Stanford

Jason Tucciarone, MD, PhD

Assistant Professor of Psychiatry and Behavioral Sciences (General Psychiatry and Psychology)

CLINICAL OFFICE (PRIMARY)

- **Psychiatry**

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Bio

BIO

Jason Tucciarone, MD, PhD is an Assistant Professor in the Department of Psychiatry and Behavioral Sciences at Stanford School of Medicine. A neuroscientist and psychiatrist, he leads a laboratory focused on uncovering the biological mechanisms of mental illness and developing novel therapies for mood disorders and addiction. His research centers on defining new cell types and evolutionarily conserved neural circuits involved in emotional processing, with the goal of identifying new therapeutic entry points. Using optogenetic, chemogenetic, neuroimaging, and behavioral approaches in mouse models of addiction, his lab investigates vulnerable brain circuitry underlying opioid use disorder. He also works and collaborates with the Depression Research Clinic, participating in academic and industry sponsored clinical trials investigating novel antidepressant therapies.

Clinically, Dr. Tucciarone works in Stanford's Neuropsychiatry Clinic, where he treats patients with complex presentations at the interface of psychiatry and neurology, with particular interest in functional neurological disorders. He also sees a small cohort of psychotherapy patients in the Individual Psychotherapy Clinic and works shifts on Stanford's inpatient psychiatry units.

Dr. Tucciarone completed his psychiatry training through Stanford's Research Residency Track, where he conducted postdoctoral research under the supervision of Drs. Robert Malenka and Alan Schatzberg. During residency, his research examined neural circuits recruited during opioid withdrawal and explored strategies to enhance the anti-suicidal effects of ketamine through μ-opioid receptor partial agonism.

He received his bachelor's degree in biology and philosophy from Union College, followed by three years as a Post-Baccalaureate IRTA fellow at the National Institute of Neurological Disorders and Stroke, where he developed MRI-reportable contrast agents to map neuronal connectivity. He then entered the Medical Scientist Training Program (MD/PhD) at Stony Brook University, completing his PhD in neuroscience under the mentorship of Dr. Josh Huang at Cold Spring Harbor Laboratory. His doctoral work used mouse genetic approaches to dissect excitatory and inhibitory cortical circuits, with a focus on chandelier interneurons in the prefrontal cortex.

In addition to his research and clinical work, Dr. Tucciarone is deeply committed to teaching and mentorship. During residency, he helped restructure neuroscience education for trainees and currently teaches introductory lectures on the neuroscience of addiction, PTSD, psychosis, and mood disorders. He leads resident group supervision in introductory psychodynamic psychotherapy and supervises undergraduates, medical students, residents, and clinical fellows in psychiatry clinics.

CLINICAL FOCUS

- Psychiatry
- Neuropsychiatry
- Psychotherapy
- Behavioral Neurology
- Interventional Psychiatry

ACADEMIC APPOINTMENTS

- Assistant Professor - University Medical Line, Psychiatry and Behavioral Sciences
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

HONORS AND AWARDS

- SPARK scholar award for translation research, Stanford University (2026-2027)
- NARSAD Young Investigator Award, Brain & Behavior Research Foundation (2026-2028)
- Department of Psychiatry and Behavioral Sciences 2024 Innovator Grant, Stanford Department of Psychiatry (2025-2027)
- American College of Neuropsychopharmacology (ACNP) Travel Award, American College of Neuropsychopharmacology (ACNP) (2025)
- NIH K08 Mentored Clinical Scientist Research Career Development Award, National Institute on Drug Abuse (NIDA) (2023-2028)
- NARSAD Young Investigator Award, Brain & Behavior Research Foundation (2023-2025)
- Career Development Institute for Psychiatry, Stanford University and the University of Pittsburgh (2022)
- Alpha Omega Alpha Medical Honor Society, Alpha Omega Alpha (2021)
- Marnell Award for Psychotherapy, Stanford Department of Psychiatry (2021)
- T32 Postdoctoral Fellowship, Stanford University, NIMH (2020-2022)
- Psychotherapy Fellowship, American Psychoanalytic Association (2020-2021)

PROFESSIONAL EDUCATION

- Residency: Stanford University Psychiatry Residency (2021) CA
- Post Doctoral Research, Stanford T32 Biobehavioral Research Training Program (2022)
- Board Certification: Psychiatry, American Board of Psychiatry and Neurology (2021)
- Medical Education: State University of New York at Stony Brook Office of the Registrar (2017) NY
- PhD, State University of New York at Stony Brook , Neurobiology and Behavior (2015)

Research & Scholarship

CLINICAL TRIALS

- COMP005, Recruiting
- Opiate Suicide Study in Patients With Major Depression, Not Recruiting

- An Observational Pre-post Study Evaluating the Safety of Tabernanthe Iboga Exposure, Not Specified
- Tianeptine, Not Specified

