Cheng FANG

800 Dongchuan Road, Shanghai, P.R.China | (86) 182-1725-6259 | smse_fc2016@sjtu.edu.cn

EDUCATION

Shanghai Jiao Tong University (SJTU) Shanghai, China
B.S. in Materials Science and Engineering, 'Hsu Tzuyao' Honor Class Sept 2016 - Jul 2020
Overall GPA (Three years): 3.61/4 (86/100)
Awards: 2016 "Outstanding Student" of School of Materials Science and Engineering (**Top5%** among 140)
Core Courses: Physical Properties of Materials, 94; Structural and Chemical Characterization of Materials, 92; Mechanics of Materials, 92;Thermodynamics of Materials, 91; General Physics, 90; Fundamentals of Materials Science and Engineering, 88; Principles of Materials Processing, 87; Structures of Materials, 86; Materials Lab, 91.

RESEARCH EXPERIENCES

Nano-casting Molybdenum Phosphide Mesoporous Material, *supervised by Professor Peng Zhang*

The State Key Lab of Metal Matrix Composites Mar 2019 – Present

- Nano-casting was adopted to prepare mesoporous MoP by using hard templates KIT-6.
- Characterized the product by X-ray diffraction analysis, which indicated pure MoP phases. Linear sweep voltammetry (LSV) measurement was performed in a 0.5 M H2SO4 and the result indicated the better electrocatalytic performance with a large current of mesoporous MoP, much larger than that of bulk structure. TEM patterns confirmed the mesoporous structure of the sample.
- Optimized the annealing condition to get phosphomolybdate fully reduced to MoP: controlled the H2 flow velocity and figured out the proper temperature.

Preparation and Characterization of Na0.5Bi0.5TiO3 Nanocubes, *supervised by Professor Yiping. Guo*

The State Key Lab of Metal Matrix Composites Oct 2018 – Jan 2019

- Prepared morphology-controlled nanocubes (NCs) via hydrothermal process, oleic acid as the surfactant.
- NCs with the side length of 300nm were synthesized and perform a uniform dispersity in toluene. The size of NCs is much smaller than that in previous work (about 1 μm). Due to the capillary effect, these NCs can self-assemble on the FTO by the dipping process.
- Analyzed nanocube products via XRD and SEM, which indicated the pure NBT product.
- Via piezoelectric /photoelectric catalysis process (to degrade Rhodamine solution), the material offered good catalytic performance and Rhodamine gets a ~95% degradation after a 3-hour-experiment. The dielectric constant was about 300.

The Behavior of CNT/Al Composites in Salt-spray Corrosion Test, *supervised by Researcher G.L. Fan*

The State Key Lab of Metal Matrix Composites Mar 2018 - Oct 2018

- Variable salt spray corrosion test time, in the range of 6 hours to 336 hours, were applied to CNT/Al composite
- The strength of corroded composites maintained excellent values of ~500 MPa, much higher than that of 2024 aluminum alloy without CNT reinforcement. The elongation of the corroded composite is ~8%.
- EDS pattern indicated the anodized coating impeded the incursion of Na and Cl ions into the composite substrate, thus the composite maintained good mechanical properties.

LEADERSHIP AND ACTIVITIES

SJTU Inspiration Forum Committee | Deputy Director in HR Center Oct 2016 – Dec 2018

- Organized over 20 lectures, invited over 30 celebrities, like Professor Norman Christ, Professor Xuhua Huang, to share their life experiences and great research achievements.

SKILLS

Experimental skills: XRD analysis (proficient), SEM & TEM analysis (okay)
Computer Skills: Word, Excel, PPT and Origin (proficient); Adobe Photoshop, Python, Matlab (okay).
English Standard Test: TOEFL 100 *(Reading 27, Listening 27, Speaking 22, Writting 24)*