Ziyang Chang

Tanwei College, Tsinghua University, Beijing 100084, China

changzy22@mails.tsinghua.edu.cn | +86 157 3887 4980

Education

Tsinghua University, 07/2026 expected — Sept 2022 – Jul 2026
BS in Fundamental Science (Chemistry & Biology)
BE in Chemical Engineering & Industrial Biological Engineering

- **GPA**: 3.73/4.0
- **Coursework:** Biochemistry, Organic Chemistry, Physical Chemistry, Inorganic Chemistry, Analytical Chemistry, Principles of Chemical Engineering, Calculus, Physics, Linear Algebra, Probability and Statistics, Python

Papers

Fei Wang, Kangkang Wang, **Ziyang Chang** and Rufan Zhang* (2024) . Highly Transparent and Transferable Ultralong Carbon Nanotube Networks for Transparent Wearable Electronics. *ACS Nano*, **18**(48).

Run Li†, **Ziyang Chang**† and Rufan Zhang*. Controlled synthesis and performance regulation of functional carbon nanotube fibers. Currently under submission to *the Journal of Textile Research*.

Research experience

Fluidization Laboratory of Tsinghua University — Mar 2024 – Present
Advisor: Prof. Rufan Zhang

- **Project1:** Highly Transparent and Transferable Ultralong Carbon Nanotube Networks for Transparent Wearable Electronics — Mar 2024 – Sep 2024
  - Third author of a paper published in ACS Nano.
  - Independently conducted finite element analysis (FEA) to model the sensor behavior under varying pressures using Abaqus.
  - Independently demonstrated the sensor's application as a wearable controller for a robotic arm.
  - Fabricated a strain sensor independently and assisted in material synthesis, characterization, device fabrication, and sensing performance evaluation of a piezoresistive pressure sensor.
  - Achieved an 'A' in the Research Training Program course.
- **Project2:** Development and Applications of Flexible Sensing Technologies — Sep 2024 – Dec 2024
  - Co-authoring a review focused on the strategies for preparing and functionalizing CNTFs, as well as their applications in flexible display, energy storage, and advanced sensors.
  - collaborating with senior researchers to identify future research directions for wearable fiber-based sensors.

Key Lab of Industrial Biocatalysis Ministry of Education — Apr 2023 – Mar 2024
Advisor: Prof. Xiaonan Wang

- **Project:** Machine learning-enabled material design — Dec 2023 – Apr 2024
  - Independently developed regression and binary classification models(with 94% classification accuracy) to predict membrane intercalation.
  - Assisted in establishing a comprehensive database of membrane intercalation duration properties for 202 molecules from literature.
  - Optimized the data analysis process and improved model performance through weighted evaluation, comparison of multiple common algorithms, cross-validation, and hyperparameter tuning.
  - Achieved an 'A' in the Student Research Training Program.

Selected Courses

Chemical Principles	A
Biochemistry (1)	A
Organic Chemistry A (2)	A
Physical Chemistry (1)	A
Linear Algebra (English)	A
Python	A

Scholarship and Awards

- Third Price in the 30th Tsinghua University "Hua Luogeng Cup" Mathematical Modeling Competition — May 2024
- Tsinghua University Five-Star Volunteer Award — May 2024
- Tsinghua University School-designated Scholarship — Dec 2023
- Tanwei College Outstanding Scholarship — Dec 2023
- Third Price in the 39th National College Student Physics Competition — Nov 2023

Technical skills

Language: English(**TOEFL**: 110/120 (29/Reading+29/Listening+25/Speaking+27/Writing), Chinese(native)

Programming languages: Python/MATLAB

Relevant Software: skilled in using MS Office, Origin, Xmind and Chemdraw, and Abaqus for finite element analysis(FEA).

Experimental Techniques: Experienced in various laboratory techniques, including distillation, extraction, drying, separation, recrystallization, thin-layer chromatography, column chromatography, sublimation, and spectrophotometric methods.

Characterization Techniques: Experienced in advanced characterization techniques, such as scanning/transmission electron microscopy (SEM/TEM), UV-visible spectroscopy (UV-vis), high-performance liquid chromatography (HPLC).

Extracurricular activities

Volunteer work: Accumulated over 200 hours of volunteer experience.

Social Practice Team "Discovery: Australia & Clean Energy"
leader — Jan 23 – Feb 1,2024

- Visited Sydney and Adelaide in the Commonwealth of Australia.
- Conducted research on the energy and chemical industry in Australia through discussions and exchanges with Australian enterprises, universities, and government representatives.
- Participated in six additional social practice activities.

Student Association of Science and Technology – Tsinghua University
member of the Forum Department — Apr 2024 – Present

- Responsible for the planning and organization of the LiaoYuan Forum series, one of Tsinghua University's most influential science and technology forums.
- Organized and Hosted activities as part of the 2024 Tsinghua University Science Popularization Cultural Festival