



Energy Materials

2023

October 10-13, 2023
Huzhou, Zhejiang, China



Organized by

The Chinese Society for Metals

The Minerals, Metals & Materials Society

Co-organized by

Central Iron and Steel Research Institute

Jiuli Group

Zhejiang Society of Metallurgy

Supported by

CITIC Metal Co., Ltd. & Companhia Brasileira de Metalurgia e Mineracao

State Key Laboratory for Advanced Metals and Materials

State Key Laboratory for Metal Material for Marine Equipment and Application

www.energymaterials2023.com

General Information

Energy Materials 2023 will be organized jointly by The Chinese Society for Metals (CSM) and The Minerals, Metals, and Materials Society (TMS) on October 10-13, 2023 in Huzhou, Zhejiang Province, China. Energy Materials Conferences take turns to be held every three years in China and USA.

Energy Materials 2023 will build on the success of the inaugural Energy Materials meeting, convened by TMS and the Chinese Society for Metals (CSM) in 2014, in Xi'an, China, and the Energy Materials 2017 Conference, co-located with TMS2017 in San Diego, US. Through invited talks by leading experts, as well as contributed presentations from the global technical community, Energy Materials 2023 will highlight materials research and innovations for a wide breadth of energy systems and technologies. We kindly invite you to participate in this meaningful conference and are looking forward to meeting you in Huzhou, China.



History



Topics

Materials for Advanced Ultra-Supercritical Power Systems

- High temperature corrosion resistant alloys for boilers
- Turbine Materials and Manufacturing
- Tubing & Piping Materials and Manufacturing
- Joining Materials and Processes
- Inspection and Characterization
- Standard Development
- Etc.

Materials for Nuclear Energy

- Water-Cooled reactor materials

- Materials under extreme irradiation and/or corrosive environments associated with current and future nuclear power reactors
- Materials for integral fast reactor, molten salt-cooled and high-temperature gas-cooled reactor
- Nuclear materials and fuels including accident tolerant fuels
- Nuclear waste management
- Etc.

Materials for Gas Turbines

- High-temperature alloys
- Nickel-based superalloys
- Titanium aluminides and other intermetallics
- Thermal barrier coatings (TBCs)
- Effects of alternative fuels on turbine engine materials
- Etc.

Materials for Oil and Gas

- Pipeline steels – alloy development and/or thermomechanical processing
- Environmental evaluation of pipe systems
- Pipe welding and joining technologies
- Nickel-base alloys in oil and gas production
- Materials for drilling tools and applications
- Offshore materials issues

Materials for Energy Storage and Power Batteries

- Vanadium redox flow batteries
- Niobium-based high performance batteries
- Lithium-Ion batteries
- Sodium-Ion batteries
- Capacitors/Super capacitors
- Fuel cell
- Etc.

Materials for Hydrogen Energy and Fuel Cell

- Hydrogen production (AE, PEM, SOEC etc.)
- Hydrogen storage and transportation (carbon fiber, solid hydrogen storage metals etc.)
- Fuel cell (PEMFC, SOFC etc.)
- Hydrogen energy application (transport, refining, industry, electricity generation, buildings etc.)
- Etc.

Structural and Functional Material for Renewable Energy

- Materials for wind tower and fan blade
- Steels for hydroelectric power and pumped storage station
- Materials for photovoltaic support bracket and photovoltaic panel
- Steels for battery pack
- Steel for hydrogen manufacturing and storage

Conference Chairs

Xiaogang Zhang The Chinese Society for Metals, China
 Brad Boyce The Minerals, Metals, and Materials Society, USA

Conference Advisor

Yong Gan The Chinese Society for Metals, China

International Technical Committee

Director

Zhiling Tian The Chinese Society for Metals, China
 Jim Robinson The Minerals, Metals, and Materials Society, USA

Executive Chairs

Zhengdong Liu Central Iron & Steel Research Institute, China
 Xingbo Liu West Virginia University, USA

Conference Chairs

Chengjia Shang University of Science and Technology Beijing, China
 Cheng Su Jiuli Group, China

Symposium Organizers

Materials for Advanced Ultra-Supercritical Power Systems

Hansheng Bao Central Iron & Steel Research Institute, China
 Zhengzong Chen Central Iron & Steel Research Institute, China
 Wei Zhang CITIC Metals, China

Materials for Nuclear Energy

Xikou He Central Iron & Steel Research Institute, China
 Hongyan Che Central Iron & Steel Research Institute, China

Materials for Gas Turbines

Zhongnan Bi Central Iron & Steel Research Institute, China

Materials for Oil and Gas

Chengjia Shang University of Science and Technology Beijing, China
 Yongqing Zhang CITIC Metals, China

Materials for Rechargeable Batteries

Zhongzhu Liu CITIC Metals, China
 Xuehui Chen Central Iron & Steel Research Institute, China

Materials for Hydrogen Energy and Fuel Cell

Wei Han China Iron & Steel Research Institute Group Co., Ltd.
 Shaobo Ping China Iron & Steel Research Institute Group Co., Ltd.

Structural Materials for Renewable Energy

Ya Gao
Guodong Zhang

CITIC Metals, China
CITIC Metals, China

Call for papers

All contributions on the theme of the conference as described previously are welcomed. Prospective authors are invited to submit the extended abstract (in English) by **August 15, 2023** to the conference website: www.energymaterials2023.com. The abstract should provide sufficient information for a fair assessment. For detailed abstract submission guidelines.

Secretariat of Energy Materials 2023

The Chinese Society for Metals

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