

PROMOTION RECOMMENDATION  
UNIVERSITY OF MICHIGAN MEDICAL SCHOOL  
DEPARTMENT OF NEUROLOGY

Jack M. Parent, M.D., Assistant Professor of Neurology, Department of Neurology, Medical School, is recommended for promotion to Associate Professor of Neurology, with tenure, Department of Neurology, Medical School.

Academic Degrees:

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

Professional Record:

2000-Present	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 currently training two graduate students, three post-doctoral fellows, and a third-year medical student in his laboratory. Since 2000, he has had ten additional Neuroscience Program and Program in Biomedical Science graduate students perform laboratory rotations under his supervision, and has mentored two Undergraduate Research Opportunity Program (UROP) students, one Undergraduate Student Summer Biomedical Research Program student, two senior undergraduate honors students, and one visiting summer undergraduate student. He also has served on four preliminary examination committees and 15 dissertation committees for graduate students in neuroscience, cellular and molecular biology, nursing, and biomedical engineering. Dr. Parent teaches in graduate and medical student courses nearly every year, including the graduate student Research Responsibility Course, Organogenesis Program courses, Program in Neuroscience courses, and the Clinical Pharmacology and Therapeutics course for fourth-year medical students.

Dr. Parent gives yearly lectures to neurology residents and epilepsy/clinical neurophysiology fellows on topics in clinical neurophysiology and epilepsy. He teaches neurology residents and epilepsy/clinical neurophysiology fellows during epilepsy clinic staffing two half-days per month and EEG reading two half-days per month. He also attends formally on the neurology inpatient service two to four weeks per year and the Epilepsy inpatient service four to five weeks per year, where he has continuous contact with medical students and residents. As Acting Director of the Epilepsy Research Program, he assists epilepsy/clinical neurophysiology fellows in choosing research projects and advises them on the conduct of their research.

Dr. Parent is recognized as an outstanding invited speaker at state, national, and international levels on topics in epilepsy, stroke, and neural stem cell research. Recent continuing

medical education (CME) evaluations from lectures to the Michigan Neurological Society and American Epilepsy Society rated him 4.9/5 (mean for all speakers, 4.6/5) and 4.5/5 (mean for all speakers, 3.4/5), respectively.

Research: Dr. Parent is a remarkably successful researcher. He oversees the Neurodevelopment and Regeneration Laboratory that he developed upon his recruitment to the University of Michigan in 2000. His research encompasses three areas: 1) brain development, particularly neural stem cells and adult neurogenesis; 2) brain repair after experimental stroke; and 3) the neurobiology of epilepsy, with a focus on adult neurogenesis. He has many high quality publications in neuroscience, neurology, and development journals.

Dr. Parent is funded as principal investigator of grants from the NIH (KO2 and RO1) and American Federation for Aging Research (the prestigious Paul Beeson Physician Faculty Scholars in Aging Research Award) to study neural stem cells and brain repair in experimental stroke. His was one of the first two groups to show that experimental stroke increases forebrain neurogenesis and leads to low level self-repair in specific brain regions. He has presented this work in invited seminars at the prestigious Princeton Stroke Conference, the International Symposium on Cerebral Blood Flow, Metabolism and Function, the Swammerdam Institute for Life Sciences of the University of Amsterdam, and the American Society for Neurochemistry. His laboratory was one of the first three groups at the University of Michigan to receive NIH-funding through the University of Michigan Human Embryonic Stem Cell Center for pilot projects on human embryonic stem cells.

Dr. Parent is recognized as the leading expert on adult neurogenesis in epilepsy, and serves on the Research Grants Committee of the Epilepsy Foundation of America and Scientific Program Committee of the American Epilepsy Society. He published seminal work on the influence of prolonged seizures on adult forebrain neurogenesis in experimental epilepsy models, and the role of aberrant neurogenesis in seizure generation. His important contributions to epilepsy research have been recognized by his receipt of the 2004 Dreifuss-Perry Epilepsy Award from the American Academy of Neurology. He has given many invited presentations on his epilepsy research, including two plenary lectures at the American Epilepsy Society annual meeting, and seminars at the International Neuroscience Symposium at the University of Bonn, and International Conference on Epileptogenesis at Venice International University. Dr. Parent was recently appointed as the Acting Director of the Epilepsy Research Program in the Department of Neurology. In this role, he is helping to coordinate epilepsy research initiatives with the Departments of Neurology and Radiology, and a combined epilepsy research effort between the Departments of Neurology, Physics, Physiology, and Molecular and Behavioral Neuroscience Institute (MBNI) that is generating a program project proposal in epilepsy research.

