Teng-Jui Lin

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Education

University of California, Berkeley | *Berkeley, CA, USA* **Aug 2023 - Present**

- Ph.D. student, Chemical and Biomolecular Engineering

University of Washington | *Seattle, WA, USA* **Sep 2019 - Jun 2023**

- B.S. in Chemical Engineering: Nanoscience and Molecular Engineering, *summa cum laude*
- Minor in Applied Mathematics and Chemistry
- Focus Area on Bio & Biomedical Materials, Interfaces, and Systems
- Honors Thesis: Quantifying Microglia Morphological Response to Injury and Treatment Across Species with Unsupervised Machine Learning
- Industry Capstone: Characterization of Silica-Based Anion Exchange Resin for Acid Mine Drainage

Research Experience

Graduate Student Researcher **Oct 2023 - Present**

Department of Chemical and Biomolecular Engineering, UC Berkeley, PI: Markita Landry

Undergraduate Research Assistant **Nov 2020 - Jun 2023**

Department of Chemical Engineering, University of Washington, PI: Elizabeth Nance

Summer Undergraduate Research Scholar **Jun 2022 - Aug 2022**

NSF Science and Technology Center on Real-Time Functional Imaging (STROBE)

Department of Physics, Florida International University, PI: Jin He

Honors & Awards

Annual Dean's Lists | *University of Washington* **2020 - 2023**

Library Research Award for Undergraduates | *University Libraries, University of Washington* **2023**

Nominee, Dean's Medal for Academic Excellence | *College of Engineering, University of Washington* **2023**

Poster Competition 2nd Place | *American Institute of Chemical Engineers* **2022**

Conference Travel Award | *Undergraduate Research Program, University of Washington* **2022**

Future Leader in ChemE | *Dept. of Chemical and Biomolecular Engineering, NC State University* **2022**

Dan Evans Term Scholarships | *Dept. of Chemical Engineering, University of Washington* **2021 & 2022**

ChemE Hackathon Team 1st Place | *Dept. of Chemical Engineering, University of Washington* **2022**

Mary Gates Research Scholarship | *Mary Gates Endowment for Students, University of Washington* **2021**

ChemE Hackathon Team 3rd Place | *Dept. of Chemical Engineering, University of Washington* **2021**

Publications

Corresponding Author*

1. H. Helmbrecht, **T.-J. Lin**, S. Janakiraman, K. Decker, E. Nance*. Prevalence and Practices of Immunofluorescent Cell Image Processing: A Systematic Review. *Frontiers in Cellular Neuroscience* (2023). DOI: 10.3389/fncel.2023.1188858.

Presentations

Presenting Author^

Oral Presentations

4. **T.-J. Lin**^, G. Charpentier^, L. Miller^, M. Gokani^, M. Nelson^, B. Rutz, O. Lenz. Characterization of silica-based anion exchange resin for acid mine drainage. *Material Science and Engineering & Chemical Engineering*

Capstone Symposium, University of Washington, Seattle, WA, USA. 2 Jun 2023.

3. H. Helmbrecht^, E. Nance, K. Decker, **T.-J. Lin**, S. Janakiraman, M. Onodera. Analysis of microglia morphology across different Nnuroinflammatory rat models. *AIChE Annual Meeting, Phoenix, AZ, USA*. 13 Nov 2022. Link.
2. **T.-J. Lin**^, H. Helmbrecht, E. Nance. Incorporating Visually Aided Morpho-Phenotyping Image Recognition into robust microglial shape analysis. *Undergraduate Research Symposium, University of Washington, Seattle, WA, USA*. 20 May 2022. Link.
1. **T.-J. Lin**^, H. Helmbrecht, E. Nance. Robust microglial shape analysis using Visually Aided Morpho-Phenotyping Image Recognition. *AIChE Pacific Northwest Student Regional Conference, Seattle, WA, USA*. 23 Apr 2022.

