

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF PHARMACOLOGY

Carrie Newman, Ph.D., assistant professor of pharmacology, Department of Pharmacology, Medical School, is recommended for promotion to associate professor of pharmacology, with tenure, Department of Pharmacology, Medical School.

Academic Degrees:

Ph.D.	2006	University of Michigan
B.A.	2001	Indiana University

Professional Record:

2013 - Present Assistant Professor of Pharmacology, University of Michigan

Summary of Evaluation:

Teaching: Dr. Newman enthusiastically embraces her teaching and mentoring responsibilities. In the classroom or the lab, she is recognized as an energetic, interactive, and excellent teacher. She has supervised fellows, Ph.D., masters and undergraduate students. Dr. Newman has served on six Ph.D. and three master's dissertation committees, and has organized career development events for pharmacology post-doctoral and graduate students to develop their research and communication skills. Dr. Newman has also made major contributions to didactic teaching in the Department of Pharmacology and Medical School. She has taught in a variety of settings, from large lecture halls of more than 200 students, to smaller discussion groups. Her overall student evaluations are outstanding. While in rank, Dr. Newman has participated in teaching PIBS 503 (Ethics), NS611 (Neuropsychopharmacology), MedChem 510 and 600, Dental Pharm 537 and 601, and Pharm 310 (UG Pharmacology). In the winter semester of 2019, she became the co-director of Pharm 615 (Neuropharmacology).

Research: Dr. Newman is an exceptional scientist with a promising future. She is a very well-trained behavioral pharmacologist and neuroscientist combining whole animal and cellular approaches to understand how experience shapes the brain and affects learning and behavior, focusing on developmental factors and the long term effects of addictive drugs and obesity. Dr. Newman is investigating the role of glutamatergic plasticity in addiction, understanding the neural processes underlying incentive learning, and identifying neural and behavioral differences that contribute to the propensity to become addicted. In addition, she is exploring the neural and behavioral differences that contribute to the development of obesity, determining how a prolonged state of obesity may alter neural circuits mediating reward and motivation, and examining the role of leptin signaling in motivation. Her current research focuses on improving our understanding of how drugs like cocaine change the brain to produce addiction and exploring the relationship between obesity and motivation. Dr. Newman has been very successful in establishing a highly funded and productive research program that is, at the same time, both independent and collaborative. This work is supported through her role as the principal investigator of two NIH R01 awards, and an NIH R21 award. Since 2013, she has received over

30 invitations to present her work at seminars and symposia across the United States, Canada, and England.

Dr. Newman's curriculum vitae lists 31 peer-reviewed publications, with 17 in rank. She is first author on 12 publications and senior author on 10. Four additional manuscripts are under review.

Recent and Significant Publications:

Derman R and Ferrario C Enhanced incentive motivation in obesity-prone rats is mediated by NAc CP-AMPA receptors. *Neuropharmacology* 131:326-336, 2018.

Oginsky, M, Goforth, P, Nobile, C, Lopez-Santiago L, and Ferrario C: Eating "junk-food" produces rapid and long-lasting increases in NAc CP-AMPA receptors; implications for enhanced cue-induced motivation and food addiction. *Neuropsychopharm* 41(13):2977-2986, 2016.

Oginsky M, Maust J, Corthell J, Ferrario C: Enhanced cocaine-induced locomotor sensitization and intrinsic excitability of NAc medium spiny neurons in rats susceptible to diet-induced obesity. *Psychopharm* 233(5):773-784, 2016.

Vollbrecht P, Mabrouk O, Nelson A, Kennedy R, Ferrario C: Pre-existing differences and diet-induced alterations in striatal dopamine systems of obesity-prone rats. *Obesity* 24(3):670-677, 2016.

Robinson, M, Burghardt, P, Patterson, C, Nobile C, Akil H, Watson, S, Berridge K, Ferrario C: Individual Differences in cue-induced motivation and striatal systems in rats susceptible to diet-induced obesity. *Neuropsychopharmacology* 40(9):2113-2123, 2015.