Dr. Parent is considered the leading expert within the biomedical community at the University of Michigan on adult neurogenesis and the role of neural stem cells in neurological disorders. His work is an integral part of the University of Michigan's goal of pursuing state-of-the-art stem cell research. Dr. Parent has ongoing research collaborations with investigators in many departments and institutes at the University of Michigan, including Biological Chemistry, Cell and Developmental Biology, MBNI, Neurosurgery, Pediatrics, Physics, Physiology, and Radiology.

### Recent and Significant Publications:

Wang TW, Zhang H, Parent JM: Retinoic acid regulates postnatal neurogenesis in the murine subventricular zone-olfactory bulb pathway. *Development* 132:2721-2732, 2005.

Plane JM, Liu R, Silverstein FS, Parent JM: Neonatal hypoxic-ischemic injury increases subventricular zone neurogenesis in the mouse forebrain. *Neurobiol Dis* 16:585-595, 2004.

Parent JM: Injury-induced neurogenesis in the adult mammalian brain. *Neuroscientist* 9:261-272, 2003.

Parent JM, Valentin VV, Lowenstein DH: Prolonged seizures increase neurogenesis in the rostral forebrain subventricular zone-olfactory bulb pathway of the adult rat. *J Neurosci* 22:3174-3188, 2002.

Parent JM, Vexler ZS, Gong C, Derugin N, Ferriero DM: Rat forebrain neurogenesis and striatal neuron replacement after focal stroke. *Ann Neurol* 52:802-813, 2002.

Service: Dr. Parent has provided excellent service to the University of Michigan since his arrival five years ago. He is a valuable contributor to the Clinical Epilepsy Program, attending one month per year on the Inpatient Service, reading EEG's twice per month and seeing epilepsy patients in clinic one half/day per week. He is active in the Epilepsy Surgery Program and performs highly specialized epilepsy surgery evaluations including electrocorticography and language/sensorimotor functional mapping using subdural electrode arrays, in both intraoperative and extraoperative settings. He also attends on the Inpatient Neurology Service two to four weeks per year. Through work on governmental committees, national research organizations and invited presentations, Dr. Parent has greatly enhanced the visibility of the University of Michigan and provided important service to national research efforts. His unique combination of expertise in clinical epilepsy, neuroscience, and stem cell biology is considered extremely valuable by national leaders in the epilepsy community and at the National Institutes of Neurological Disorders and Stroke. His international reputation is underscored by his work as an invited grant reviewer for a number of international organizations, including the United Kingdom's Wellcome Trust, the Neurological Foundation of New Zealand, the Georgian-U.S. Bilateral Grants Program of the U.S. Civilian Research and Development Foundation, and the Epilepsy Research Foundation based in London. At the University of Michigan, he serves on the Committee on Student Biomedical Research of the Medical School, and the Department of Neurology NINDS Neuroscience Training Grant Executive Committee, Instructional Track Faculty Recruitment Committee, and Lucille Groff Endowed Professorship Recruitment Committee.

### External Review:

Reviewer A: "He has become a national leader in the area of studying the potential role of neurogenesis after brain injuries, particularly in epilepsy and more recently in other disorders."

Reviewer B: "...Dr. Parent has made extremely important contributions to our current understanding of neurogenesis in epilepsy and related disorders. His scientific work is already well recognized both nationally and internationally."

Reviewer C: "In his intellect, important scholarly contributions, service to patients and concern and care for the next generation of leaders in neurology, Jack has distinguished himself at a national level."

Reviewer D: "He is in the top 2 percent and a really extremely successful investigator who holds further outstanding promise. Indeed, he is an exceptional scientist, extremely well qualified for promotion to the rank of Associate Professor based on his solid research output, funding record, national recognition and mentoring record."

Reviewer E: "...Dr. Parent is active in a very upcoming and socio-economically relevant field in Neuroscience, and the reviewer is convinced of his continued creative contributions to this research."

Reviewer F: "His published papers are of high quality and attest to the high scientific standards he sets for himself and his students....Jack has clearly established an important professional niche for himself that promises to lead to interesting discoveries of some clinical significance."

Summary of Recommendation:

Dr. Parent is an outstanding neurologist and physician-scientist with an excellent record of research, teaching, and important clinical service to the Department of Neurology. He amply deserves promotion, and it is with great pleasure that I recommend him for promotion to Associate Professor of Neurology, with tenure.



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Allen S. Lichter, M.D., Dean  
*Newman Family Professor  
of Radiation Oncology*

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