IUMRS-ICA 2016

The 17th International Conference in Asia

Qingdao International Convention Center, Qingdao, China
October 20-24, 2016

Organized by:
Chinese Materials Research Society (C-MRS)
International Union of Materials Research Societies (IUMRS)
Qingdao Science and Technology Association

Co-organized by
Materials Research Society-Taiwan (MRS-T)

Supported by:
Ministry of Science and Technology of China
China Association for Science and Technology
National Natural Science Foundation of China
Chinese Academy of Sciences
Chinese Academy of Engineering
China Council for the Promotion of International Trade, Qingdao Sub-council
Introduction

IUMRS International Conference in Asia (IUMRS-ICA) is one of the most important series conferences of International Union of Materials Research Societies (IUMRS).

Authorized by IUMRS, IUMRS-ICA 2016 will be organized by C-MRS and co-organized by MRS-T. The conference will be held in Qingdao International Convention Center, Qingdao, Shandong Province, China, Oct. 20-24, 2016.

There will be 27 symposia covering five fields of: Energy and environment materials, Advanced structural materials, Functional materials, Biological materials, Materials modeling, simulation and characterization.

Three forums including 5th IUMRS-World Materials Summit, Materials Education Forum and Innovation Actuating Industry Development Forum, as well as an exhibition on “Advanced Materials, Manufacturing and Testing Equipment” will be held simultaneously with the conference.

Symposia

Energy and Environment Materials
A. Solar Energy Materials and Solar Cells
B. Eco-materials
C. Photocatalytic Materials for Energy Production
D. Energy Conversion and Storage Materials
E. Nuclear Materials

Advanced Structure Materials
F. Structural Light Alloy Materials
G. Amorphous and High-entropy Alloys
H. Serration and Noise Behavior in Advanced Materials
I. Pipe and Pressure Vessel Materials
J. Superalloys
K. Metal Matrix Composite

Functional Materials
L. Nanomaterials and Energy Devices
M. Advanced Carbon Materials
N. High-performance Lead-free Piezoelectric Ceramics
P. The Green and Low-carbon Emission Building Materials
Q. Multifunctional Composites and Metamaterials
R. Advanced Optoelectronic and Microelectronic Materials
S. Polymer Materials and Engineering
T. Advanced Fibers and Nanocomposites
U. Smart Materials

Materials Modeling, Simulation and Characterization
V. Materials Processing and Metastable Materials Technology
W. Additive Manufacturing Materials and Technology
X. Advanced Technologies of Materials Characterization
Y. Surface and Interface
Z. Materials Simulation, Computation and Design

Biological Materials
AA. Biomaterials
BB. Biobased Polymeric Materials
Forums
FA. 5th IUMRS-World Materials Summit
FB. Materials Education Forum
FC. Innovation Actuating Industry Development Forum

Working Language: The working language for this conference is English

Main Topics, Organizers of Symposia

**A. Solar Energy Materials and Solar Cells**
**Main Topics:** Photovoltaic materials and solar cells, solar thermal materials, solar catalysis, X-chromic materials and devices, transparent conductive films, solar energy storage materials
**Organizers:** Dechun Zou, Kung-Hwa Wei, Cong Wang, Aline Rougier, Shinuk Cho, Greg Wilson
**Contact with:** Xungang Diao, Beihang University
Tel.: +86-13552952860
E-mail: diaoxg@buaa.edu.cn

**B. Eco-materials**
**Main Topics:** Environmental conscious materials and manufacturing technologies; Materials life-cycle engineering and applications for sustainability; Eco-design and eco-chemical technology; Production and application technique for material recycling; Environmental engineering materials; Industrial ecology theory and application; Metrics and policies for materials sustainability.
**Organizers:** Zuoren Nie, Guanjun Qiao, Osamu UMEZAWA
**Contact with:** Yu Liu, Beijing University of Technology
Tel.: +86-10-67391536; +86-13161222985
E-mail: liuyu@bjut.edu.cn

**C. Photocatalytic Materials for Energy Production**
**Main Topics:** Photocatalytic H₂ generation; Photocatalytic reduction of CO₂.
**Organizers:** Zhaosheng Li, Jinhua Ye, Baibiao Huang, Zhigang Zou
**Contact with:** Zhaosheng Li, Nanjing University
Tel.: +86-25-83686304(ext.800); +86-13770645436
E-mail: zsl@nju.edu.cn

