

Yuhao Min

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EDUCATION

- Mayo Clinic College of Medicine and Sciences** Rochester, MN
Doctor of Philosophy Anticipate 2023
- Mentor: Dr. Nilüfer Ertekin-Taner
- University of Illinois at Urbana-Champaign** Urbana, IL
Bachelor of Science, *Summa Cum Laude*, (GPA 3.97) May 2019
- Dual Degree in Chemistry and Molecular and Cellular Biology
 - Minor in Computer Science

COURSES AND WORKSHOPS

- Rockefeller University** Online
Advanced Gene Mapping Course January 2021
- Week-long course held virtually at the Rockefeller University.
 - Statistical genetic course with emphasis on analyzing sequence and other omics data to elucidate the genetic etiology of complex human disease traits.
 - The course consists of lectures and hands-on lab exercises.
- Mayo Clinic and University of Illinois at Urbana-Champaign** Online
Introduction to Computational Genomics June 2020
- Week-long virtual course taught jointly by faculties from Mayo Clinic and University of Illinois.
 - Introductory bioinformatics course with variety of subject areas including genome sequencing and assembly, polymorphism and variant analysis, epigenomics, and systems biology.
 - The course consists of lectures and hands-on lab exercises.

RESEARCH EXPERIENCES

- Mayo Clinic** Jacksonville, FL
Graduate Research Assistant: Dr. Nilüfer Ertekin-Taner 2020 – present
- Investigated the transcriptional profiles of progressive supranuclear palsy (PSP) brains to identify disease associated pathways.
 - Developed and applied new computational pipelines to decipher cell-type-specific expression perturbations and characterized transcriptional regulation mechanisms in PSP.
 - Validated *in silico* findings using model systems to prioritize targets in model systems as potential therapeutic options and novel biomarkers for PSP.
- University of Illinois at Urbana-Champaign** Urbana, IL
Undergraduate Research Assistant: Drs. Huimin Zhao and Tong Si 2015 – 2018
- Engineered novel synthetic biology tools to facilitate drug discovery and productions.
 - Designed and manufactured an oligonucleotide-based system for programmable cell self-assembly.
 - Optimized the automated genome-editing workflow in *S. cerevisiae*.
 - Developed mass-spectrometry-based high-throughput screening systems using *E. coli*.
 - Profiled the lipidomics of Parkinson's Disease using an engineered *S. cerevisiae* model system.
 - Characterized rat gut microbiome strains and their D-amino acid metabolic profiles

TEACHING AND MENTORING EXPERIENCES

Mayo Clinic

Jacksonville, FL

Rotation Student Mentor

2022

- Assist and supervise the research activity of rotation students in the lab.
- Provide guidance and suggestions on the student's research project.

University of Illinois at Urbana-Champaign

Urbana, IL

Undergraduate Teaching Assistant

Fall 2016, Fall 2017

1. Accelerated Chemistry Lab I (CHEM 203) – a class of 200
 - Held weekly lab sessions in a class of 24.
 - Graded lab reports and prelab homework.
 - Aided students with course work during weekly office hours and private meetings
2. Bioenergy Technology (CHBE 478) – a class of 40
 - Graded homework and exams

