

Chairs



Zhiwei Shan

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Organizing Committee Chair



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Invited Speakers

Afroz Barnoush	Norwegian University of Science and Technology
Christopher Hutchinson	Monash University
Evan Ma	Johns Hopkins University
Gang Sha	Nanjing University of Science and Technology
Gi-Dong Sim	Korea Advanced Institute of Science and Technology
Huiling Duan	Peking University
Jiangwei Wang	Zhejiang University
Jianyu Huang	Yanshan University
Jijun Zhao	Dalian University of Technology
Jose San Juan	University of the Basque Country, Spain
Kai Liu	Tsinghua University
Leyun Wang	Shanghai Jiao Tong University
Marc Legros	CEMES, France
Ming Xu	Huazhong University of Science and Technology
Qihang Liu	Southern University of Science and Technology
Qing Jiang	Jilin University
Qingyu Shi	Tsinghua University
Shigenobu Ogata	Osaka University
Shuai Wang	Southern University of Science and Technology
Upadrasta Ramamurty	Nanyang Technological University

Xianghai An	The University of Sydney
Xiaoyan Zhong	Tsinghua University
Yang Lu	City University of Hong Kong
Yinan Cui	University of California, Los Angeles
Yunzhi Wang	The Ohio State University
Zengguang Cheng	University of Oxford
Zhefeng Zhang	Institute of Metal Research, Chinese Academy of Sciences
Zhenyu Zhang	Dalian University of Technology
Zhuhua Zhang	Nanjing University of Aeronautics and Astronautics

* The list is arranged alphabetically.



Workshop Schedule

August 13th, 2019 (Tuesday)

14:30 - 18:30	Registration (The Lobby of Nanyang Hotel)
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Time: 8:00 - 11:45, August 14th, 2019 (Wednesday)

Location: Room 101, Science Building, XJTU

8:00 - 11:45	Chairs: Upadrasta Ramamurty and Gang Sha	
8:00 - 8:15	Opening Ceremony	
8:15 - 8:45	Evan Ma	Multi-principal-element alloys: a “high-entropy” playground for dislocations
8:45 - 9:15	Gang Sha	Application of APT in understanding high entropy alloys with exceptional properties
9:15 - 10:15	 Coffee Break and Group Photo	
10:15 - 10:45	Upadrasta Ramamurty	Additive manufacturing of metals: tailoring microstructures for high mechanical performance and reliability
10:45 - 11:15	Xianghai An	Additively manufactured hierarchical high-entropy alloys with excellent properties
11:15 - 11:45	Jianwei Pan	Recent development in TEM technology of JEOL
12:00	 Lunch (Nanyang Hotel)	

Workshop Schedule

Time: 14:00 - 21:00, August 14th, 2019 (Wednesday)


Location: Room 101, Science Building, XJTU

14:00 - 21:00	Chairs: Leyun Wang and Zhefeng Zhang	
14:00 - 14:30	Zhefeng Zhang	Fatigue strength of Cu-Al alloys with grain sizes from micrometer to nanometer
14:30 - 15:00	Christopher Hutchinson	Dynamic precipitation in aluminum alloys
15:00 - 15:30	Jiangwei Wang	Interface-dominated plasticity in metallic nanostructured materials
15:30 - 16:00	Qingyu Shi	Microstructure and mechanical properties of carbon materials reinforced metal matrix composites fabricated by friction stir processing
16:00 - 16:30	 Coffee Break	
16:30 - 17:00	Leyun Wang	Study of the alloying effect on Mg's ductility by in situ synchrotron X-ray and electron microscopy experiments
17:00 - 17:25	Boyu Liu	In-situ TEM investigation on the dislocation behaviors in magnesium
17:25 - 17:45	Jiewen Zhang	Hierarchical 3D nanolayered duplex-Phase Zr with high strength, strain hardening, and ductility
18:00	 Dinner (Nanyang Hotel)	
19:00 - 21:00	Poster Session (MSE New Building)	

Workshop Schedule

Time: 8:00 - 12:00, August 15th, 2019 (Thursday)



Location: Room 101, Science Building, XJTU

8:00 - 12:00	Chairs: Jose San Juan and Qing Jiang	
8:00 - 8:30	Qing Jiang	Catalyst design for formic acid dehydrogenation
8:30 - 9:00	Hiroaki Matsumoto	In situ observation of catalyst particles in gas atmosphere using an aberration corrected STEM
9:00 - 9:30	Zhenyu Zhang	Deformation induced new pathways and nanostructures in silicon
9:30 - 10:00	Jijun Zhao	Computational design of novel 2D electronic and magnetic materials
10:00 - 10:30	 Coffee Break	
10:30 - 11:00	Jose San Juan	Size-effects on superelasticity ant micro/nano scale in shape memory alloys
11:00 - 11:30	Yang Lu	Nanomechanics of covalent crystals and their elastic strain engineering
11:30 - 12:00	Kai Liu	Elastic properties and strain-induced buckling of 2-dimensional materials
12:00	 Lunch (Nanyang Hotel)	

Workshop Schedule

Time: 14:00 - 18:15, August 15th, 2019 (Thursday)