**D. Energy Conversion and Storage Materials**
**Main Topics:** Rechargeable battery, fuel cell, hydrogen storage material, super capacitor.
**Organizers:** Ying Wu, Hongge Pan, Yunhui Huang, Jian li
**Contact with:** Youhua Yan, Advanced Technology & Materials Co., Ltd.
Tel.: +86-10-58742807, +86-13466678618
E-mail: yanyouhua@atmcn.com

**E. Nuclear Materials**
**Main Topics:** Nuclear Materials.
**Organizers:** Enhou Han, Xinchun Lai, Wei Liu, Guanghong Lu, Wenjun Ma, Farong Wan
**Contact with:** Yue Yuan, Beihang University
Tel.: +86-15120002203
E-mail: yueyuan@buaa.edu.cn

**F. Structural Light Alloy Materials**
**Main Topics:** High performance aluminum alloy, magnesium alloy, titanium alloy, light metal matrix composite materials applied to aerospace, aviation, automobile, rail vehicle, shipping and ocean engineering.
**Organizers:** Baiqing Xiong, Xujun Mi, Kechao Zhou, Fusheng Pan, Yongqing Zhao, J. C. Huang, Hiromi Nagaumi, Yong-Tai Lee, Linzhong Zhuang
**Contact with:** Yanyan Fu, General Research Institute for Nonferrous Metals
Tel.: +86-10-82241061; +86-13521997516
E-mail: fuyanyan@grinm.com

**G. Amorphous and High-entropy Alloys**
**Main Topics:** Amorphous alloys: structure, deformation and fracture mechanism, mechanical properties, characterization and processing, glass-forming ability, glassy matrix composites and nanocrystalline materials, physical properties and chemical properties, Fe-based
soft magnetic amorphous alloy; High-entropy alloys: alloy design, phase selection and stability, mechanical properties, strengthening and toughening, functional high entropy alloys.

Organizers:
KeFu Yao, Shian-Ching Jang, ZhaoPing Lu, XunLi Wang, Eun Soo Park

Contact with:
Yang Shao, School of Materials Science and Engineering, Tsinghua University
Tel.: +86-10-62788756; +86-15901313826
E-mail: Shaoyang@tsinghua.edu.cn

H. Serration and Noise Behavior in Advanced Materials
Main Topics: In this meeting, we intend to provide comprehensive studies related to the serration and noise behavior of various advanced materials. Topics include Plastic deformation and serration behavior, high entropy and amorphous alloys, shape memory alloys and TWIP steel, barkhausen noise, structural units for plastic deformation, PLC serrations in AlMg alloys and low carbon steels.

Organizers:
Weihua Wang, Yong Zhang, Gang Wang, Peter K. Liaw, Junwei Qiao

Contact with:
Junwei Qiao, Taiyuan University of Technology
Tel.: +86-13643467172
E-mail: qiaojunwei@gmail.com

I. Pipe and Pressure Vessel Materials
Main Topics: Pipe and Pressure Vessel Materials.

Organizers:
Changxue Xu, Jinyang Zheng, Qingyou Liu

Contact with:
Dengzun Yao, Pipeline Research Institute of CNPC
Tel.: +86-316-2074922; +86-13463622536
E-mail: yaodengzun@163.com

J. Superalloys
Main Topics: advanced high temperature metal structure materials.

Organizers:
Jun Zhang, Qiang Feng, Chengbo Xiao, Jian Zhang, Jinhui Du

Contact with:
Haijun Su, Northwestern Polytechnical University
Tel.: +86-29-88492228; +86-13772141015
E-mail: shjnpu@nwpu.edu.cn

K. Metal Matrix Composite
Main Topics: Metal Matrix Composite.

Organizers:
Gaohui Wu, Lin Geng, Di Zhang, Chaoli Ma, Xuanhui Qu, Zongyi Ma

Contact with:
Qiang Zhang, Harbin Institute of Technology
Tel.: +86-451-86402373(5052), +86-18246170339
E-mail: zhang_tsiang@hit.edu.cn

L. Nanomaterials and Energy Devices
Main Topics: Nanomaterials synthesis and characterization; Nanomaterials for renewable energy applications; Nanomaterials for devices applications.

Organizers:
Zhiyong Fan, Hong-Ming Lin, Guozhen Shen, Jiatao Zhang, Yu-Lun Chueh, Hyunhyub Ko, Sang-Woo Kim, Kuniharu Takei

Contact with:
Meng Xu, Beijing Institute of Technology, China
Tel.: +86-10-68918065; +86-15210369772
E-mail: xumeng@bit.edu.cn

M. Advanced Carbon Materials
Main Topics: Graphene, nanocarbons; Carbon fiber and Carbon-based composites; Porous carbon; Industry application of carbon materials.

