

PROMOTION RECOMMENDATION
The University of Michigan
College of Literature, Science, and the Arts

Natalie C. Tronson, assistant professor of psychology, College of Literature, Science, and the Arts, is recommended for promotion to associate professor of psychology, with tenure, College of Literature, Science, and the Arts.

Academic Degrees:

Ph.D.	2006	Yale University
B.S.	1999	University of South Wales, Sydney

Professional Record:

2012 – present	Assistant Professor, Department of Psychology, University of Michigan
2011 – 2012	Instructor, Department of Psychiatry and Behavioral Sciences, Feinberg School of Medicine, Northwestern University
2006 – 2011	Post-doctoral Fellow, Department of Psychiatry and Behavioral Sciences, Feinberg School of Medicine, Northwestern University

Summary of Evaluation:

Teaching – Professor Tronson is an outstanding teacher who has taught both lecture courses and seminars since her arrival in 2012. She has taught an undergraduate lecture class, *Neuroscience of Learning and Memory*, and two advanced seminars, one on Broken Brains: The Neuroscience of Mental Illness (Psych 531) and one on The Neuroscience of Learned Fear (Psych 531). Her evaluations in those courses, and especially the upper-level courses, are consistently excellent. In addition, she initiated and often leads a journal club for students in her area which is also rated very favorably. Professor Tronson is a generous, enthusiastic, and engaged mentor, who has chaired four dissertation committees and serves on ten others. She has also mentored approximately 35 undergraduate research assistants, four of whom have won awards based on their research. Professor Tronson’s teaching fills a crucial need in the neuroscience of learning and memory (she is the only person to teach that course since 2009).

Research – Professor Tronson investigates the neural mechanisms underlying learning and memory, how those mechanisms differ in males and females, and how they are influenced by illness. She studies these questions in mice using a sophisticated combination of methods, including behavioral measures of memory (particularly fear conditioning), surgical induction of heart attack, and protein biochemistry (e.g., to measure changes in substances secreted by the immune system in response to illness). This approach has led to novel and important results demonstrating sex differences in learning (e.g., males don’t generalize their learning to other contexts as much as females do) and showing that immune challenges lead to sex differences. Professor Tronson has 35 publications in a range of outlets that include some of the most highly regarded in her field.

Recent and Significant Publications:

“A dynamic memory systems framework for sex differences in fear memory,” with A. A. Keiser in *Trends in Neuroscience*, 2019, <https://doi.org/10.1016/j.tins.2019.07.009>.

“Disrupting reconsolidation: memory erasure or blunting of emotional/motivational value?” with E. S. Cogan, et al., *Neuropsychopharmacology*, 44(2), 2019, pp. 399-407 – PMID: 29786067.

“Memory deficits in males and females long after subchronic immune challenge,” with D. Tchessalova, *Neurobiology of Learning and Memory*, 158, 2019, pp. 60-72 – PMID: 30611884.

“Sex differences in context fear generalization and recruitment of hippocampus and amygdala during retrieval,” with A. A. Keiser, et al., *Neuropsychopharmacology*, 42(2), 2017, pp. 397-407 - PMID: 27577601.

Service – Professor Tronson has served in many capacities, both internally and externally. Internally, she has served on approximately 20 committees at the university, including the Diversity Committee and the Psychology Executive Committee, which is the department’s main decision-making body and which involves weekly two-hour meetings and associated duties. Externally, Professor Tronson is very active in her field and was even nominated for the presidency of the Pavlovian Society despite being an assistant professor. She serves on the editorial/reviewing boards for important journals and has also been invited to review grant applications for the NIH and numerous manuscripts for top journals.

External Reviewers:

Reviewer (A)

“Dr. Tronson has already made a substantial contribution to field of memory research and has shown a high commitment to the expansion of our knowledge regarding sex-specific differences within the brain. She is an outstanding investigator with an impressive level of creativity, as seen by the significant output of high-quality papers and her reputation as an expert in her field.”

Reviewer (B)

“Dr Tronson’s publications have widened our knowledge on sex differences on learning and memory, specifically related to context fear and memory consolidation. ... More importantly, the role of neuroimmune system on memory disorders and consolidation has been a growing research focus in her lab, demonstrating the quality and focus of her research in the Department... I support her application for promotion.”

Reviewer (C)

“Natalie is among a small handful (2-3) of...investigators I most associate with grasping the importance of understanding sex differences in research/medicine, and actively helping drive the truly historic zeitgeist shift on this issue now taking place. To have done so as an untenured professor speaks extremely well to her scientific acumen, integrity, and clarity of purpose... I am confident that she would get tenure at my institution.”

Reviewer (D)

“Natalie is a very active presence at several conferences. This has resulted in her becoming well-known in the field and she is clearly building an international reputation. I know from my interactions with her and her students that she is a terrific role model and mentor.”

Reviewer (E)

“Dr. Tronson has a successful record of independent research with an innovative research program at the intersection of immune function, stress, sex differences and memory. She is an accomplished rising superstar and one of the few researchers worldwide that has the breadth of knowledge for studying this important area of research. ... I would rank her in the top 5% of early career investigators. ... I can say without hesitation that Dr. Natalie Tronson would obtain tenure and promotion with her record of achievement.”

Reviewer (F)

“Within the field of the neurobiology of memory I would rate Dr[.] Tronson among the Top 20, worldwide, for scholars at the same career stage.”

Reviewer (G)

“Dr. Tronson ...regularly publishes in high to moderate impact scientific journals and has a high H-index indicating that her work is routinely cited. She has received invitations to present her work at national and international scientific conferences and has been invited to contribute multiple reviews on her discipline. ... I believe she would be a strong candidate for promotion with tenure in psychology departments of universities similar to Univ. of Michigan.”

Summary of Recommendation:

Professor Tronson has made numerous important contributions in research, teaching, and service. Her work reflects very well on the department, college, and the university. The Executive Committee of the College of Literature, Science, and the Arts and I recommend that Assistant Professor Natalie C. Tronson be promoted to the rank of associate professor of psychology, with tenure, College of Literature, Science, and the Arts.



Anne Curzan, Dean
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