Location: Room 101, Science Building, XJTU

14:00 - 17:50	Chairs: Xiaoyan Zhong and Zhuhua Zhang	
14:00 - 14:30	Zhuhua Zhang	Prediction of synthetic two-dimensional materials
14:30 - 15:00	Ming Xu	Materials gene exploration and modification for 3D phase change memory
15:00 - 15:30	Zengguang Cheng	Chalcogenide phase-change materials for future photonic computing
15:30 - 16:00	Qihang Liu	Rational design principles of quantum anomalous Hall effect from superlattice-like magnetic topological insulators
16:00 - 16:20	 Coffee Break	
16:20 - 16:50	Marc Legros	Small-scale plasticity and in situ TEM: intrinsic vs extrinsic approaches
16:50 - 17:20	Xiaoyan Zhong	Atomic scale magnetic and structural imaging by achromatic spatially-resolved electron magnetic circular dichroism
17:20 - 17:50	Eric Hintsala	Correlative microstructural–micromechanical measurements; high Speed, high Vacuum, high temperature
17:50 - 18:15	Jing Hu	Multi scale characterization of corrosion/ hydrogen pick up and in situ ion irradiation of Zr and ATF cladding alloys
18:30	 Banquet (Nanyang Hotel)	

Workshop Schedule

Time: 8:00 - 12:00, August 16th, 2019 (Friday)


Location: Room 101, Science Building, XJTU

8:00 - 12:00	Chairs: Yunzhi Wang and Huiling Duan	
8:00 - 8:30	Huiling Duan	Mechanical properties of irradiated metallic materials
8:30 - 9:00	Yi-nan Cui	Plastic instability of micrometer-scaled irradiated materials
9:00 - 9:20	Nan Yang	In situ investigation on the behavior of {10-12} deformation twinning in magnesium
9:20 - 9:40	Simian Liu	Effect of ordered helium bubbles on the fracture and deformation behavior of Zr
9:40 - 10:10	 Coffee Break	
10:10 - 10:40	Jianyu Huang	In-situ TEM studies of failure mechanisms of lithium ion batteries
10:40 - 11:10	Gidong Sim	Advanced instrumentation and microfabrication for mechanical testing of thin films at elevated temperatures
11:10 - 11:40	Yunzhi Wang	Ordered nanoparticle mediated dislocation transformation in superalloys
11:40 - 12:00	Zhiyu Nie	Controlled growth of aluminum nanowire via thermomigration across a nanoscale junction
12:00	 Lunch (Nanyang Hotel)	

Workshop Schedule

Time: 14:00 - 17:00, August 16th, 2019 (Friday)

Location: Room 101, Science Building, XJTU

14:00 - 17:00	Chairs: Gi-Dong Sim and Yinan Cui	
14:00 - 14:30	Shigenobu Ogata	Atomistic modeling of hydrogen diffusion and hydrogen-enhanced vacancy diffusion in metals
14:30 - 15:00	Afroz Barnoush	Understanding the hydrogen embrittlement by novel critical experiments
15:00 - 15:30	Shuai Wang	Hydrogen effect on the evolution of microstructure at high strain level
15:30 - 15:55	Junping Du	Hydrogen effect on defect kinetics—A generalized Gibbs isotherm theory
15:55 - 16:20	Dong Wang	Hydrogen embrittlement of high manganese steel examined by small-scale testing
16:20 - 16:40	Longchao Huang	Hydrogen effects on the motion of screw dislocation in α -iron
16:40 - 17:00	Closure	
18:00	 Dinner (Nanyang Hotel)	

Posters

Wednesday, August 14th, 2019 | 19:00-21:00

Number	Author	Title
Po-001	Sun Kun Choi	Mechanical behavior of metallic thin films passivated by ultra-thin layers
Po-002	Yu Hyun Park	Mechanical characterization of nanotwinned Ni-Mo-W thin films for metal MEMS applications
Po-003	Tingting Jiang	Progressive amorphization of GeSbTe phase-change material under electron beam irradiation
Po-004	Lulu Li	Deformation mechanism of lamellar FeAl/FeAl ₂ alloy
Po-005	Yujie Jia	Characterization of hydride in zirconium
Po-006	Suyang Sun	Blue phosphorene monolayers as potential nano sensors for volatile organic compounds under point defects
Po-007	Simian Liu	Effect of the ordered helium bubbles on the deformation and fracture behavior of α -Zr
Po-008	Jiangjing Wang	Layer-switching mechanisms in phase change materials
Po-009	Xue Fan	Nanostructure induced mechanical and tribological properties of carbon films studied with in-situ TEM observation
Po-010	Yu Hyun Park	Mechanical characterization of nanotwinned Ni-Mo-W thin films for metal MEMS applications
Po-011	Yongqiang Zhang	Nanogenerator based on the Ohmic-Schottky contact transition in VO ₂ nanowires

Number	Author	Title
Po-012	Hao Shen	Freeze-casted 3D LLZO porous structure used in composite electrode
Po-013	Jinyong Zhang	Tunable deformation mechanism of strain-transformable Ti alloys with TWIP/TRIP effects
Po-014	Xu Zhang	Effects of twin boundary orientation on plasticity of bicrystalline copper micropillars
Po-015	Jiewen Zhang	Microstructural evolution of nano-layered Zr-2.5Nb during rolling at different temperatures
Po-016	Fei Liu	Novel kink motion of <c+a> dislocations on pyramidal plane in HCP magnesium
Po-017	Huanhuan Lu	Visualization of junction growth in metallic single asperity by in situ TEM tribometry
Po-018	Xingyu Feng	The effect of grain boundary structure on intergranular oxidation behavior of 600 Alloy
Po-019	Nanjun Liu	Tunable deformation twins by additional elements in medium entropy alloy CrCoNi
Po-020	Hafiz Muhammad Rizwan Ahamd	Evaluation of band gap and understanding electrical properties of FeS ₂ by hydrothermal process and first principle study
Po-021	Fan Zhou	Effect of nano-Ti powder additive on microstructure and corrosion resistance of plasma electrolytic oxidation coating on AZ91 Mg alloy
Po-022	Getasew M. Zewdie	Chemical design principles for cache-type Sc–Sb–Te phase-change memory materials