Organizers:
Hejun Li, Huiming Cheng, Jyh-Ming Ting, Feiyu Kang

Contact with:
Qian’gang Fu, Northwestern Polytechnical University
Tel.: +86-29-88494197; +86-13572946354
E-mail: fuqiangang@nwpu.edu.cn
Leilei Zhang, Northwestern Polytechnical University
Tel.: +86-15091637493
E-mail: zhangleilei@nwpu.edu.cn

N. High-performance Lead-free Piezoelectric Ceramics
Main Topics: Fundamentals of lead-free ferroelectrics and piezoelectrics; Processing of high-performance lead-free piezoelectric ceramics including thin/thick films, composites, TGG, and single crystals; Characterization techniques and property-structure relationship studies; Applications of lead-free piezoelectric ceramics.

Organizers:
P. The Green and Low-carbon Emission Building Materials
Main Topics: The Low-carbon Emission Cementitious Materials.
Organizers: Zhonglun Zhang, Guang Ye, Gaowu Qin, Hui Yang, Qing Wang
Contact with: Jiayuan Ye, China Building Materials Academy
Tel.: +86-10-51167419; +86-13488711022
E-mail: yezhao_2008@sina.com

Q. Multifunctional Composites and Metamaterials
Main Topics: Composite materials with unusual mechanical, thermal, electrical, magnetic, microwave, optical, acoustic, catalysis, corrosion properties. The main topics include but not limited to: thermal structural materials, metamaterials in a broad sense, wave transparent materials, wave absorbing materials, thermal conducting/insulating materials etc.
Organizers: Runhua Fan, Wei-Hsing Tuan, Soon-Yong Kwon
Contact with: Zidong Zhang, Shandong University
Tel.: +86-531-88393396; +86-159 6667 5665
E-mail: 1986zzd@163.com

R. Advanced Optoelectronic and Microelectronic Materials
Main Topic: Substrate materials such as Si, Ge, SOI, GOI, SiC and compound semiconductors; High-k, Low-k, GeSi, GeSn, PCRAM, RRAM, STT-MRAM, and other materials used in Integrated circuits and optoelectronic devices; New display material; Carbon nanotubes, graphene and other carbon based functional materials; Photoresist, DSA, CVD and ALD precursor, CMP materials, process chemicals and targets for of integrated circuit fabrication material; Special packaging material; Materials testing technology and method; Materials design theory and simulation; Novel two dimensional material; Options post-CMOS.
Organizers: Xi Wang, Ching Ping Wong, Qinghuang Lin, Chao Zhao, Deren Yang
Contact with: Ying Shi, integrated Circuit Materials Industry Technology Innovative Alliance, China
Tel.:+86-13901189465
E-mail: shiying@icmtia.com;
songannian@mail.sim.ac.cn

S. Polymer Materials and Engineering
Main Topics: Polymer materials, Functional Elastomer Materials, Microcellular Plastics, Shape Memory and Self-Healing Polymeric Materials
Organizers: Guangxian Li, Chul B. Park, Guangye Liu, Shugao Zhao
Contact with: Hesheng Xia, Sichuan University
Tel.: +86-13981805143
E-mail: xiahx@scu.edu.cn
Liping Wei, Qingdao University of Science & Technology
Tel.: +86-18906423189
E-mail: rubberedu@163.com

T. Advanced Fibers and Nanocomposites
Main topics: High-performance fibers and composites; Functional and smart fibers and composites; Nano-technology for new composites; Nanofibers, films and application.
Organizers: Meifang Zhu, Benjamin S. Hsiao, Brigitte Voit, Yi Li
Contact with: Miaomiao Yu, Donghua University
Tel: +86-21-67792912; +86-18801622879
E-mail: yumiao10@163.com

U. Smart Materials
Main topics: Shape memory materials, Magnetic shape memory alloys, Magnetostrictive alloys, Ferroic materials and glasses, Applications of smart materials
Organizers: Chengbao Jiang, Xiaobing Ren, Yunzhi Wang, Weimin Huang, Yingqing Fu
Contact with: Yan Li, Beihang University
Tel: +86-10-82315989; +86-13671112897
E-mail: liyan@buaa.edu.cn

V. Materials Processing and Metastable Materials Technology
Main Topics: Basic theory of materials processing; Integrated computational materials engineering; Intelligent processing of materials; Compact and near-net-shape processing technology; Solidification, Plastic forming, Joining, Welding; Heat treatment, Surface engineering; Processing mold, equipment and control technology; Advanced technologies and processes in materials processing; Additive manufacturing, 3D printing, Micro/nanoforming technology; Metastable materials technology.