PUBLICATIONS AND PRESENTATIONS

1. Cindy J. Lee, Tian A. Qiu, Zhilai Hong, Zhenkun Zhang, Yuhao Min, Linzixuan Zhang, Lei Dai, Huimin Zhao, Tong Si, Jonathan V. Sweedler **Profiling of d-alanine production by the microbial isolates of rat gut microbiota**, *he FASEB Journal*, **2022**
2. Yuhao Min, Xue Wang, Joseph S Reddy, Thuy Nguyen, Kimberly G. Malphrus, Julia E. Crook, Minerva M. Carrasquillo, Dennis W. Dickson, Nilüfer Ertekin-Taner, **Integrative Analysis Enables Translation of Omics Data to Molecular Targets in Progressive Supranuclear Palsy**. Association for Clinical and Translational Science Conference, Association for Clinical and Translational Science, **2022**. (Poster Presentation)
3. Tulsi A. Patel, Troy P. Carnwath, Xue Wang, Mariet Allen, Sarah J. Lincoln, Laura J. Lewis-Tuffin, Zachary S. Quickall, Shu Lin, Frederick Q. Tutor-New, Charlotte C. G. Ho, Yuhao Min, Kimberly G. Malphrus, Thuy T. Nguyen, Elizabeth Martin, Cesar A. Garcia, Rawan M. Alkharboosh, Sanjeet Grewal, Kaisorn Chaichana, Robert Wharen, Hugo Guerrero-Cazares, Alfredo Quinoes-Hinojosa, Nilüfer Ertekin-Taner, **Transcriptional landscape of human microglia implicates age, sex, and APOE-related immunometabolic pathway perturbations**, *Aging Cell*, **2022**
4. Xue Wang, Mariet Allen, Özkan İş, Joseph S. Reddy, Frederick Q. Tutor-New, Monica Castanedes Casey, Minerva M. Carrasquillo, Stephanie R. Oatman, Yuhao Min, Yan W. Asmann, Cory Funk, Thuy Nguyen, Charlotte C. G. Ho, Kimberly G. Malphrus, Nicholas T. Seyfried, Allan Levey, Steven G. Younkin, Melissa E. Murray, Dennis W. Dickson, Nathan D. Price, Todd E. Golde, Nilüfer Ertekin-Taner, **Alzheimer's disease and progressive supranuclear palsy share similar transcriptomic changes in distinct brain regions**, *J. Clin. Invest.*, **2021**
5. Özkan İş, Xue Wang, Tulsi A. Patel, Zachary S. Quickall, Michael G. Heckman, Launia J. White, Laura J. Lewis-Tuffin, Kaancan Deniz, Frederick Q. Tutor-New, Troy P. Carnwath, Yuhao Min, Stephanie R. Oatman, Joseph S. Reddy, Minerva M. Carrasquillo, Thuy T. Nguyen, Charlotte C. G. Ho, Kimberly G. Malphrus, Kwangsik Nho, Andrew J. Saykin, Melissa E. Murray, Dennis W. Dickson, Mariet Allen, Nilüfer Ertekin-Taner, **Single Nuclei Transcriptome Reveals Perturbed Brain Vascular Molecules in Alzheimer's Disease**, *bioRxiv*, **2021**
6. Yuhao Min, Xue Wang, Joseph S Reddy, Thuy Nguyen, Kimberly G. Malphrus, Julia E. Crook, Minerva M. Carrasquillo, Dennis W. Dickson, Nilüfer Ertekin-Taner, **Understanding the Transcriptional (dys)Regulation in Progressive Supranuclear Palsy**. Alzheimer's Association International Conference, Alzheimer's Association, Online, **2021**. (Poster)
7. Yuhao Min, Chris Clifford, Quinn P. Peterson. **Identification of small molecules that facilitate the efficient differentiation of stem cell derived β -cells**. *J. Clin. Trans. Sci.*, **2020**. (Abstract)
8. Tong Si, Qiqi Tian, Yuhao Min, Linzixuan Zhang, Jonathan V. Sweedler, Wilfred A. van der Donk, Huimin Zhao. **Rapid Screening of Lanthipeptide Analogs via In-Colony Removal of Leader Peptides in Escherichia coli**. *J. Am. Chem. Soc.*, **2018**.
9. Tong Si, Bin Li, Troy J. Comi, Yuwei Wu, Pingfan Hu, Yuying Wu, Yuhao Min, Douglas A. Mitchell, Huimin Zhao, Jonathan V. Sweedler. **Profiling of Microbial Colonies for High-Throughput Engineering of Multistep Enzymatic Reactions via Optically Guided Matrix-Assisted Laser Desorption/Ionization Mass Spectrometry**. *J. Am. Chem. Soc.*, **2017**.
10. Tong Si, Ran Chao, Yuhao Min, Yuying Wu, Wen Ren, Huimin Zhao. **Automated multiplex genome-scale engineering in yeast**, *Nat. Commun.*, **2017**.

11. Yuhao Min, Tong Si, Huimin Zhao, **A Genetic Encoded System for Programmable Cell Assembly using Surface-Displayed DNA Oligonucleotides**. Undergraduate Research Symposium, University of Illinois at Urbana-Champaign, Urbana, IL, USA, **2016**. (Poster)

HONORS AND AWARDS

1. Alzheimer's Association International Conference Fellowship, Alzheimer's Association, Chicago, IL, **2022**.
2. Mayo Clinic Graduate School for Biomedical Sciences Travel Award, Mayo Clinic Graduate School for Biomedical Sciences, Rochester, MN, **2022**.
3. Academic Distinction, School of Molecular and Cellular Biology, University of Illinois at Urbana-Champaign, Urbana, IL, **2019**.
4. Carl R. Woese Undergraduate Research Scholar, Carl R. Woese Institute for Genomic Biology, University of Illinois at Urbana-Champaign, Urbana, IL, **2017**.
5. J. J. Lagowski Scholarship in Chemistry, Department of Chemistry, University of Illinois at Urbana-Champaign, Urbana, IL, **2017**.
6. Peter C and Gretchen Miller Markunas Scholarship in Chemistry, Department of Chemistry, University of Illinois at Urbana-Champaign, Urbana, IL, **2016**.
7. Oliver J. Bell Scholarship in Chemistry, Department of Chemistry, University of Illinois at Urbana-Champaign, Urbana, IL, **2015**.
8. John E. Giesecking Scholarship in Chemistry, Department of Chemistry, University of Illinois at Urbana-Champaign, Urbana, IL, **2015**.
9. The Dean's List, College of Liberal Arts and Sciences, University of Illinois at Urbana-Champaign, Urbana, IL, **2014, 2015, 2016, 2017, 2018**.