Service: Dr. Newman has made substantial contributions through her service as the Department of Pharmacology faculty ally for Diversity in Graduate Education in the Rackham Graduate School, on the Pharmacology Master's Program Admissions Committee, the Department of Pharmacology Advisory Committee, and as the Pharmacology Seminar Series coordinator. She has contributed to student activities, including the annual Midwest Pharmacology Colloquium, the annual Pharmacology Retreat, the Department Seminar Program, and the Charles Ross Summer Student Fellowship program for under-represented students. Institutionally, she has served on the Preliminary Exam Advisory and Evaluative Committee for the Neuroscience Graduate Program, the Neuroscience Program Executive Committee, and the Neuroscience Graduate Program Admissions Committee. She has also been invited to serve as a reviewer for the Netherlands Organization for Health Research and Development (ZonMw) TOP programme, and was an invited participant for the National Academy of Sciences and Japan Society for the Promotion of Science at the Japanese-American Frontiers of Science Symposium in Tokyo, Japan. Dr. Newman serves as a reviewer for several journals and is currently a member of the Publications Committee for the *American College of Neuropsychopharmacology*. She has served as an ad hoc reviewer for several NIH study sections, and for *Neuropsychopharmacology*, *Behavioral Brain Research*, *Psychopharmacology*, and *PLoS ONE*. Dr. Newman served as an editorial assistant for *Brain Research*, and *Elsevier Scientific Publishing*.

External Reviewers:

Reviewer A: “I am writing in enthusiastic support of Dr. Carrie Ferrario [Newman] for her promotion to the rank of Associate Professor with Tenure at the University of Michigan...I have no hesitation in offering my strongest possible recommendation in support of Dr. Ferrario’s [Newman’s] promotion and tenure to the rank of Associate Professor at the University of Michigan. I think she has already demonstrated a level of research quality and national/international reputation deserving of the rank. She also embodies the highest qualities of professionalism and commitment of service commensurate with this academic appointment.”

Reviewer B: “Although my focus is upon Dr. Ferrario’s [Newman’s] research effort, it is clear that she exceeds standards for not only research, but also for teaching and service...Dr. Ferrario’s [Newman’s] high level of productivity, her easy collaborative nature (as indicated by her publication list), and a clear research focus has led to outstanding and sustained support even in the most difficult of funding climates...As a consequence of the high caliber of her work, and the sharpness of her mind, Dr. Ferrario [Newman] has established both a national and an international reputation. This (particularly the international piece) is uncommon so early in one’s career...It is, then, with the greatest enthusiasm that I recommend Dr. Carrie Ferrario [Newman] for promotion to Associate Professor with Tenure in the Department of Pharmacology at the University of Michigan Medical School...Thus, if the past and present predict the future, as they most often do, Dr. Carrie Ferrario [Newman] has a long and productive future ahead and is most deserving of Promotion to Associate Professor with Tenure at the University of Michigan Medical School.”

Reviewer C: “In my opinion, Dr. Ferrario’s [Newman’s] scholarly contributions are of high quality, rigorous, and original in their dissection of neural substrates contributing to overeating and obesity. Her work is focused, and she has demonstrated consistent productivity in this research area since her hire as an Assistant Professor in 2013...the evidence as a whole strongly supports the conclusion that Dr. Ferrario [Newman] be promoted to Associate Professor and awarded tenure were she at my institution.”

Reviewer D: “Dr. Ferrario [Newman] is an energetic, committed, productive, and thoughtful scientist and academic that is clearly passionate about her work. I would be happy to have her as a colleague as I would expect her enthusiasm to be contagious and her ideas challenging. I highly recommend her for this promotion with tenure.”

Reviewer E: “As testimony to the scholarly quality and significance of the work that she performs, Dr. Ferrario [Newman] has been quite successful in garnering funding from the NIH...Dr. Ferrario is also gaining a national and international reputation for her work in molecular mechanism of obesity, with invitations to speak at prestigious institutions...I believe that Dr. Ferrario [Newman] is a successful addiction investigator, scholar, teacher, and rising leader.”

Reviewer F: “I think it is clear that Dr. Ferrario [Newman] has established a very strong national reputation. She has won awards for her research, including the 2014 NARSAD Young Investigator Award, highly competitive American College of Neuropsychopharmacology Travel Awards in 2013-2015 (followed by associate membership), an Early Career Independent Investigator Award from ASPET in 2017, and was a nominee for this year’s Helmholtz Young

Investigator Diabetes Award...I am very enthusiastic about the proposed promotion of Dr. Ferrario. I am confident she would receive this promotion at (my institution), and that we would be preparing retaining offers in anticipation of her being recruited away.”

Summary of Recommendations:

Dr. Newman is a well-respected teacher and mentor, as well as an outstanding behavioral pharmacologist. She is becoming a national leader in the fields of drug abuse, animal models of behavior, and more recently, obesity. She is nationally and internationally recognized for her contributions to neuropharmacology and addiction research and has made significant contributions to understanding the basic mechanisms underlying glutamatergic plasticity in addiction and the neural processes underlying incentive learning, and identifying neural and behavioral differences that contribute to the propensity to become addicted. I am pleased, therefore, to recommend Carrie Newman, Ph.D. for promotion to associate professor of pharmacology, with tenure, Department of Pharmacology, Medical School.



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

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