

TIANCHEN LI
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Education and research experience

•09/2019—present

Singapore University of Technology and Design, Singapore

Ph.D. in Materials Science and Engineering GPA 4.5/5.0

Advisor: Prof. Hui Ying Yang

Thesis: Interfacial design of reversible zinc metal Anodes for aqueous zinc-ion batteries

•09/2016—06/2019

Central South University, Changsha, China

Master in Materials Science and Engineering GPA 3.6/4.0

Advisor: Prof. Bin Liu and Prof. Yong Liu

Thesis: Preparation and performance of FeCoCrNi-based high-entropy alloy wear-resistant coatings

•09/2012—06/2016

Xi'an University of Technology, Xi'an, China

Bachelor in Material Forming and Control Engineering GPA 3.1/4.0

Thesis: Mechanical properties of TiC/Mo composite prepared by spark plasma sintering

•15/02/2017—28/02/2017

Research Complex at Harwell, Rutherford Appleton Lab, Oxford University, UK

Advisor: Dr. Biao Cai and Prof. Bin Liu

Research project: Investigation of deformation nano-twinning in FeCoCrNi FCC high entropy alloys at reduced temperatures, RB 1620203, 2016

Publications during Ph.D. (Zinc-ion batteries)

1. **Tian Chen Li**, Yew Von Lim, Xue Liang Li, Songzhu Luo, Congjian Lin, Daliang Fang, Sunwen Xia, Ye Wang, Hui Ying Yang*, A Universal Additive Strategy to Reshape Electrolyte Solvation Structure toward Reversible Zn Storage, *Adv. Energy Mater.*, 2022, 12, 2103231. (**Front cover, highly cited paper**)
2. **Tian Chen Li**, Yew Von Lim, Xuesong Xie, Xue Liang Li, Guojing Li, Daliang Fang, Yifan Li, Yee Sin Ang, Lay Kee Ang, Hui Ying Yang*, ZnSe Modified Zinc Metal Anodes: Toward Enhanced Zincophilicity and Ionic Diffusion, *Small*, 2021, 17, 2101728.
3. **Tian Chen Li**, Daliang Fang, Jintao Zhang, Mei Er Pam, Zhi Yi Leong, Juezhi Yu, Xue Liang Li, Dong Yan and Hui Ying Yang*, Recent Progress in Aqueous Zinc-ion Batteries: A Deep Insight into Zinc Metal Anodes, *J. Mater. Chem. A*, 2021, 9, 6013-6028.

4. Xue Liang Li[#], **Tian Chen Li**[#], Shaozhan Huang, Jian Zhang, Mei Er Pam, Hui Ying Yang*, Controllable Synthesis of Two-Dimensional Molybdenum Disulfide (MoS₂) for Energy-Storage Applications, *ChemSusChem*, 2020, 13, 1379-1391.
5. **Tian Chen Li**, Congjian Lin, Min Luo, Xue Liang Li, Yifan Li, Hui Ying Yang*, A surface fluorination strategy to produce Zn anode for the 3D printable aqueous Zn batteries, *Materials Today: Proceedings*, 2022, 70, 333-338. (Conference paper)
6. Mingming Han, **Tian Chen Li**, Dong-Sheng Li, Hui Ying Yang*, Electrolyte Modulation Strategies for High Performance Zn Batteries, *Batteries & Supercaps* (Accepted)
7. Mingming Han, Jiwu Huang, Xuesong Xie, **Tian Chen Li**, Jiangtao Huang, Shuquan Liang, Jiang Zhou*, Hong Jin Fan*, Hydrated Eutectic Electrolyte with Ligand-Oriented Solvation Shell to Boost the Stability of Zinc Battery, *Adv. Func. Mater.*, 2022, 32, 2110957.

Publications during Master (High-entropy alloys and coatings)

8. **Tianchen Li**, Yong Liu, Bin Liu*, Wenmin Guo*, Liyou Xu, Microstructure and Wear Behavior of FeCoCrNiMo_{0.2} High Entropy Coatings Prepared by Air Plasma Spray and the High Velocity Oxy-Fuel Spray Processes, *Coatings*, 2017, 7(9):151.
9. **Tianchen Li**, Bin Liu*, Yong Liu, Wenmin Guo*, Ao Fu, Liangsheng Li, Nie Yan, Qihong Fang, Particulate Reinforced NbMoCrTiAl High Entropy Alloy Composite Prepared by Powder Metallurgy, *Entropy*, 2018, 20(7), 517.
10. Yingbo Peng*, Wei Zhang*, **Tianchen Li**, Mingyang Zhang, Bin Liu, Yong Liu, Li Wang, Songhao Hu, Effect of WC content on microstructures and mechanical properties of FeCoCrNi high-entropy alloy/WC composite coatings by plasma cladding, *Surface and Coatings Technology*, 2020, 385, 125326.
11. Yingbo Peng*, Wei Zhang*, **Tianchen Li**, Mingyang Zhang, Li Wang, Yuanyuan Song, Songhao Hu, Yang Hu, Microstructures and mechanical properties of FeCoCrNi high entropy alloy/WC reinforcing particles composite coatings prepared by laser cladding and plasma cladding, *International Journal of Refractory Metals and Hard Materials*, 2019, 84, 105044.
12. Yingbo Peng*, Wei Zhang*, **Tianchen Li**, Mingyang Zhang, Li Wang, Songhao Hu, Microstructures and wear-resistance of WC-reinforced high entropy alloy composite coatings by plasma cladding: effect of WC morphology, *Surface Engineering*, 2021, 37 678-687.
13. Wenmin Guo, Bin Liu*, Yong Liu, **Tianchen Li**, Ao Fu, Qihong Fang, Yan Nie, Microstructures

and mechanical properties of ductile NbTaTiV refractory high entropy alloy prepared by powder metallurgy, *Journal of Alloys and Compounds*, 2019, 776, 428-436.

Honors and Awards

- ◆ SUTD Ph.D. Scholarship 2019-2023
- ◆ China National Scholarship, 2018-2019
- ◆ Outstanding Graduates in Central South University, 2019