

PROMOTION RECOMMENDATION
UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF NEUROLOGY

Jack M. Parent, M.D., associate professor of neurology with tenure, Department of Neurology, Medical School, is recommended for promotion to professor of neurology, with tenure, Department of Neurology, Medical School.

Academic Degrees:

M.D.	1990	Yale University
A.B.	1986	Stanford University

Professional Record:

2006-present	Associate Professor of Neurology, University of Michigan
2000-2006	Assistant Professor of Neurology, University of Michigan
1996-2000	Assistant Adjunct Professor of Neurology, University of California, San Francisco
1994-1996	Clinical Instructor of Neurology, University of California, San Francisco

Summary of Evaluation:

Teaching: Dr. Parent is an outstanding educator who teaches undergraduates, graduate students, and post-doctoral fellows in science and research, and medical students, neurology residents and post-residency clinical neurophysiology fellows in a variety of venues. On an annual recurring basis, he presents formal lectures to graduate students in the Organogenesis Program/Cell and Developmental Biology (two hours/year) and Neuroscience Graduate Program (two hours/year), to Neurology Residents (one hour/year), to Epilepsy Fellows/Neurology Residents (three hours/year), as well as to Neurology Medical Students/Residents/Attendings in Neurology Grand Rounds (one hour/year) and Neurology Patient Conference (one hour/year). Dr. Parent has also organized and directed the weekly Neurology Research Seminar Series for the past seven years. In addition, Dr. Parent organized and directed a one-time University-wide Epilepsy Research Seminar Series through a Rackham Interdisciplinary Workshop Grant (2009-2011). Dr. Parent also teaches extensively to medical students and residents "at the bedside" on the clinical service, and to epilepsy fellows in the EEG laboratory. Evaluations of Dr. Parent's teaching by medical students, neurology residents and epilepsy fellows are consistently outstanding. In the laboratory, Dr. Parent has mentored 27 undergraduate students and 20 pre- and post-doctoral students including three who received their Ph.D. degree under his mentorship (with one more Ph.D. candidate currently in the lab). He has served on 23 dissertation committees and five preliminary examination committees. In addition to his role in educating trainees, Dr. Parent plays a major role in mentoring junior faculty in the Division of Epilepsy and Clinical Neurophysiology that he co-directs. He is the mentor of Dr. William Stacey's K08 Award, and is the co-mentor on an additional K08 application that was recently submitted to the National Institutes of Health. Dr. Parent is widely recognized outside our own institution as an outstanding educator. He has served as course lecturer, moderator or organizer for 10 national or international meetings, and presented more than 50 invited lectures since 2005.

Research: Dr. Parent is a remarkably successful, internationally respected and well-funded researcher who has made seminal observations on the biology of neural stem cells and their role in brain development, function and repair after stroke or other brain insults. He studies the restorative potential of both endogenous and transplanted neural stem cells in experimental stroke models in rodents, and endogenous neurogenesis and brain repair after excitotoxic lesioning in transgenic zebrafish. A second focus is on mechanisms of epileptogenesis in experimental and human temporal lobe epilepsy (TLE). A new additional direction of Dr. Parent's research involves the use of induced pluripotent stem cells (iPSCs) to model genetic epilepsy syndromes and other neurological disorders. His laboratory was the first at the University to successfully create iPSCs from patient specimens, and his laboratory has served as a vital resource for collaborators from Human Genetics, Integrative Physiology, and Cardiology in the creation of patient-derived neural cells and cardiac myocytes. Collaborative clinical research projects in which Dr. Parent is involved include the use of functional MRI (fMRI) to identify language areas and other eloquent cortex in candidates for epilepsy surgery, and a large multi-institutional genome-wide association study to correlate epilepsy genotypes and phenotypes and discovery new epilepsy or pharmacoresistance genes. Dr. Parent has a strong record of extramural grant support for these projects, including current support as the principal investigator from two NIH R01 grants, a collaborative NIH RC1 (ARRA challenge) grant, several private foundation grants, and collaborative roles on additional NIH P01, U01 and R01 grants.

Recent and Significant Publications:

Singer BH, Gamelli AE, Fuller CL, Temme SJ, Parent JM*, Murphy GG*: Compensatory network changes in the dentate gyrus restore long-term potentiation following ablation of neurogenesis in young adult mice. *Proc Natl Acad Sci USA* 108:5437-5442, 2011. *Co-corresponding authors.

Kron MM, Zhang H, Parent JM: The developmental stage of dentate granule cells dictates their contribution to seizure-induced plasticity. *J Neurosci* 30:2051-2059, 2010.

Singer B, Jutkiewicz E, Fuller C, Lichtenwalner R, Zhang H, Velandar A, Li X, Gnegy M, Burant C, Parent JM: Conditional ablation and recovery of forebrain neurogenesis in the mouse. *J Comp Neurol* 514:567-582, 2009.

Gong C, Wong TW, Huang HS, Parent JM: Reelin regulates neuronal progenitor migration in intact and epileptic hippocampus. *J Neurosci* 27:1803-1811, 2007.

Parent JM, Elliott RC, Pleasure SJ, Barbaro NM, Lowenstein DH: Aberrant seizure-induced neurogenesis in experimental temporal lobe epilepsy. *Ann Neurol* 59:81-91, 2006.

