porous metals</i> Chairman: Hideo Nakajima	
10:15~10:40	Keynote Talk Kuznetsov P.A. Properties of energy absorbing thin walled honeycomb structures produced by additive manufacturing Page 66	10:15~10:40	Keynote Talk Weidong Song Mechanical properties of additively manufactured Ti-6Al-4V micro-lattice structures under static and dynamic loadings Page 69
10:40~11:05	Keynote Talk Lauramaria Echeverri 3D printing + casting simulation to obtaining metal foams with controlled morphology Page 66	10:40~11:05	Keynote Talk Hao Du Surface modification on lotus-type porous copper by metallic coatings Page 69
11:05~11:25	Invited Talk Hyeji Park Synthesis and Mechanical Properties of 3D-Printed Co-Based Superalloy	11:05~11:25	Invited Talk Viviana Posada Pérez Human bone inspired design of an Mg based foam Page 70

	<p>Microlattices Page 67</p>		
<p>11:25~11:40</p>	<p>Oral presentation Cédric Septet Effective thermal and fluid flow properties of Lattice structure produced by additive manufacturing Page 67</p>	<p>11:25~11:40</p>	<p>Oral presentation Masoud Gole stanipour Investigation on high-velocity perforation behavior of Al/SiCp composite foam core sandwich panels Page 71</p>
<p>11:40~11:55</p>	<p>Oral presentation H.T. Li Fabrication, structure and property of copper foam Page 67</p>	<p>11:40~11:55</p>	<p>Oral presentation Hao Lin A novel method for preparation of aluminum foam sandwich panels Page 71</p>
<p>11:55~13:30</p>	<p>Lunch time</p>		
<p>Room102, Wentian Hall <i>Powder Metallurgy</i> Chairman: Francisco Garcia-Moreno</p>		<p>Room 113, Wentian Hall <i>Metal Foam</i> Chairman: Hao Du</p>	
<p>13:30~13:55</p>	<p>Keynote Talk Olaf Andersen Manufacturing of cellular metals from carat gold alloys Page 45</p>	<p>13:30~13:50</p>	<p>Invited Talk Robert Baumann Rapid, precise and slice - remote laser cutting for open cell aluminum and steel foams Page 36</p>
<p>13:55~14:15</p>	<p>Invited Talk Xiaobo Ji Electrochemical Cathodic Corrosion: an Approach to Prepare Porous Metallic Powder Materials Page 46</p>	<p>13:50~14:10</p>	<p>Invited Talk M. Malekjafari Manufacturing of open-cell regular aluminum foam via investment casting method based on Kelvin model Page 36</p>
<p>14:15~14:30</p>	<p>Oral presentation Jian Xiao Progress in pore structure control of titanium foam Page 51</p>	<p>14:10~14:30</p>	<p>Invited Talk Thomas Hipke Sandwich manufacturing with foam core and aluminum face sheets – a new process without rolling Page 37</p>

14:30~14:45	<p align="center">Oral presentation Mosalagae Mosalagae</p> <p>Characterization of Porous Copper Tapes Produced by Lost Carbonate Sintering Applied to Tape Casting Page 47</p>	14:30~14:45	<p align="center">Oral presentation Wenzhan Huang</p> <p>Magnesium-based foam biomaterials and their related properties Page 37</p>
14:45~15:00	<p align="center">Oral presentation Xinyang Jiao</p> <p>Studies on the pore formation mechanism of porous TiAl₃ intermetallics via different heating rates Page 48</p>	14:45~15:00	<p align="center">Oral presentation Yukun An</p> <p>Fabrication of aluminum foams stabilized and enhanced by graphene nanosheets Page 38</p>
15:00~15:15	<p align="center">Oral presentation Yihao Du</p> <p>The relationship between mechanical properties and porous structure of cancellous bone Page 48</p>	15:00~15:15	<p align="center">Oral presentation Han Wang</p> <p>The fabrication and compression investigation of the ordered porous aluminum with cubic pores Page 38</p>
15:15~15:35	Coffee break		
Room102, Wentian Hall <i>Powder Metallurgy</i> Chairman: Olaf Andersen		Room 113, Wentian Hall <i>Metal Foam</i> Chairman: Yuan Liu	
15:35~15:55	<p align="center">Invited talk Juan Lobos</p> <p>Porous structure in metal/polymer composite produced by cold extrusion for structural applications Page 49</p>	15:35~15:50	<p align="center">Oral presentation Ningzhen Wang</p> <p>Comparison of aluminum foams prepared by different routes using X-ray tomography Page 39</p>
15:55~16:15	<p align="center">Invited talk Xudong Yang</p> <p>Elevated temperature compressive properties and damping characteristics of CNT/Al composite foams Page 49</p>	15:50~16:05	<p align="center">Oral presentation Quanzhan Yang</p> <p>The Processing and Microstructure of Steel Matrix Syntactic Foams Prepared by Infiltration Casting Page 39</p>