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Muhammad Asim, Selene Sobek, Samantha Sutley

Publications

PUBLICATIONS

- **Low-Dose Buprenorphine Following Ketamine Treatment for Suicidal Ideation in Major Depressive Disorder: A Randomized, Double-Blind, Placebo-Controlled Trial.** *The American journal of psychiatry*
  Tucciarone, J. M., Bandeira, I. D., Blasey, C., Kratter, I. H., Ehrie, J., Keller, J., Pankow, H., Chang, M., Hawkins, J., Evers, A. G., Bernert, R., DeBattista, C., Truong, et al
  2026: appiajp20250840
- **DISTINCT ENCODING OF REWARD AND AVERSION BY D1 CELL SUBTYPES IN THE NUCLEUS ACCUMBENS**
  Pomrenze, M., Denomme, N., Baek, J., Wang, M., Touponse, G., Tucciarone, J., Eshel, N., Malenka, R.
  SPRINGERNATURE.2026
- **ATYPICAL NUCLEUS ACCUMBENS NEURONS LOCALLY REGULATE DOPAMINE AND SHAPE OPIOID WITHDRAWAL AND RELAPSE BEHAVIORS**
  Tucciarone, J.
  SPRINGERNATURE.2026
- **Methodological Considerations for Interpreting Ketamine-Naltrexone Trials in Depression.** *The international journal of neuropsychopharmacology*
  Bandeira, I. D., Jelen, L. A., Tucciarone, J. M., Heifets, B. D., Rodriguez, C. I., Schatzberg, A. F.
  2025
- **Evaluating Augmentation of Anti-Suicidal Effects of Intravenous Ketamine by Low Oral Doses of Opioid Receptor Partial Agonism**
  Tucciarone, J., Bandeira, I. D., Kratter, I. H., Ehrie, J., Pankow, H., Chang, M., Hawkins, J., Blasey, C., Heifets, B., Schatzberg, A.
  ELSEVIER SCIENCE INC.2025
- **Magnesium-Ibogaine Therapy in Veterans With Alcohol Use Disorder Durably Reduces Alcohol Consumption**
  Tucciarone, J., Cherian, K., Azeez, A., Rolle, C., Kratter, I., Williams, N.
  SPRINGERNATURE.2024: 154
- **Comparing the Antisuicidal and Antidepressant Effects of Intravenous Ketamine in Major Depressive Episodes With Suicidal Ideation**
  Bandeira, I. D., Tucciarone, J., Kratter, I. H., Heifets, B. D., Pankow, H., Chang, M., Hawkins, J., Schatzberg, A. F.
  ELSEVIER SCIENCE INC.2024: S211
- **Opioidergic tuning of social attachment: reciprocal relationship between social deprivation and opioid abuse** *Frontiers in Neuroanatomy*
  Galiza Soares, J. A., Sutley-Koury, S. N., Pomrenze, M. B., Tucciarone , J. M.
  2025; 18: 1521016
- **Gating of Opioid Withdrawal Aversion by a Unique Class of Neurons in the Nucleus Accumbens**
  Tucciarone, J., Pomrenze, M., Baek, J., Zhang, Z., Touponse, G., Shank, A., Neumann, P., Eshel, N., Malenka, R.
  SPRINGERNATURE.2023: 492-493
- **Striatal dopamine integrates cost, benefit, and motivation.** *Neuron*
  Eshel, N., Touponse, G. C., Wang, A. R., Osterman, A. K., Shank, A. N., Groome, A. M., Taniguchi, L., Cardozo Pinto, D. F., Tucciarone, J., Bentzley, B. S., Malenka, R. C.
  2023

