

EDUCATION

Yale University

Ph.D. Candidate in Genetics

New Haven, CT

Aug 2022-present

Cornell University

Master of Engineering in Biomedical Engineering

Ithaca, NY

Aug 2019-Aug 2020

- ♦ Award: Third Place in the Annual Cornell M.Eng. Project Showcase Design Competition

University of California, Irvine

Bachelor of Science in Biological Sciences

Irvine, CA

Aug 2015-Jun 2019

- ♦ Honor: Dean's Honor Lists, UROP Fellowship

RESEARCH EXPERIENCE

Lab of Prof. Valentina Greco, Yale University

Ph.D. Candidate

New Haven, CT

May 2023-present

Project: Principles of spatiotemporal organization of transcription dynamics in epidermal regeneration

- ♦ Developed a 3D image analysis pipeline across multiple scales (tissue, cellular, molecular) to examine the organization of stem cell states among neighbors in live mice with intravital microscopy.

Key skills: Two-photon intravital imaging, Immunofluorescent staining, ImageJ, Imaris, Deep imaging analysis with Python (3D segmentation, spot tracking), AI workflow (in CLI and IDE), Cloud computing.

Lab of Prof. Calvin Kuo, Stanford University

Life Science Research Professional

Stanford, CA

Oct 2020-Jul 2022

Project: Investigating autoimmunity and injury responses in the intestine with organoid and mouse models

- ♦ Worked with a senior member in the lab to culture a novel organoid model to study coeliac disease using patient endoscopy samples and interrogated the role of fibroblasts in supporting intestinal regeneration.

Key skills: Air-Liquid interface organoid culture from human biopsy, mouse and human spheroids culture, 2D cell culture, Immunofluorescent staining, ImageJ, qPCR, FACS, fluent scRNA-seq analysis.

Department of Biomedical Engineering, Cornell University

Graduate Design Engineer

Ithaca, NY

Aug 2019-Aug 2020

Project: Development of a tissue-engineered heart valve for pediatric patients

- ♦ Modified a heart valve bioreactor and created an aseptic gas exchange chamber to support long-term conditioning of tissue-engineered heart valves for patients with congenital heart disease (CHD).

Lab of Prof. Bogi Andersen, UC Irvine

Undergraduate Researcher

Irvine, CA

Jun 2018-Jun 2019

Project: Exploring the cellular mechanisms that govern epidermal and hair follicle stem cell differentiation

- ♦ Performed immunofluorescent staining and developed a bulk RNA-seq analysis pipeline.

PUBLICATIONS

- ♦ Rathkey, JK., Choi, SS., van Unen, V., ..., **Lin, Z.**, ..., Kuo, CJ. Human lung organoid modelling of tissue-resident antiviral T cell responses. Nature (2026).
- ♦ Swaminathan, A., Gonzalez, DG., Matte-Martone, C., ..., **Lin, Z.**, ..., Greco, V. Skin capillary endothelial cells form a network of spatiotemporally conserved Ca²⁺ activity. PNAS (2026).
- ♦ Santos, AJM., van Unen, V., **Lin, Z.**, ..., Kuo, CJ. A human autoimmune organoid model reveals IL-7 function in coeliac disease. Nature (2024).
- ♦ Chen, JK., Wiedemann, J., Nguyen, L., **Lin, Z.**, Tahir, M., Hui, CC., Plikus, MV., Andersen, B. IRX5 promotes DNA damage repair and activation of hair follicle stem cells. Stem Cell Reports (2023).
- ♦ Lin, Z., Jin, S., Chen, J., Li, ZR., **Lin, Z.**, Tang, L., Nie, Q., Andersen, B. Murine interfollicular epidermal differentiation is gradualistic with GRHL3 controlling progression from stem to transition cell states. Nature Communications (2020).

CONFERENCES

- ♦ 2025 New York City Skin Club Conference (Talk & Poster)
- ♦ 2025 Gordon Research Seminar & Conference (Talk & Poster).
- ♦ 2023 & 2024 Gordon Research Seminar & Conference (Poster).
- ♦ 2019 UC Irvine Undergraduate Research Symposium (Talk).