
Education & Training

- **The Rockefeller University** 2020-Present
Kavli Postdoctoral Fellow, 2022-2024
Howard Hughes Medical Institute Postdoctoral Fellow, 2020-2022
Advisor: Dr. Jeffrey M. Friedman
 - **Johns Hopkins University, School of Medicine** 2012-2019
PhD in Neuroscience & Biological Chemistry, Biological Chemistry Program
Advisor: Dr. Richard L. Huganir
 - **Peking University, School of Basic Medical Sciences** 2007-2012
Bachelor of Medicine (equivalent to MD), with highest honors
Advisor: Dr. Yun Wang
 - **Peking University Third Hospital** 2010-2011
Clinical clerkship
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Research Experience

Postdoctoral Fellow, Jeffrey M. Friedman Lab, The Rockefeller University, 2020 - Present

- Identified the long-awaited novel population of leptin receptor expressing neurons in the arcuate nucleus of hypothalamus that plays a pivotal role in rapidly inducing satiety.
- Unveiled the cellular and molecular basis of leptin-mediated energy balance regulation within individual hypothalamus nuclei using innovative multiplexed single cell RNA-seq and ATAC-seq.
- Characterized cell-type specific changes in hypothalamus of Prader-Willi syndrome mouse model.
- Developed a novel method to enrich synapses of specific neurons to study synapse-specific changes.

Graduate Fellow, Richard L. Huganir Lab, Johns Hopkins University 2012 - 2019

- Discovered that GRIP1 protein is essential for synaptic plasticity, learning and memory.
- Unraveled the mechanisms underlying GRIP1-mediated autism spectrum disorder.
- Developed conceptually novel methods to monitor AMPA receptor dynamics in live animals.
- Demonstrated that synapses, across cortical layers and even within individual neurons, are modulated uniquely by sensory experience.

Undergraduate Research, Yun Wang Lab, Peking University 2009-2012

- Elucidated the protective effects of capsaicin against cerebral ischemia/reperfusion injury via TRPV1 activation.
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Grants & Fellowships

2025-2030	NIH/NIDDK K01 Mentored Research Scientist Development Award, PI, Scored	\$617,900
2024-2026	Rockefeller University, Marlene Hess Center for Research on Women's Health and Biomedicine, Idea Grant, PI, Active	\$300,000
2024-2025	Rockefeller University, Black Family Therapeutic Development Fund, Pilot Award, PI, Active	\$50,000
2024-2027	American Federation for Aging Research, Glenn Foundation for Medical Research Discovery Awards, Principal Grant Writer, Co-Investigator, Active	\$525,000
2024-2026	The Foundation for Prader-Willi Research, Principal Grant Writer, Co-Investigator, Active	\$162,000
2023-2024	Rockefeller University, Maurice R. and Corinne P. Greenberg Center for the Advancement of Translational Research, Pilot Project, PI,	\$25,000
2022-2024	The Foundation for Prader-Willi Research, Principal Grant Writer, Co-Investigator,	\$162,000
2022-2024	Kavli Neural Systems Institute at Rockefeller University, Postdoctoral Fellowship,	\$210,000
2011	Challenge Cup Science Competition Fund, Peking University, PI,	\$500
2010-2011	National Basic Science Talent Development Fund, PI,	\$1000

Selected Awards & Honors

2024-2025	The Paul T. Englund Emerging Scholar Award, Johns Hopkins University School of Medicine
2024	Invited speaker, Postdoctoral Rising Stars Symposium, University of Utah
2023	Travel Award for FPWR PWS Research Symposium, Foundation for Prader-Willi Research
2022	PDA (Postdoctoral Association) Career Development Award, Rockefeller University
2018	Best poster award (Molecular & Cellular Neurobiology Gordon Research Conference)
2016	Graduate Student Association Travel Award, Johns Hopkins University
2012	Outstanding Graduates of Beijing; Outstanding Graduates of Peking University
2011	First place in the Challenge Cup Science Competition, Peking University
2010	Special Scholarship-May Fourth Prize of Peking University (<i>highest honor for students</i>)
2008-2011	National Encouragement Scholarship, First Scholarship