16:15~16:30	Oral presentation Fan Deng Influence of Cu on the formability and pore structure of Al-Si foam prepared by powder compact route Page 50	16:05~16:20	Oral presentation Pamidi Venkateswarlu Processing of aluminum foams with and without particles Page 40
16:30~16:45	Oral presentation T.R. Neu Role of compaction on foaming of aluminum precursors Page 50	16:20~16:35	Oral presentation A. Izadpanahi Flux-less stir soldering of Al-plate to aluminum foam Page 40
16:45~17:00	Oral presentation Xiaolong Liang Preparation of porous lead by infiltration casting Page 51	16:35~16:50	Oral presentation Shenglin Li Thermodynamic analysis of the growth of gas pore from a gas saturated melt Page 40
17:00~17:15	Oral presentation Xiaotong Lu Porous titanium fabricated by a combination of vacuum distillation and sintering process Page 51	16:50~17:05	Oral presentation Paul H. Kamm Time-resolved X-ray tomography of pore generation in Al alloy foams Page 40
17:15~17:30	Oral presentation Asuka Suzuki Anchor bonding between Al and resin utilizing interpenetrating phase layer Page 52	17:05~17:20	Oral presentation Jin Meiling Fabrication of array micro-hole in aluminum alloy Page 41
17:30~17:45	Oral presentation Ulrich Krupp Structural Loading of Cellular Metals: Damage Mechanisms and Standardization Concepts Page 46	17:20~17:35	Oral presentation Yanan Liu In-situ synthesis of highly porous FeAl/Al ₂ O ₃ composite by thermite-reaction-assisted combustion synthesis Page 41

17:45~18:00	Oral presentation Jean Paul Allain Nanostructure formation on porous and foam metals by directed irradiation synthesis (DIS) for smart biomaterials Page 52	17:35~17:50	Oral presentation Philipp Rudolf von Rohr Porous metals as structured tubular reactors Page 42
18:00~18:20	Poster time		
18:30	Banquet Junheng Hall of Hohai University International Academic Exchange Center		

Day 3, 17th September, 2017

Room102, Wentian Hall, <i>Properties of porous metals</i> Chairman: Qinglin Jin		Room 113, Wentian Hall, <i>Properties of porous metals</i> Chairman: Yi Ding	
8:00~8:25	Keynote Talk Hai Hao The ordered porous aluminum: modeling, preparation, and properties with designed structures Page 71	8:00~8:25	Keynote Talk Hongjie Luo Preparation and properties of closed-cell aluminum foams and their sandwich structures Page 74
8:25~8:45	Invited Talk Donghui Yang Fabrication of closed-pore Cu-Mg alloy foams by powder metallurgical method Page 72	8:25~8:50	Keynote Talk R. Sepúlveda Manufacturing of freeze-casting Fe-based porous materials assisted by a magnetic field for purifying Page 75
8:45~9:05	Invited Talk H. Wang Fabrication of porous TiAl alloy with bimodal pore structures and its thermal insulation property Page 72	8:50~9:10	Invited Talk Xiaoming Zhou Enhancing acoustic absorption of foams with metamaterials Page 75
9:05~9:25	Invited Talk Zhanguang Wang Research on the torsional properties of aluminum foam-filled steel tube after fire Page 73	9:10~9:25	Oral presentation Xiaoping Cai Highly porous CuAl intermetallics synthesized through thermal explosion using NaCl space holders Page 76
9:25~9:40	Oral presentation Yuchen Guo Dynamic Response of Sandwich Structures with Cellular Metallic Core under Blast Loading Page 73	9:25~9:40	Oral presentation Nima Movahedi Axial compressive behavior and energy absorption capability of aluminum foam-filled polymeric tubes Page 76

<p>9:40~9:55</p>	<p>Oral presentation Fengjun Zhao A study on viscosity of different viscous agents with the optimum proportion Page 74</p>	<p>9:40~9:55</p>	<p>Oral presentation Xue-zheng Yue Effects of cell geometry on compressive deformation of open-cell titanium foams Page 77</p>
<p>9:55~10:10 Coffee break</p>			
<p>Room102, Wentian Hall <i>Properties of porous metals</i> Chariman: Yuyuan Zhao</p>		<p>Room 113, Wentian Hall <i>Properties of porous metals</i> Chariman: Hai Hao</p>	
<p>10:10~10:25</p>	<p>Oral presentation Pengcheng Zhu Cyclic voltammetry measurement of electroactive surface area of porous nickel Page 77</p>	<p>10:10~10:25</p>	<p>Oral presentation Yu Guoji In-plane crush behavior of hexagonal hierarchical honeycomb Page 79</p>
<p>10:25~10:40</p>	<p>Oral presentation Chengwu zhang Microstructure characterization on shot peened treatment closed-cell aluminum by Rietveld methods Page 77</p>	<p>10:25~10:40</p>	<p>Oral presentation Su Mingming Microstructure and compressive properties of Al/Al₂O₃ syntactic foams Page 80</p>
<p>10:40~10:55</p>	<p>Oral presentation Akram Salehi Mechanical evaluation of titanium scaffolds for orthopedic implants Page 78</p>	<p>10:40~10:55</p>	<p>Oral presentation Weihua Chen Fractal Sound Absorbing Properties of Fibrous Porous Metal under High-temperature Environment Page 81</p>
<p>10:55~11:10</p>	<p>Oral presentation J. Ma tensile fatigue behavior of sintered stainless steel fiber felts Page 78</p>	<p>10:55~11:10</p>	<p>Oral presentation Yanpeng Wei The study on the microstructure and properties of steel-based porous materials Page 81</p>

11:10~11:25	Oral presentation Min Li Influence of Cell Morphology on the Compressive Deformation Behavior of Aluminum Foams Page 79	11:10~11:25	Oral presentation S.C. Han Two auxetic materials based on wire-weaving Page 82
11:25~11:40	Oral presentation Bo Zhang Acoustic Properties of Porous Metal Materials Based on COMSOL and Using Different Acoustic Models Page 79	11:25~11:40	Oral presentation Yang Yu Quasi-static Crushing of Aluminum Foam-filled thin-walled Aluminum Tubes Page 80
		11:40~11:55	Oral presentation Xiaocui Yang Theoretical analysis and experimental validation of sound absorbing coefficient of porous iron Page 82
12:00	Closing ceremony Room 108, Wentian Hall, Hohai University		