YANLIN CHEN

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EDUCATION

University of Science and Technology of China (B.S. in Life Sciences) *Sept 2024 – present*

- **GPA:** 4.09/4.3 (major); 3.65/4.3 (cumulative)
- **Cumulative Rank:** 2/25 within the Biotechnology track
- **Relevant Coursework**
  Molecular Biology I (97), Biochemistry A2 (96), Biology Journal Club (95), General Biology (94), Physiology (92), Microbiology (90), Laboratory Series of Biology (all A^+);
  Organic Chemistry B (95), Analytical Chemistry I (95), Inorganic and Analytical Chemistry Experiment (A^+), Experiment of Organic Chemistry I (A^+).

HONORS AND AWARDS

Scholarship

National Scholarship (Top 2%)	2025-2026
Shitsan Pai Talent Program Scholarship: A level (2/24)	2025-2026
Fenjin Scholarship (for Great Academic Progress)	2025-2026
Talent Student Silver Scholarship in USTC (Top 10%)	2024-2025

Competition

The 2025 International Genetically Engineered Machine Competition (iGEM): 2025
Gold Medal (student leader)

RESEARCH EXPERIENCE

Laboratory of Cell and Developmental Biology Feb 2025 – present
Project: Technical Development of DNA-antibody Conjugate Expansion Microscopy (DAC-ExM) for Super-Resolution Imaging
(Undergraduate Innovation and Entrepreneurship Training Program (leader))
PI: Prof. Li He (USTC, Hefei, China)

- The project aims to combine Co-Detection by Indexing (CODEX) technology with expansion microscopy (ExM) to achieve multi-color and multi-round immunofluorescence imaging at the super-resolution scale. This technology termed DAC-ExM can simultaneously overcome the channel-number and resolution limitation of conventional microscopes.
- Molecular and Chemical Experimental Trials: Prepared DNA-antibody conjugates (DACs) through DBCO-azide cycloaddition click chemistry. Prepared branched DNA probe via primer exchange reaction (PER). **Spearheaded the establishment of this new experimental platform.**
- Polymer Chemistry Experimental Trials: Replicated the universal molecular-anchoring expansion microscopy (Magnify), single-shot 20-fold expansion microscopy (20ExM) and protein-retention expansion microscopy (proExM) protocols. **Integrated and further optimized the above-mentioned experimental workflows to reduce sample-preparation time.**
- Cell Biology Experimental Trials: Performed routine cell culture workflows for U2OS and HEK-293T cell lines, including cell resuscitation, maintenance, transfection and cryopreservation. Gained experience with immunofluorescence imaging and routine imaging-processing analysis.

Laboratory of Innate Immunity and Regulated Cell Death Jul 2026 – Aug 2026
Project: Functional Characterization of Engineered Human Gasdermin D (hGSDMD-Δ1-pp)
(The 20th National Institute of Biological Sciences Students Training Summer Program (SSTP))
PI: Prof. Feng Shao (NIBS, Beijing, China)

- The project aims to produce hGSDMD-Δ1-pp (the loop domain between the N- and C-terminal regions of this variant was replaced with an HRV-3C protease cleavage site) using prokaryotic expression system, purify it and test its pore-forming activity. This protein can serve as a positive internal control for agonist-activity detection and liposome-leakage assays.
- Biochemical Experimental Trials: Induced expression of hGSDMD-Δ1-pp in *Escherichia coli* BL21.

Purified the protein via affinity, ion-exchange and size-exclusion chromatography. Prepared terbium-ion-loaded liposomes and conducted liposome leakage assay. Performed thermal-shift assay to identify optimal cyclic peptides for GSDMD inhibition.

Laboratory of Synthetic and Engineering Biology Apr 2025 – Nov 2025
Project: Selective Proteolytic Botulinum Toxin Bioassay Based on Yeast (S.P.Y.)
(The 2025 International Genetically Engineered Machine Competition (student leader))
PI: Prof. Jiong Hong (USTC, Hefei, China)

- The project aims to construct a biosensor for botulinum toxin A (BoNT/A) in the *Saccharomyces cerevisiae* system. This biosensor can lower the limit of detection of conventional assays, which could reduce reliance on toxin-challenged experimental mice. This dual-yeast system of this project can serve as a broad-spectrum specific-recognition protease-sensing system.
- Synthetic Biology Experimental Trials: **Led the conceptual design and overall scheme of this project.** Constructed surface-display fusion proteins for sensing BoNT/A and engineered the endogenous mating-related GPCR of *Saccharomyces cerevisiae* for quantifying BoNT/A.
- Microbiology Experimental Trials: Performed cultivation, chemical transformation, genomic DNA extraction and homologous recombination of *Saccharomyces cerevisiae*. Successfully established the L-DOPA metabolic pathway in yeast to generate a visual readout.
- Biochemical Experimental Trials: Constructed recombinant plasmids via restriction-ligation and Gibson assembly. Addressed the challenge of difficult amplification for short DNA fragments using overlap PCR. **Gained hands-on experience in fundamental molecular techniques.**

LEADERSHIP AND MEMBERSHIP

Leadership:
Undergraduate Class Representative, School of Life Sciences, USTC Sep 2024 – Present
President, Code-for-Life Association, USTC May 2025 – Present
Vice President, Gardening Club, USTC May 2024 – May 2025

Membership: Runners Association, Nature Conservation Society

SKILLS

Programming and Tools: Python, C, LaTeX, SnapGene, Fiji (ImageJ).
Laboratory skills:

- **Molecular and Biochemistry:** SDS-PAGE/Native-PAGE, Western blot, electroporation/chemical transformation, plasmid construction, ELISA, bioconjugation via click-chemistry, protein purification, thermal-shift assay (TSA), etc.
- **Cell Biology and Imaging:** cell culture, transient/stable cell transfection, immunofluorescence imaging (IF), expansion microscopy (ExM)

Languages: Native in Mandarin; Fluent in English (CET4: 632, CET6: 510)

ACADEMIC CONFERENCES

Ray Wu Symposium, Ray Wu Memorial Fund, Hefei Oct 2026
- Attended the highest honor forum for doctoral students in Chinese life sciences communities and engaged in academic exchanges with top principal investigators.

Beisheng Science Forum (NIBS Annual Symposium), NIBS, Beijing Aug 2026
- Participated in the internal academic conference at NIBS and gained insights into research workflows and outputs at a top-tier life-science institute.

Chemical Biology Forum, Peking-Tsinghua Joint Center for Life Sciences, Beijing Jul 2026
- Attended this prestigious summer symposium to explore cutting-edge advances in chemical biology.

iGEM Jamboree, iGEM Foundation, Paris Oct 2025 – Nov 2025
- Presented project results in oral presentation and poster at the international academic competition.