Peer-Reviewed Publications

1. **Han L. Tan**, Luping Yin, Yuqi Tan, Jessica Ivanov, Kaja Plucinska, Anoj Ilanges, Brian R. Herb, Putianqi Wang, Christin Kosse, Paul Cohen, Dayu Lin, Jeffrey M. Friedman. (2024) Leptin-activated hypothalamic BNC2 neurons acutely suppress food intake. **Nature**. PMID: 39478220.
(Highlighted by *Nature Reviews Neuroscience*, *Nature Reviews Endocrinology*)
 2. Austin Graves*, Richard H Roth*, **Han L. Tan***, Qianwen Zhu*, Alexei Bygrave*, Elena Lopez-Ortega, Alina Spiegel, Ingie Hong, Richard Johnson, Joshua Vogelstein, Daniel Tward, Michael Miller, Richard Haganir. (2021) Visualizing synaptic plasticity in vivo by large-scale imaging of endogenous AMPA receptors. **eLife**. PMID: 34658338. (* co-first authorship)
 3. **Han L. Tan***, Shu-ling Chiu*, Qianwen Zhu*, Richard L. Haganir. (2020) GRIP1 regulates synaptic plasticity and learning and memory. **PNAS**. PMID: 32948689. (* co-first authorship)
(Highlighted in *Science (2020): Getting a GRIP on AMPARs*)
 4. **Han L. Tan**, Richard H. Roth, Austin R. Graves, Robert H. Cudmore, Richard L. Haganir. (2020) Lamina-specific AMPA receptor dynamics following visual deprivation in vivo. **eLife**. PMID: 32125273.
 5. **Han L. Tan**, Bridget N. Queenan, Richard L. Haganir. (2015) GRIP1 is required for homeostatic regulation of AMPAR trafficking. **PNAS**. PMID: 26216979. (Highlighted by *Faculty of 1000*)
 6. Haiwen Chen, Richard H. Roth, Elena Lopez-Ortega, **Han L. Tan**, Richard L. Haganir. (2021) AMPA receptors exist in tunable mobile and immobile synaptic fractions in vivo. **eNeuro**. PMID: 33906969.
(Highlighted by editor in *eNeuro (2021)*, *Gray D.T. and De Biase L.M.*)
 7. Adeline J.H. Yong, **Han L. Tan**, Qianwen Zhu, Alexei M. Bygrave, Richard C Johnson, Richard L. Haganir. (2020) Tyrosine phosphorylation of the AMPA receptor subunit GluA2 gates homeostatic synaptic plasticity. **PNAS**. PMID: 32071234.
 8. Richard H. Roth, Robert H. Cudmore, **Han L. Tan**, Ingie Hong, Yong Zhang, Richard L. Haganir. (2019) Cortical synaptic AMPA receptor plasticity during motor learning. **Neuron**. PMID: 31901303.
(Preview in *Neuron (2020)*. *Eye wide open on AMPAR Trafficking during Motor Learning*)
 9. Ming Huang, Gen Chen, **Han Tan**, Rui Qin, Yun Wang, Ying Zhang. (2017) Capsaicin protects cortical neurons against ischemia/reperfusion injury via down-regulating NMDA receptors. **Experimental Neurology**. PMID: 28479337.
 10. Bridget N Queenan, Kea J lee, **Han Tan**, Richard Haganir, Stefano Vicini, Daniel Park. (2016) Mapping homeostatic synaptic plasticity using cable properties of dendrites. **Neuroscience**. PMID: 26701298.
 11. **Han Tan**, Yun Wang. Research progress of biological function of Protein Kinase D. (2011) **Progress in Physiological Sciences**. PMID: 22242403. (Review article)
 12. Liqiong Yu, **Han Tan**, Qi Guo. The reform and innovation of social practice activities for medical students. (2010) **Journal of Shanxi Medical University**. Volume 12, Issue 7 Pages 759-761.
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In Progress Papers

13. Mei Han*, **Han L. Tan***, Juhyun Kim*, Rebeca Mejias, Shu-ling Chiu, Richard L. Haganir, Tao Wang. Dysregulated GluA2-Y876 Phosphorylation Contributes to Loss of Synaptic Upscaling in GRIP1 Mutant Mice with Reduced Sociability and Increased Repetitive Behavior. **Revision Submitted** (* co-first authorship).
 14. **Han L. Tan**, Yuqi Tan, Jenelys Ruiz-Ortiz, Matt Paul, Leah Kelly, Anoj Ilanges, Kaja Plucinska, Anduena Toci, Jae W. Lee, Robert B. Darnell, Garry Nolan, Paul Cohen, Jeffrey M. Friedman. Single-cell multi-omics reveal Otp and Nova1 as key leptin regulators in hypothalamus. **Manuscript writing**.
 15. **Han L. Tan**, Jessica Ivanov, Lina Marcela Carmona, Jeffrey M. Friedman. BDNF neurons but not *bdnf* gene in paraventricular hypothalamus is essential for energy balance. **Manuscript preparation**.
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Selected Talks & Poster Presentations

