

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF PSYCHIATRY

Ivy F. Tso, Ph.D., assistant professor of psychiatry, Department of Psychiatry, Medical School, is recommended for promotion to associate professor of psychiatry, with tenure, Department of Psychiatry, Medical School.

Academic Record:

Ph.D.	2012	University of Michigan
M.S.	2009	University of Michigan
MPhil.	2003	University of Hong Kong
BSc.	2000	University of Hong Kong

Professional Record:

2014-Present	Assistant Professor of Psychiatry, University of Michigan
2013-2014	Clinical Lecturer of Psychiatry, University of Michigan

Summary of Evaluation:

Teaching: Dr. Tso's educational activities include research mentoring, clinical supervision, classroom teaching and community educational outreach. She is a mentor to undergraduates, post-baccalaureate research assistants, graduate students, post-doctoral fellows, psychiatry residents and junior faculty in the laboratory and clinic settings. More than ten of her research mentees have published peer-reviewed articles with her and two have continued on to faculty positions. Dr. Tso lectures on early psychosis and cognitive behavioral therapy for psychosis as part of the core lecture series for PGY1, PGY2 and PGY4 psychiatry residents at the University of Michigan. She has been invited to give guest lectures on research and clinical topics in numerous undergraduate or graduate courses, post-doctoral forums, academic journal clubs, and grand rounds on campus. She has also been invited to lecture and give workshops at local mental health organizations and professional societies. Dr. Tso's most important teaching and mentorship contribution is promoting the involvement of women and junior scientists in psychiatric research. She makes a special effort to encourage and recruit women and trainees from underrepresented groups to join her lab. Trainees are exposed to all aspects of the lab including, coding, statistics, scientific presentations and publishing. Those who have been mentored have jointly given over 20 conference presentations and published 18 peer-reviewed articles based on their work with Dr. Tso. She established two clinical practica to provide supervision of Ph.D. clinical psychology students in a research laboratory and clinical setting. The clinical supervision takes place within the PREP clinic (early psychosis clinic following the coordinated specialty care model) where she also serves as clinical and training director.

Research: Dr. Tso has developed an independent research program investigating the cognitive and neural bases of altered social processes in psychiatric disorders. Her work has made significant advances in the mechanistic understanding and identification of novel biobehavioral markers of social dysfunction in psychosis and related psychopathology. In this work, she combines a

diverse arrays of methods; psychophysics, multimodal neuroimaging, electrophysiology, brain stimulation, and computational models, and has made significant contributions to advancing the bottom-up theory, which is the role of visual processing, of social cognitive deficits in psychosis and also identified novel neural targets for interventions to improve social functioning in psychosis-spectrum disorders. In her recently funded NIH R01, she is extending this multimodal neuroimaging work in eye gaze perception to include autism-spectrum disorders and social anxiety with the goal of discovering neural signatures of social dysfunction across diagnoses and informing personalized interventions.

Dr. Tso is also laying the foundation for pursuit of a lifespan trans-diagnostic approach by conducting secondary analyses of two EEG datasets, adult patients with schizophrenia and bipolar in her lab and of over 600 pediatric psychiatric patients with a broad array of diagnoses from Dr. Gregory Hanna's lab. She is well-funded for her research through the National Institutes of Health, NARSAD and foundational grants. Her outstanding research is evidenced through obtention of the Young Investigator Travel Award by the International Congress of Schizophrenia Research in 2017, the Society of Biological Psychiatry in 2018, and the One Mind Bipolar Research Award in 2020. Dr. Tso has published 34 peer-reviewed articles in many high-impact journals, including the *American Journal of Psychiatry*, *Biological Psychiatry* and the *Journal of Abnormal Psychology*.

Recent and Significant Publications:

Burton CZ, Ryan KA, Kamali M, Marshall DF, Harrington G, McInnis MG, Tso IF: Psychosis in bipolar disorder: Does it represent a more 'severe' illness? *Bipolar Disord* 20(1): 18-26, 2018.

Yao B, Mueller SA, Grove TB, McLaughlin M, Thakkar TN, Ellingrod V...Tso IF: Eye gaze perception in bipolar disorder: Self-referential bias but intact perceptual sensitivity. *Bipolar Disord* 20(1): 60-69, 2018.

Tso IF, Rutherford S, Fang Y, Angstadt M, Taylor SF: The "social brain" is highly sensitive to the mere presence of social information: An automated meta-analysis and an independent study. *PLOS ONE* 13(5): e0196503, 2018.

Carrión RE, Cornblatt BA, Burton CZ, Tso IF, Auther AM, Adelsheim S...McFarlane WR: Personalized Prediction of Psychosis: External Validation of the NAPLS-2 Psychosis Risk Calculator with the EDIPPP Project. *American Journal of Psychiatry* 173(10): 989-996, 2016.

Tso IF, Calwas AM, Chun J, Mueller SA, Taylor SF, Deldin PJ: Altered attentional and perceptual processes as indexed by N170 during gaze perception in schizophrenia: Relationship with perceived threat and paranoid delusions. *Journal of Abnormal Psychology* 124(3): 519-31, 2015.