Organizers:
Jianxin Xie, Xuefeng Liu, Feng Liu, Zhongchun Chen

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Zhangzhi Shi, University of Science and Technology Beijing, China
Tel.: +86-10-62333156, +86-18515212048
E-mail: ryansterne@sina.com

W. Additive manufacturing materials and technology

Main Topics: Materials science fundamental for additive manufacturing; Additive manufacturing materials; Metal additive manufacturing; Non-metal additive manufacturing; Biomaterials additive manufacturing; Novel additive manufacturing technology; Process modelling for additive manufacturing; Design for additive manufacturing; Detection and evaluation on the additive manufactured materials.

Organizers:
Weidong Huang, Hong-Jen Lai, Xin Lin, Qian Ma, Bo Gu

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Lei Wei, Northwestern Polytechnical University
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E-mail: weilei@nwpu.edu.cn

X. Advanced Technologies of Materials Characterization

Main Topics: Include but not limit: Synchrotron radiation, Neutron diffraction, Three dimensional atom probe etc. and their applications on materials science.

Organizers:
Tongmin Wang, Shou-Yi Chang, Chuan-Pu Liu, Yandong Wang, Gang Sha, Jianghua Chen

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Y. Surface and interface

Main Topics: Preparation and application of surface/interface of materials; surface/interface structure and properties of materials; surface/interface effects on material properties; computer simulation of material surface/interface behavior.

Organizers:
Bingshe Xu, Jinn P. Chu, Chuang Dong, Di Zhang, Min Liu

Contact with:
Jianfeng Fan, Taiyuan University of Technology
Tel.: +86-351-6010311; +86-13935107463
E-mail: Fanjianfeng77@hotmail.com

Z. Materials Simulation, Computation and Design

Main Topics: Materials Genomes, Materials by Computational Design, Multiscale Simulations of Materials.

Organizers:
Jijun Zhao, Jeffrey Reimers, Chun-Hway Hsueh, Cesare Franchini, Yasushi Shibuta, Gilberto Teobaldi, Xingqiu Chen, Limin Liu, Yi Liu, Guanghong Lu

Contact with:
Si Zhou, Dalian University of Technology
Tel.: +86-13478612884
E-mail: sizhou@dlut.edu.cn

AA. Biomaterials

Main Topics: Biomaterials for drug/gene delivery, Tissue engineering and Regenerative medicine, Biomaterials surfaces and interfaces, Nanobiomaterials, Biofabrication, Hydrogel, New design on biomaterials, Biomaterials and translational medicine.

Organizers:
Zhongwei Gu, San-Yuan Chen, Chengtie Wu, Doo Sung Lee, Yoshiki Katayama, Yong Han, Xiaofeng Chen

Contact with:
Kui Luo, National Engineering Research Center for Biomaterials, Sichuan University
Tel.: +86-15680080044
E-mail: luokui@scu.edu.cn

BB. Biobased Polymeric Materials

Main Topics: Polymers synthesized from biobased feedstock; Carbohydrate polymers; Biomimetic Polymers; Bionanocomposites; Natural rubber; Biobased additives for polymers.

Organizers:
Liqun Zhang, Jin Zhu

Contact with:
Baochun Guo, South China University of Technology  
Tel.: +86-13602728018  
E-mail: psbcguo@scut.edu.cn

Organizers: Bingbo Wei, Duan Weng, Hanns-Ulrich Habermeier  
Contact with:  
Yiming Jia  
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E-mail: ica2016@126.com

FA . 5th IUMRS-World Materials Summit-Advanced  
Materials in Intelligent Society  
Main Topics: Materials for New Energy Vehicles,  
Green and Intelligent Building Materials, Advanced  
Materials for Ocean Engineering, Innovation Actuating  
Industry Development Forum (Domestic in Chinese)

FB. Materials Education Forum  
FC. Innovation Actuating Industry Development  
Forum

Important dates

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>Oct 20, 2016</td>
<td>First Announcement</td>
</tr>
<tr>
<td>Mar. 15, 2016</td>
<td>Second Circular and Call for Papers</td>
</tr>
<tr>
<td>Mar. 15, 2016</td>
<td>Online abstract submission system open</td>
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<tr>
<td>Jul. 31, 2016</td>
<td>Abstract submission deadline</td>
</tr>
<tr>
<td>Aug. 20, 2016</td>
<td>Notification of acceptance, Full paper submission</td>
</tr>
<tr>
<td>Aug. 31, 2016</td>
<td>Early-bird registration deadline</td>
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<tr>
<td>Oct. 19, 2016</td>
<td>Online registration close</td>
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General Program