Poster Presentations

7. **T.-J. Lin**^, G. Charpentier^, L. Miller^, M. Gokani^, M. Nelson^, B. Rutz, O. Lenz. Characterization of silica-based anion exchange resin for acid mine drainage. *Material Science and Engineering & Chemical Engineering Capstone Symposium, University of Washington, Seattle, WA, USA*. 2 Jun 2023.
6. **T.-J. Lin**^, H. Helmbrecht, R. Jin, T. Wood, E. Nance. Assessing separate and combinatorial treatments in neuroinflammatory preterm ferret model by quantifying microglia and oligodendrocyte morphology. *Undergraduate Research Symposium, University of Washington, Seattle, WA, USA*. 19 May 2023. Link.
5. **T.-J. Lin**^, H. Helmbrecht, R. Jin, T. Wood, E. Nance. Assessing separate and combinatorial treatments in neuroinflammatory preterm ferret model by quantifying microglia and oligodendrocyte morphology. *AIChE Pacific Northwest Student Regional Conference, Corvallis, OR, USA*. 15 Apr 2023.
4. **T.-J. Lin**^, H. Helmbrecht, E. Nance. Quantifying microglia morphology across neuroinflammatory rat models with unsupervised machine learning. *Southern California Conference for Undergraduate Research, Malibu, CA, USA*. 19 Nov 2022. Link.
3. **T.-J. Lin**^, H. Helmbrecht, E. Nance. Quantifying microglia morphology across neuroinflammatory rat models with unsupervised machine learning. *AIChE Annual Student Conference, Phoenix, AZ, USA*. 13 Nov 2022. Link.
2. **T.-J. Lin**^, H. Helmbrecht, E. Nance. Quantifying microglia morphology across neuroinflammatory rat models with unsupervised machine learning. *Future Leaders in Chemical Engineering Award Symposium, North Carolina State University, Raleigh, NC, USA*. 24 Oct 2022. Link.
1. **T.-J. Lin**^, A. Rubfiaro, G. Ghimire, J. He. Fabrication and characterization of functionalized gold nanorods for improving engineered cardiac tissue maturation. *Center for Diversity and Student Success Summer Research Symposium, Florida International University, Miami, FL, USA*. 29 July 2022.

Mass Media Appearances

2. (Insights letter) A. Heim, T. Bharani, N. Konstantinides, J. Powell, S. Srivastava, X. Cao, D. Agarwal, K. Waiho, **T.-J. Lin**, E. Virgüez, W. Strielkowski, A. Uzonyi. AI in search of human help. *Science*. 381, 162-163 (2023). DOI: 10.1126/science.adi8740
1. (Insights letter) R. Tang, T. Bharani, J. Ding, K. Li, J. Wen, S. D. Gopinath, **T.-J. Lin**, J. X. J. Luo, Q. Wen, K. Davis, N. van Rhijn, Name withheld, S. M. Anderson, R. J. Patel, S. Sarnala, F. S. Oda, G. Singh, N. R. Kothapalli, N. Scott, J. R. Powell, S. N. Kirshner. When internships disappoint. *Science*. 378, 22–24 (2022). DOI: 10.1126/science.ade6397.

Teaching Experience

Open-Source Chemical Engineering Education (Link) **Jan 2021 – Present**

Graduate Student Instructor,
CHM ENG 130: Mathematics and Statistics in Chemical Engineering **Aug 2023 - Dec 2023**

Department of Chemical and Biomolecular Engineering, UC Berkeley, Instructor: Aditi Krishnapriyan

Teaching Assistant, CHEM E 455: Surface and Colloid Science Laboratory **Mar 2023 - Jun 2023**

Department of Chemical Engineering, University of Washington

Teaching Assistant, Advanced Placement (AP) Calculus **Sep 2018 - May 2019**
Kinglee High School

Professional Experience

Member, Industry Capstone Project Team **Jan 2023 - Jun 2023**
Department of Chemical Engineering, University of Washington
Membrion, Inc.

Service

Note Taker **Aug 2023 – Dec 2023**
Disabled Students' Program, UC Berkeley

Chemical Engineering Peer Mentor **Mar 2023 – Jun 2023**
Department of Chemical Engineering, University of Washington

Undergraduate Representative, Faculty Search Committee **Jan 2023 – Feb 2023**
Department of Chemical Engineering, University of Washington

Undergraduate Research Leader **Sep 2022 – Jun 2023**
Undergraduate Research Program, University of Washington

Webmaster **Apr 2022 – Jun 2023**
American Institute of Chemical Engineers (AIChE), University of Washington

Secretary **May 2021 – Jun 2023**
Women in Chemical Engineering, University of Washington

Research and Development Officer **Apr 2020 – Jun 2021**
Chinese Students and Scholars Association, University of Washington

Maple Hall Council Sustainability Representative **Oct 2019 – Mar 2020**
Housing and Food Services, University of Washington

References

Markita Landry | **landry@berkeley.edu**
Department of Chemical and Biomolecular Engineering, UC Berkeley
Associate Professor

Elizabeth Nance | **eanance@uw.edu**
Department of Chemical Engineering, University of Washington
Jagjeet and Janice Bindra Endowed Career Development Associate Professor
ChemE Associate Chair for Undergraduate Studies

Jim Pfaendtner | **jpfaendt@uw.edu**
Department of Chemical Engineering, University of Washington
Steven and Connie Rogel Endowed Professor
ChemE Department Chair

John Berg | **spc@uw.edu**
Department of Chemical Engineering, University of Washington
Rehnberg Chair Professor

Alex Prybutok | **prybutok@uw.edu**
Department of Chemical Engineering, University of Washington
Assistant Teaching Professor