Service: Dr. Tso has played important roles in many professional organizations. She served as a program chair of the 2018 annual meeting of the Society for Research Psychopathology and was elected from 2019-2022 for the position of treasurer of the society. She is a reviewer for over 20 journals, including the *Journal of Abnormal Psychology*, *Schizophrenia Bulletin*, and *Biological Psychiatry*. Nationally and internationally, she has reviewed grants for the American Psychological Foundation and the Research Councils of the United Kingdom. Institutionally,

Dr. Tso has been on the study sections for MICHR and the Depression Center. Departmentally, she is the leader of the Grants in Progress meetings, a member of the Research Council and the Psychology Post-doctoral Training Program, led the Early Career Faculty Group for two years, and has served on two other departmental committees. Dr. Tso is well-known for her clinical expertise in early psychosis and schizophrenia-spectrum disorders. She is highly sought after for her clinical input in evaluating and treating patients with psychotic disorders. She was instrumental in establishing and expanding the early psychosis clinic (PREP) in the Department of Psychiatry. Dr. Tso is the clinical and training director of PREP, and in that role oversees the clinic operation and training activities. She has initiated collaborations with the Child Obsessive Compulsive Disorders and Anxiety Disorders Program, the Adult Anxiety Disorders Clinic, and the Autism Spectrum Disorders Clinic to jointly evaluate cases and provide cross-areas training to trainees and staff, in order to improve care of complex patient group with significant comorbidities.

External Reviewers:

Reviewer A: “Dr. Tso has made significant contributions to our understanding of psychosis across diagnoses, and of promising psychosocial treatments for psychosis, which have fewer side effects than antipsychotic medications, and which are more acceptable to individuals with serious mental illness. Dr. Tso has used a range of useful and innovative technologies and strategies in her research...Dr. Tso also uses advanced statistics and analytic approaches in her research, including Bayesian methods and dynamic causal modeling...Dr. Tso has an impressive publication record, consonant with her success in obtaining federal and philanthropic support for her research...I am particularly intrigued by a manuscript in submission that Dr. Tso has first-authored, on dynamic causal modeling of eye gaze processing in schizophrenia...Among her peers, Dr. Tso stands out for her use of psychophysics, advanced analytics, non-invasive brain stimulation, and her focus on both mechanisms and specificity.”

Reviewer B: “A testimony to the high regard she has in the field is the Young Investigator Travel Awards she got from the International Congress on Schizophrenia Research in 2017 and Society of Biological Psychiatry in 2018...Her work is well-cited: One paper (Psychosis in bipolar disorder: Does it represent a more ‘severe’ illness?...2018) was noted as being among the top 10 papers cited in that journal in 2018. Another paper (Personalized Prediction of Psychosis: External Validation of the NAPLS-2 Psychosis Risk Calculator with the EDIPPP Project, American Journal of Psychiatry...2016) has been cited 111 times...Specifically, she has an enduring interest in the neural mechanisms of eye gaze perception in schizophrenia, as a reflection of social cognition...I look forward to following her work as she ascends the academic ladder.”

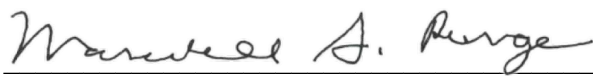
Reviewer C: “I consider her to be one of the most talented [junior] investigators in the field with a consistent record of producing high quality, careful, methodologically rigorous work that has appeared in high impact journals...Dr. Tso also has an impressive funding history...The breadth of Dr. Tso’s research is impressive and unusual. She employs multiple methods including psychophysical tasks, event related potentials, and fMRI across multiple diagnoses...I think Dr. Tso has made a number of important contributions at this early stage of her career and I would expect that she will continue to make many other contributions to the literature...She is an outstanding investigator with a track record of scholarly productivity, successfully obtaining external funding, service both to the University and to professional organizations, as well numerous teaching and educational contributions.”

Reviewer D: “While the level of productivity is good, the rate of production of first-author publications is what shows particular promise, reflecting not only her first-hand engagement in the science, but her capacity to expand her productivity in the coming years as her collaborations expand...Dr. Tso has a strong and even more promising grant success record...Dr. Tso shows the hallmarks of an exceptionally talented clinical scientist...In terms of mentoring and teaching, her students were prominently included as first and subsequent authors in her papers...In summary, Dr. Tso is an accomplished scientist with an extensive and growing track record. By studying social aspects of psychosis, she has becoming a leading investigator in an area of psychopathology research that has taken off in recent years and her reputation is poised to continue growing.”

Reviewer E: “Dr. Tso is a strong scholar whose work on social cognition in schizophrenia spectrum illness (and psychosis more broadly) is increasingly being recognized within the fields of psychiatry and psychopathology. Dr. Tso has developed a strong and coherent research program that is at the forefront of many recent advances in the field and that includes innovative use of multimodal imaging, Bayesian statistics and computational modeling, and a transdiagnostic approach...In addition to her remarkable publication record, Dr. Tso has also received 4 NIH grants (2 as PI, and 2 as Co-I) which is truly outstanding for someone who is not yet tenured...She is clearly on the rise and establishing a name for herself...I firmly believe that Dr. Ivy Tso’s work and record...are both of high quality and impact...Dr. Tso has developed an active and extremely productive research lab that already has impressive external funding and that shows considerable promise for sustained future external funding.”

Summary of Evaluation:

Dr. Tso has developed an independent research program in the field of psychopathology and affective neuroscience and is well-funded for her work. She provides excellent supervision, training and leadership to students and mentees. I am pleased to recommend Ivy F. Tso, Ph.D. for promotion to associate professor of psychiatry, with tenure, Department of Psychiatry, Medical School.



Marschall S. Runge, M.D., Ph.D.
Executive Vice President for Medical Affairs
Dean, Medical School

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