

# Symposia - H01

## Forum for Young Scholars and Graduate Students

October 15 (Sunday), 2023

Conference Room: 5307, #3 floor

9:00-10:45 Session I

Chair: Wei Wang

9:00-9:45 (H01-01)

**Launching Ceremony of Advanced Materials Young Scientists Publishing Project ( “先进材料青年科学家出版工程” 启动仪式)**

1. 宣布项目启动并宣读入选者名单
2. 王中林院士寄语
3. 入选者代表马丕波发言

9:45-10:00 (H01-02)

**Mapping charge state, polarization, and multiscale electric field at interfaces in ferroelectrics (Invited)**

Wenpei Gao, Shanghai Jiaotong University, China

10:00-10:15 (H01-03)

**Smart materials and their architectures for micro and nanorobots (Invited)**

Jizhai Cui, Fudan University, China

10:15-10:30 (H01-04)

**Breathable e-skin for human-machine interaction and health monitoring (Invited)**

Ran Cao, Donghua University, China

10:30-10:45 Coffee Break

10:45-12:15 Session II

Chair: Wei Wang

10:45-11:00 (H01-05)

**From functional materials and mechanisms toward frontier applications in gas sensing (Invited)**

Jianxiong Zhu, Southeast University, China

11:00-11:15 (H01-06)

**Advances in the Industrial textile Structural Materials (Invited)**

Pibo Ma, Jiangnan University, China

11:15-11:30 (H01-07)

**New green corrosion inhibitor and anti-corrosion coating (Invited)**

Yujie Qiang, University of Science and Technology Beijing, China

11:30-11:45 (H01-08)

**Mechanoluminescent materials and intelligent sensing applications (Invited)**

Yixi Zhuang, Xiamen University, China

11:45-12:00 (H01-09)

**Formation and control of hexavalent chromium in chromium-containing refractories (Invited)**

Shengqiang Song, Wuhan University of Science and Technology, China

12:00-12:15 (H01-10)

**Study on the distributions of macro inclusions in ultra low carbon steels and its application to slab scarfing depth. (Invited)**

Xiaoxuan Deng, Shougang Research Institute of Technology, China

12:15-13:30 Lunch

13:30-15:30 Session III

Chair: Xing-Lin-Mao Li

13:30-13:45 (H01-11)

**Preparation and Properties of Novel Composite Gel-Based Underwater Adhesive Materials**

Shuxue Wang, Ocean University of China, China

13:45-14:00 (H01-12)

**First-principles study of copper/graphene/copper interface properties affected by graphene defects**

Shiyu He, Shanghai Jiaotong University, China

14:00-14:15 (H01-13)

**Role of chlorine in thermally driven single-atom anchoring on nanoporous metal oxides**

Haofei Wu, Shanghai Jiaotong University, China

14:15-14:30 (H01-14)

**Unexpected interfacial Mo-rich phase in 2D molybdenum disulfide and 3D gold heterojunctions**

Mengjia Wang, Shanghai Jiaotong University, China

14:30-14:45 (H01-15)

**Multifunctional pressure/temperature/bending sensor made of carbon fibre-multiwall carbon nanotubes for artificial electronic application**

Yankey Richmond Polley, Ocean University of China, China

14:45-15:00 (H01-16)

**New electrostatic manipulation of droplet movement driven by triboelectric nanogenerator**

Xiao Sun, Ocean University of China, China

**15:00-15:15** (H01-17)

**Compressible carbon frameworks with rich heteroatom defect sites for flexible Zn-air batteries**

Huapeng Pang, Ocean University of China, China

**15:15-15:30** (H01-18)

**Construction of Marine Self-Healing Protection System with Functional Nanofiber Networks**

Lin Cao, Ocean University of China, China

**15:30-15:45** Coffee break

**15:45-17:15** Session IV

Chair: Shi-Yu He

**15:45-16:00** (H01-19)

**Phenolic based porous carbon fibers with superior surface-area and adsorption efficiency for radioactive protection**

Yufei Gao, Southern University of Science and Technology, China

**16:00-16:15** (H01-20)

**Anti-fouling and anti-corrosion biomimetic elastomeric coating with integrated dual-**

**network structure for marine applications**

Xinglinmao Li, Ocean University of China, China

**16:15-16:30** (H01-21)

**Engineering the Intrinsic Chirality of Plasmonic Au@Pd Metamaterials for Highly Sensitive Chiroplasmonic Hydrogen Sensing**

Xiali Lv, Changchun Institute of Applied Chemistry, China

**16:30-16:45** (H01-22)

**Free-standing organics/MXene composite paper for high performance sodium-ion batteries**

Zhengran Wang, ShanDong University, China

**16:45-17:00** (H01-23)

**Polydopamine-modified polysaccharides scaffold with sustained release of growth factors to promote angiogenesis**

Wei Wei, Shaanxi university of science and technology, China

**17:00-17:15** (H01-24)

**Injectable and Self-biodegradable Hydrogel Based on Poly(aspartic acid)**

Pengcheng Li, Shaanxi university of science and technology, China

**17:15** Dinner

## Symposia - H01

### Forum for Young Scholars and Graduate Students

**October 16 (Monday), 2023**

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**9:00-10:00** Session I

Chair: Gong-Jin Yang

**9:00-9:15** (H01-01)

**Transparent Metal Oxide Interlayer Enabling Durable and Fast-switching**

Bing Xu, Ocean University of China, China

**9:15-9:30** (H01-02)

**Manipulating Local Coordination of Cobalt Single Atom Catalyst for Boost the Chemoselective Hydrogenation of Nitroarenes**