- **Collaboratively Designed Neuroscience Curriculum for Psychiatry Residents.** *Academic psychiatry : the journal of the American Association of Directors of Psychiatric Residency Training and the Association for Academic Psychiatry*
  Tucciarone, J., Willard, D., Kleinman, R., Bentzley, B. S., Hayward, C., Raj, K. S.
  2023
- **Behavioral Economics of Striatal Dopamine**
  Eshel, N., Touponse, G., Wang, A., Osterman, A., Shank, A., Groome, A., Taniguchi, L., Pinto, D., Tucciarone, J., Bentzley, B., Malenka, R.
  SPRINGERNATURE.2022: 519-520
- **Modulation of 5-HT release by dynorphin mediates social deficits during opioid withdrawal.** *Neuron*
  Pomrenze, M. B., Cardozo Pinto, D. F., Neumann, P. A., Llorach, P., Tucciarone, J. M., Morishita, W., Eshel, N., Heifets, B. D., Malenka, R. C.
  2022
- **Genetic dissection of the glutamatergic neuron system in cerebral cortex.** *Nature*
  Matho, K. S., Huilgol, D., Galbavy, W., He, M., Kim, G., An, X., Lu, J., Wu, P., Di Bella, D. J., Shetty, A. S., Palaniswamy, R., Hatfield, J., Raudales, et al
  2021; 598 (7879): 182-187
- **A Genetically Defined Compartmentalized Striatal Direct Pathway for Negative Reinforcement** *CELL*
  Xiao, X., Deng, H., Furlan, A., Yang, T., Zhang, X., Hwang, G., Tucciarone, J., Wu, P., He, M., Palaniswamy, R., Ramakrishnan, C., Ritola, K., Hantman, et al
  2020; 183 (1): 211-+
- **Genetic Single Neuron Anatomy Reveals Fine Granularity of Cortical Axo-Axonic Cells.** *Cell reports*
  Wang, X., Tucciarone, J., Jiang, S., Yin, F., Wang, B. S., Wang, D., Jia, Y., Jia, X., Li, Y., Yang, T., Xu, Z., Akram, M. A., Wang, et al
  2019; 26 (11): 3145-3159.e5
- **Evaluation of the appropriate use of a CIWA-Ar alcohol withdrawal protocol in the general hospital setting.** *The American journal of drug and alcohol abuse*
  Eloma, A. S., Tucciarone, J. M., Hayes, E. M., Bronson, B. D.
  2017: 1-8
- **Selective inhibitory control of pyramidal neuron ensembles and cortical subnetworks by chandelier cells.** *Nature neuroscience*
  Lu, J., Tucciarone, J., Padilla-Coreano, N., He, M., Gordon, J. A., Huang, Z. J.
  2017
- **A basal ganglia circuit for evaluating action outcomes** *NATURE*
  Stephenson-Jones, M., Yu, K., Ahrens, S., Tucciarone, J. M., van Huijstee, A. N., Mejia, L. A., Penzo, M. A., Tai, L., Wilbrecht, L., Li, B.
  2016; 539 (7628): 289-?
- **Strategies and Tools for Combinatorial Targeting of GABAergic Neurons in Mouse Cerebral Cortex** *NEURON*
  He, M., Tucciarone, J., Lee, S., Nigro, M. J., Kim, Y., Levine, J. M., Kelly, S. M., Krugikov, I., Wu, P., Chen, Y., Gong, L., Hou, Y., Osten, et al
  2016; 91 (6): 1228-1243
- **Cooperative Subnetworks of Molecularly Similar Interneurons in Mouse Neocortex** *NEURON*
  Karnani, M. M., Jackson, J., Ayzenshtat, I., Tucciarone, J., Manoocheri, K., Snider, W. G., Yuste, R.
  2016; 90 (1): 86-100
- **The Mediodorsal Thalamus Drives Feedforward Inhibition in the Anterior Cingulate Cortex via Parvalbumin Interneurons** *JOURNAL OF NEUROSCIENCE*
  Delevich, K., Tucciarone, J., Huang, Z. J., Li, B.
  2015; 35 (14): 5743-5753
- **The paraventricular thalamus controls a central amygdala fear circuit** *NATURE*
  Penzo, M. A., Robert, V., Tucciarone, J., De Bundel, D., Wang, M., Van Aelst, L., Darvas, M., Parada, L. F., Palmiter, R. D., He, M., Huang, Z. J., Li, B.
  2015; 519 (7544): 455-?
- **Input-specific maturation of synaptic dynamics of parvalbumin interneurons in primary visual cortex** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Lu, J., Tucciarone, J., Lin, Y., Huang, Z. J.

2014; 111 (47): 16895-16900

- **Targeting cells with single vectors using multiple-feature Boolean logic.** *Nature methods*
  Fenno, L. E., Mattis, J., Ramakrishnan, C., Hyun, M., Lee, S. Y., He, M., Tucciarone, J., Selimbeyoglu, A., Berndt, A., Grosenick, L., Zalocusky, K. A., Bernstein, H., Swanson, et al
  2014; 11 (7): 763-772

- **A Cortical Circuit for Gain Control by Behavioral State** *CELL*
  Fu, Y., Tucciarone, J. M., Espinosa, J. S., Sheng, N., Darcy, D. P., NiColl, R. A., Huang, Z. J., Stryker, M. P.
  2014; 156 (6): 1139-1152

- **Layer specific tracing of corticocortical and thalamocortical connectivity in the rodent using manganese enhanced MRI** *NEUROIMAGE*
  Tucciarone, J., Chuang, K., Dodd, S. J., Silva, A., Pelled, G., Koretsky, A. P.
  2009; 44 (3): 923-931

- **Detection of cortical laminar architecture using manganese-enhanced MRI** *JOURNAL OF NEUROSCIENCE METHODS*
  Silva, A. C., Lee, J. H., Wu, C. W., Tucciarone, J., Pelled, G., Aoki, L., Koretsky, A. P.
  2008; 167 (2): 246-257