<table>
<thead>
<tr>
<th>Date</th>
<th>Moring</th>
<th>Afternoon</th>
<th>Evening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct 20, 2016</td>
<td>Registration* (09:00-22:00)</td>
<td>Parallel Sessions (13:30-17:30)</td>
<td>Reception (18:00-20:00)</td>
</tr>
<tr>
<td>Oct 20, 2016</td>
<td>City tour (13:00-18:00)</td>
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<tr>
<td>Oct 21, 2016</td>
<td>Opening Ceremony (08:30-08:50)</td>
<td>Plenary Lectures (09:00-12:00)</td>
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<tr>
<td>Oct 22, 2016</td>
<td>Parallel Sessions (08:30-12:00)</td>
<td>Parallel Sessions (13:30-16:30)</td>
<td>Symp. Chairs Meeting</td>
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<td>Oct 22, 2016</td>
<td></td>
<td>Poster Session (16:30-18:00)</td>
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<tr>
<td>Oct 23, 2016</td>
<td>Parallel Sessions (08:30-12:00)</td>
<td>Parallel Sessions (13:30-18:00)</td>
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<tr>
<td>Oct 24, 2016</td>
<td>Parallel Sessions (08:30-11:00)</td>
<td></td>
<td>Technical visiting</td>
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<tr>
<td>Oct 23, 2016</td>
<td>Closing and Awards Ceremony</td>
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<tr>
<td>Oct 24, 2016</td>
<td>(11:00-12:00)</td>
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</table>

*Registration Time during Oct. 21-Oct. 23: 07:30-17:00

Registration fees

<table>
<thead>
<tr>
<th>Classification</th>
<th>Before Aug. 31</th>
<th>After Sept. 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular participant(Overseas)</td>
<td>USD $500</td>
<td>USD $600</td>
</tr>
<tr>
<td>Students(Overseas)</td>
<td>USD $280</td>
<td>USD $350</td>
</tr>
<tr>
<td>Regular participant (Domestic)</td>
<td>RMB ¥2600</td>
<td>RMB ¥2800</td>
</tr>
<tr>
<td>Students (Domestic)</td>
<td>RMB ¥1600</td>
<td>RMB ¥1800</td>
</tr>
</tbody>
</table>

Registration fees include:  
**Method of Payment**

Early registration fee is applied for those people who completed the payment on/by 31 Aug 2016.

**Overseas participant**

1. Payment online
   

2. Payment in conference site
   
   You may pay the fee in cash when registering on site. The Check-in counter does not provide credit card service.

**Domestic participant**

1. Payment online
   

2. Telegraphic transfer
   
   BNF’S NAME: 中国材料研究学会
   A/C NO.: 0109 0303 2001 2011 1009 376
   ACCOUNT WITH BANK’S NAME: 北京银行魏公村支行

3. Payment in conference site
   
   Both cash(RMB) and credit card payment are acceptable.

*Please note: for those who have paid the pre-registration fee and cannot attend the meeting, 30% of the pre-registration fee will be deducted for bank changes during the refund process.*

**Publication**

The received full papers will be reviewed and recommended to be published in the following journals or proceedings:

1. *Progress in Natural Science: Materials International (SCI)*
   
   The papers for each symposium with high quality and academic significance may be recommended to be published in the journal of Progress in Natural Science: Materials International (PNS: MI) which is co-sponsored by IUMRS and C-MRS. One or two special issues may be published. The recommended papers will be reviewed by normal procedure of the journal to decide that if the paper can be published in this journal.

2. *Rare Metal (SCI)*
   
   A supplemental issue in related area may be published in this journal. The symposium organizer may contact with conference secretariat if the papers of your symposium like to be published in this journal.

3. *Materials Science Forum (EI, ISTP, etc.)*
   
   Proceedings Published by Trans Tech Publications Ltd, Switzerland (TTP). The papers which meet the requirement of this proceedings publication may be published.

4. *Others*
   
   Some symposium organizers may recommend some papers of own symposium to be published on other journals different from the journals and proceedings above. The details may be found in the Menu of “Symposia” on the conference website.

**Visa Application**

If you need to apply the visa, please visit the website of the conference. Fill out the form of Invitation Letter of Duly Authorized Unit (the part in red) and send it back to the e-mail of ica2016@126.com.

**Contacts:**

IUMRS-ICA 2016 Secretariat
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E-mail: ica2016@126.com