Fengliang Cao, China university of Petroleum (East China), China

**9:30-9:45** (H01-03)

**Multiple Coupling Strategy to Promote Charge Separation and Transfer for Enhancing Photoelectrochemical Activity**

Ruikai Wang, Ocean University of China, China

**9:45-10:00** (H01-04)

**Design of metal-functionalized poly(ionic liquid)s for efficient separation of low-concentration NH<sub>3</sub>**

Lu Zheng, Fuzhou University, China

**10:00-11:00** Session II

Chair: Jing Lin

**10:00-10:15** (H01-05)

**Medium-entropy alloys for polar low temperature and wear-corrosion environment**

Hao Chen, Ocean University of China, China

**10:15-10:30** (H01-06)

**Mechanical properties and deformation mechanisms of a L12-strengthened CoCrNiAlTi high-entropy alloy**

Qing Zhang, Shanghai Jiaotong University, China

**10:30-10:45** Coffee Break

**10:45-11:00** (H01-07)

**Corrosion behavior of Cu-Ni alloy welded joint**

**in artificial sea water containing sulfide ions**  
Yue Hou, Ocean University of China, China

**11:00-12:00 Session III**

**Chair: Feng-Liang Cao**

**11:00-11:15 (H01-08)**

**Heterostructure-strengthened metal-support interactions for efficient oxygen activation**

Bin Wang, Shandong University, China

**11:15-11:30 (H01-09)**

**Elucidating water's place in catalytic C<sub>3</sub>H<sub>6</sub> combustion over platinum catalysts**

Jing Lin, Ocean University of China, China

**11:30-11:45 (H01-10)**

**Anti-lead/potassium poisoning strategy for SCR catalysts**

Yue Xuan, Shandong University, China

**11:45-12:00 (H01-11)**

**Macroporous fiber-like Co<sub>3</sub>O<sub>4</sub>@CeO<sub>2</sub> for diesel soot catalytic combustion**

Gongjin Yang, Ocean University of China, China

**12:00-13:30 Lunch**

**13:30-14:30 Session IV**

**Chair: Yan-Peng Wang**

**13:30-13:45 (H01-12)**

**Advanced Design of Bimetal Sulphide/V2CTX MXene Photothermal Nanocomposites for Integrated Solar Steam Generation, Electricity Generation, and Water Purification**

Ruiqi Xu, Ocean University of China, China

**13:45-14:00 (H01-13)**

**Research on cathode materials for high performance potassium ion batteries**

Li Zhou, China university of Petroleum (East China), China

**14:00-14:15 (H01-14)**

**Bioinspired Mineralization under Freezing Conditions: An Approach to Fabricate Porous Carbons with Complicated Architecture and Superior K<sup>+</sup> Storage Performance**

attam ABDULMAJID, Ocean University of China, China

**14:15-14:30 (H01-15)**

**Effect of anode parameters on the performance of direct ammonia solid oxide fuel cells: a case study of elementary reaction kinetic model**

Jiacheng You, Fuzhou University, China

**14:30-15:30 Session V**

**Chair: Li Zhou**

**14:30-14:45 (H01-16)**

**Atomic Zincophilic Sites Regulating Microspace**

**Electric Fields for Dendrite-Free Zinc Anode**

Wenjie Fan, Ocean University of China, China

**14:45-15:00 (H01-17)**

**Advanced Electrolytes for Lithium Metal Batteries**

Shenghang Zhang, Qingdao Industrial Energy Storage Research Institute, China

**15:00-15:15 (H01-18)**

**Inhabiting Inactive Transition by Coupling Function of Oxygen Vacancies and Fe-C Bonds**

**Achieving Long Cycle Life of Iron-Based Anode**  
Hongguang Fan, Ocean University of China, China

**15:15-15:30 (H01-19)**

**Excellent tribocorrosion resistance of additively manufactured Ti-based composite coating via hardening and toughening effects**

Hongwei Zhang, Ocean University of China, China

**15:30-15:45 Coffee break**

**15:45-17:15 Session VI**

**Chair: Wen-Jie Fan**

**15:45-16:00 (H01-20)**

**Graphene Oxide Microrolls as High-Content Si Carriers Boosting Li-Ion Storage**

Yanpeng Wang, Ocean University of China, China

**16:00-16:15 (H01-21)**

**Sulfate template induced S/O doped carbon nanosheets enabling rich physi/chemi-sorption sites for high-performance zinc ion hybrid capacitors**

Chunliu Zhu, Ocean University of China, China

**16:15-16:30 (H01-22)**

**Energy Conversion Analysis of Triboelectric Nanogenerators for Rain Droplet Energy Harvesting**

Yang Zheng, Ocean University of China, China

**16:30-16:45 (H01-23)**

**Co<sup>2+</sup> cross-linked alginate binder with enhanced catalytic conversion function for high performance of LI-S batteries**

Shengrui Cui, Ocean University of China, China

**16:45-17:00 (H01-24)**

**Injectable and self-healing nanocomposite hydrogel for controlled release of proteins**

Xiaoshuai Han, Shaanxi university of science and technology, China

**17:00-17:15 (H01-25)**

**Tough dynamic nanocomposite injectable and self-healing hydrogel**

Liting Gao, Shaanxi university of science and technology, China

**17:15 Dinner**