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| 2025 | Keystone Symposia: Neurobiology of Ingestive Behavior (Selected Talk) |
| 2025 | Cell Symposia: Neurometabolism in health and disease (Selected Talk) |
| 2025 | Mount Sinai Neuroscience Seminars (Selected Talk) |
| 2025 | NYU SPiNES (Seminars by Postdocs in Neuroscience: Extramural Series) (Selected Talk) |
| 2024 | Vanderbilt University GPCR Postdoc Seminar Series (Selected Talk) |
| 2024 | Novo Nordisk Foundation Science Cluster Conference: Metabolism in Action (Selected Presenter) |
| 2024 | Brain Science & Intelligence technology Youth Forum, Chinese Academy of Sciences (Selected Talk) |
| 2024 | Annual Society for Behavioral Neuroendocrinology Online Research Symposium (Selected Talk) |
| 2024 | Postdoctoral Rising Stars Symposium, University of Utah (Selected Talk) |
| 2024 | Neurometabolism Summer Seminar Series (Selected Talk) |
| 2024 | Rockefeller University Postdoctoral Association Retreat (Selected Talk) |
| 2024 | Kavli Institute Assembly, The Kavli Foundation Headquarter, Los Angeles, USA (Invited Presenter) |
| 2023 | Rockefeller University Postdoctoral Association Summer Seminar Series (Selected Talk) |
| 2022 | Hypothalamus Gordon Research Conference, Ventura, CA (Selected Poster) |
| 2019 | Cold Spring Harbor Asia meeting (Transforming Neuroscience), Suzhou, China (Selected Talk) |
| 2018 | Molecular & Cellular Neurobiology, Gordon Research Conference, Hong Kong (Selected Talk) |
| 2015 | GBSN (Greater Baltimore Society for Neuroscience) Annual Meeting. Baltimore, MD (Selected Talk) |
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Diversity, Equity, and Inclusion Commitment

2012-present **Committee Member, SOAR (Schooling Opportunity Across the Republic) Foundation**

- Actively contribute to the Foundation's mission as a first-generation college student and SOAR scholarship alumna, supporting underrepresented rural Chinese students in their educational pursuits.
- Identify and recommend underprivileged youth from rural China for scholarships based on exceptional potential and significant financial need.
- Review and evaluate application materials with a deep understanding of the unique challenges faced by students from similar backgrounds.
- Serve as a dedicated mentor to scholarship recipients, providing ongoing guidance and support to ensure their academic success and personal growth.

2022-2024 **RockEDU Fellow, The Rockefeller University**

- Designed and Led research tracks tailored for a diverse group of students (junior high school to college).
- Developed a comprehensive curriculum that encompassed scientific inquiry, experimental design, data analysis, and presentation skills.
- Mentored students in research, providing individualized support in project development, troubleshooting, data analysis, and presentations.

2022-2024 **Guest lecturer, Rockefeller Summer Neuroscience Course**

- Delivered educational sessions on neuroscience to high school students from underrepresented communities.
- Mentored students in reading scientific papers, guiding them in developing and presenting their findings.

2018 & 2019 **Volunteer, Brian Awareness Week, Johns Hopkins University**

- Enlightened the public about the fascinating complexities of the human brain.

Scientific Leadership & Professional Development

2022-2024 **Steering Committee Member, Kavli Neural System Institute, Rockefeller University**

- Member of a committee managing an annual \$2M budget funding grants, fellowships, and core resources.

2024 Co-organizer of Workshop on Kavli Single-Cell Data Analysis Workshop,

2024 Co-organizer of Kavli NSI Mini-Symposium: Neural Coding of Innate Behaviors

2023 Co-organizer of Workshop on iDisco Tissue Clearing Method

2023 Co-organizer of Kavli NSI Mini-Symposium: Biological Insights From Single Cell Data

2023 **Managing Science and Scientists Workshop, Harvard Business School, Rockefeller Univ.**

2015-2016 **Co-founder, JHU Chinese Researcher Association**

- Organized monthly seminars and social events to foster networking and collaboration opportunities.
- Actively engaged in building a supportive community for Chinese researchers at Johns Hopkins University.

Mentorship

Rani Shiao: PhD student, 2020 - present

Zhaoyu Han: PhD student, 2024 - present

Chloe Schaefer: PhD Rotation Student, 2024 - present

Anduena Toci, Undergrad Researcher, 2023 - present

Nicole Mocha: Undergrad Researcher, 2023 - present

Loredana Malancea: Undergrad Student, 2024- present

Nadia Illma: Undergrad Researcher, 2024 – present

Elaine Tang: Summer High School Student, 2023, 2024

Yifei Zhou: Summer High School Student, 2024

Jessica Ivanov: Research Assistant, 2022 – 2024

Niklas Vieweg: Medical Student, 2023

Samantha Le: Summer Undergrad Student, 2023

Venessa Ochieng: Summer Undergrad Student, 2023

Bejewel Laguerre: Summer High School Student, 2023

Jessica Zhuo: Summer High School Student, 2023

Vivian Dong: Summer High School Student, 2023

Toby Chau: Summer High School Student, 2023

Hao Li: Summer High School Student, 2023

Annamarie Massott: Summer High School Student, 2023

Wuji Jiang: PhD Rotation Student, 2021

Yixuan Pei: Undergrad Researcher, 2017-2019

Andrew Wu: Undergrad Researcher, 2018-2019

Xiaoguang Li: PhD Rotation Student, 2016

Daniela Gomez: Summer Undergrad Student, 2016

Teaching Experience

2022-2024 Guest lecturer, Rockefeller Summer Neuroscience Course

2022-2024 RockEDU Fellow, The Rockefeller University