

MINGYU NIE

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EDUCATION BACKGROUND

Sun Yat-Sen University (SYSU), School of Material Science and Engineering **Guangzhou, China**
Bachelor of Engineering in Polymer Science and Engineering 08.2018 – 06.2022

GPA: 89/100 Rank: 6/38

Core Courses: Polymer Physics, Polymer Chemistry, Polymer Forming and Processing, Organic Chemistry, Physical Chemistry

Honours: 2nd Prize Scholarship of SYSU (2018-2019, 2019-2020, Top 10%)

PUBLICATIONS

1. W. Meng, M. Nie, Z. Liu, J. Zhou*, Buckled Fiber Conductors with Resistance Stability under Strain. *Advanced Fiber Materials*, 2021, **3**, 149-159.

2. J. Zhou, M. Nie. Silver aerospoges and its Synthesis, 202110432286.0[P]. 2021.4.22.

3. **Mingyu Nie**, Boxiao Li, Jian Zhou*, Ku Fu*, You-lo Hsieh*, Stretchable One-Dimensional Conductors for Wearable Applications. *ACS Nano*, 2022, 16, 12, 19810–19839

ACADEMIC EXPERIENCE

Hydrothermal synthesis of 2D Bismuth Oxychalcogenide Nanosheets **Guangzhou, China**
Group Member 04.2022 – 11.2022

- Proposed a novel hydrothermal method to synthesize 2D Bismuth Oxychalcogenide nanosheets, and obtain single-layered nanosheet after exfoliation.
- Regulated reaction conditions (concentration, temperature, types of Bi or Se/Te sources, etc.) to obtain nanosheets with optimal morphology and controllable sizes.
- Characterized the ferroelectrical and piezoelectrical properties of the nanosheets via conductive atomic force microscopic (CAFM).

Synthesis of N-propyl vinyl ether copolymer and manipulation of its molecular weight **Guangzhou, China**
Group Member 05.2021 – 04.2022

- Proposed a novel method to synthesize N-propyl vinyl ether copolymer, and obtain fusible polyfluoroalkoxy (PFA) after fluorination, which can be melted and remolded compared to pure PTFE (Teflon).
- Manipulated the molecular weight and its distribution (PDI), and the proportion of ether.
- Designed the specific process of the polymerization and the reaction system (reactant, solvent, initiator, etc).
- Regulated reaction conditions to meet the requirements of industrial production (costs, impacts on the environment, energy consumptions, etc).

Buckled fibre conductors with resistance stability under strain **Guangzhou, China**
Group Member 03.2020 – 01.2021

- Summarised the advances in constructing fibre conductors with an emphasis on recent developments of buckled structural design, fabrication methodologies, and strategies.
- Systematically elaborated two kinds of the buckled fibre conductors: inner buckling and outer buckling to obtain resistively stable materials at large strain.
- Critically evaluated the present challenges in this area and put forward our perspectives for improving the performance of the buckled fibre conductors for future applications
- Obtained school-level funding and the outcome was published on *Advanced Fiber Materials*.

Self-assembly method of fabricating ultralight metallic aerospoges with nanostructures **Guangzhou, China**
Group Member 04.2019 – 05.2021

- Proposed a novel method of obtaining an ultralight silver aerospoges, the density as low as 7 mg/cm³.
- Explained the mechanism of the bubble controlled self-assembly process and the formation of 3D network.
- Characterised the nanostructures using scanning electron microscope (SEM), energy dispersive spectrometer (EDS), etc.

- Offered a facile method for industries to obtain metallic porous materials to solve the problem of harsh reaction conditions (high temperature, high pressure, etc) and low yield.
- The achievement was granted a national patent entitled Silver aerospoges and its Synthesis.

EXTRACURRICULAR ACTIVITIES

School of Material Science and Engineering

Guangzhou, China

Student Assistant

09.2020 – 09.2021

- Assisted counsellor in handling students' affairs

Student Union of School of Materials Science and Engineering, SYSU

Guangzhou, China

Core Member

10.2018 – 10.2019

- Organised Campus Dormitory Culture Competition, attracting more than 200 participants
- Operated the "Talent Column" of the School, wrote reports on distinguished students.

LANGUAGE & SKILLS

Language: Chinese (native), English (proficient)

Skills: Origin, 3ds Max, Adobe Illustrator, Solidworks, OMNIC, Mestrenova, Chemdraw, MS Office

DECLARATION

I hereby declare that all statements made in this curriculum vitae are true, complete and correct to the best of my knowledge and belief.