Service: Dr. Parent has provided important service to the University of Michigan since his arrival in 2000. He has directed the Neurodevelopment and Regeneration Laboratory since 2000, served as director of the Epilepsy Research Program from 2005-2007, and has been co-director of the Division of Epilepsy and Clinical Neurophysiology since 2007. He has been instrumental in recruiting outstanding faculty to the division and in building its excellent national

reputation. Dr. Parent is an outstanding clinician who has worked with faculty in the Departments of Neurosurgery, Neuroradiology and Psychiatry (Neuropsychology) to improve the care of epilepsy patients at the University of Michigan. In addition, Dr. Parent directs the neurology-based epilepsy program at the VA Ann Arbor Healthcare System. Dr. Parent spends an average of 8-10 hours per week doing clinical service. He staffs the VA clinic ½ day per week and has his own UM epilepsy clinic on two ½-days per month. His total clinic is therefore six half-days per month. He reads all of the EEGs at the VA (equivalent to about three days/month of EEG reading at UM), and is starting to read evoked potentials at the VA. He currently attends two weeks a year on the Neurology Consult-Inpatient Ward service, and five weeks a year on the epilepsy monitoring unit.

Dr. Parent has provided active service on committees at the departmental and Medical School levels. He has served on various committees in the department, including the NINDS Neuroscience Training Grant Executive Committee (2001-present), the Instructional Track Faculty Recruitment Committee (2004-present), and the Committee on Appointments, Promotions and Awards (ACAP) for Instructional Track (2007-present). Dr. Parent is also a member of the Graduate Neuroscience Program, the Nathan Shock Center, and the Center for Organogenesis.

Dr. Parent's governmental service includes NIH study section ZRG1 BDCN N03 (2010, ad hoc); and service as an ad hoc member of the VA Merit Review RRD0 R study section (2010). Nationally, Dr. Parent has served on the Epilepsy Foundation of America Research Council Grants and Fellowships Committee (2003-present; co-chair 2006-2009) and Professional Advisory Board (2008-present), on the Education Committee (2006-2008), Membership Committee (2008-2011), Advisory Committee on Honorary Membership (2009-2011) and Scientific Program Committee (2010-present) of the American Neurological Association, as an Independent Scientific Review Panel member for the New Jersey Commission on Brain Injury Research (2006-present), and as a panel participant at the Stem Cell Therapeutics as an Emerging Paradigm for Stroke (STEPS) I and II meetings (2007, 2010). He has served on five journal editorial boards and as an ad hoc reviewer for about 47 journals and a dozen national and international private and governmental granting organizations.

External Reviewers:

Reviewer A: "Of the M.D. or M.D., Ph.D. investigators in the United States interested in epilepsy and neurogenesis I would definitely put Dr. Parent in the top five....Dr. Parent has frequently served on NIH study sections, in editorial or review roles. He has been very active in the American Epilepsy Society and I predict he will rise to a high leadership position in AES, the premier epilepsy society in the world."

Reviewer B: "...Dr. Parent is an exceptional investigator, teacher and clinician who is a recognized leader in epilepsy research. He has made extensive scholarly contributions to our field through his novel and important research findings,...by his numerous publications and lectureships, and by his service to the NIH, major neurology and neuroscience journals, and national societies and foundations. He has also made important contributions to the training of the next generation of clinical and research professionals in epilepsy."

Reviewer C: “Dr. Parent is a leader in the adult neurogenesis field...His career has been distinguished by an ever increasing degree of creativity and productivity. His diverse research interests and multi-dimensional approaches to problems indicate that he will continue to be responsible for key advances in the area of neurogenesis and neuroplasticity.”

Reviewer D: “He is much in demand both nationally and regionally for his outstanding ability to explain complex neurobiology of neurogenesis in simple lucid terms. It is not a surprise that he has attracted many highly productive and successful graduate students and postdoctoral fellows during his tenure at Michigan. I have no doubt that he will continue to attract outstanding students to his laboratory in the future.”

Reviewer E: “...I can attest to the lasting impact and excellent recognition that his studies generate at both the national and international levels...Importantly, his peers see his work as being of high quality, carefully conducted and innovative, laying the foundation for future studies and opening up new areas of investigation.”

Reviewer F: “His work in neurogenesis is widely recognized in an area of great basic and translational interest in contemporary neuroscience. His contributions to understanding the phenomena of adult neurogenesis could very well eventually be regarded as landmark work in this field...Dr. Parent stands out as a leader among clinical-investigators in neurology, and I have no doubt that he would be promoted to the rank of Professor on the basis of excellence in research and significant accomplishments in teaching and service at [my institution].”

Reviewer G: “Clearly Jack is very ambitious and driven to not only establish new lines of investigations into important neurological problems but to be a scientific leader in these fields. It is also clear from his publication record and his outstanding track record in obtaining grant support – including major grants from NIH – that he has been highly productive and successful over the last decade while at your University.”

Summary of Recommendation:

Dr. Parent has distinguished himself as a true “triple threat.” He is a world-class scientist, educator and clinician. His reputation and prominence throughout the science and clinical world reflect very well on the University of Michigan, and we are fortunate to have him on our faculty. I am pleased to recommend Jack Parent, M.D. for promotion to professor of neurology, with tenure, Department of Neurology, Medical School.



James O. Woolliscroft, M.D.

Dean

Lyle C. Roll Professor of Medicine

May 2012