

PROMOTION RECOMMENDATION  
THE UNIVERSITY OF MICHIGAN  
MEDICAL SCHOOL  
DEPARTMENT OF NEUROLOGY

James F. Burke, 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.S.	2011	University of Michigan
M.D.	2005	Loyola University, Maywood, IL
B.S.	1999	University of Notre Dame

Professional Record:

2013-present	Assistant Professor of Neurology, University of Michigan
2010-2013	Clinical Lecturer, Department of Neurology, University of Michigan

Summary of Evaluation:

Teaching: Dr. Burke teaches residents, medical students and undergraduates. His most substantial contributions are in the post-graduate setting targeting neurology residents. In total, across all settings, Dr. Burke spends approximately 80 hours per year in teaching activities. Dr. Burke provides 10 hours of lecture each year to the incoming neurology residents during the Boot Camp series to teach them the basics of caring for stroke patients while also additionally lecturing on two to four selected topics per year in stroke during their noon lecture series. In addition, Dr. Burke is the neurology resident neuroscience day research “czar.” In this role, he organizes a series of workshops to assist neurology residents to develop and refine research projects and individually meets with each neurology resident at least one to two times per year to assist in formulating and executing their research requirement within the context of their career goals. Dr. Burke has served as the primary research mentor for one to three neurology residents for each of the last four years and, in that role, has provided detailed hands-on assistance in developing research protocols, executing those protocols and disseminating results. In recognition of his overall contribution to teaching neurology residents, Dr. Burke received the “Status Pedagogicus” award from the neurology residents which recognizes the most outstanding teaching among all neurology faculty in the last academic year. It is exceptionally unusual for an instructional track faculty member to win this award, further demonstrating Dr. Burke’s outstanding teaching ability and dedication to teaching. He similarly has routinely received outstanding evaluations from the neurology residents for his teaching contributions.

Dr. Burke’s medical student teaching takes a number of forms. He leads one to two four-week sessions of localization rounds consisting of one-hour localization exercises. He annually delivers two lectures to the first-year medical students--an overview of clinical neurology and an

explanation and demonstration of the neurologic history and examination. He also assists in a variety of other educational activities including leading small ethics group sessions, facilitating discussion in the massively online open course, “Understanding and Improving the US Healthcare System,” leading a MedFamily, and delivering bedside teaching. He has consistently received excellent feedback from medical students for his teaching. Dr. Burke’s undergraduate teaching consists of his annual contribution to the senior-level Neurobiology of Parkinson’s Disease course run by Dr. Dan Leventhal where Dr. Burke leads one week of the class consisting of a lecture on epidemiology and its role in understanding disease as well as a journal club.

Research: Dr. Burke’s research relies on applying his Health Services Research (HSR) training to clinical neurologic problems. Dr. Burke’s K-award work applies HSR decision analytic and statistical modeling techniques to clinical trial data to determine which patients are most likely to benefit from carotid stenting and which are most likely to benefit from endarterectomy. His R01 with multiple PI Lesli Skolarus, identifies factors associated with variation in long-term stroke outcomes and the contribution of those factors to racial disparities in outcomes. In addition, Dr. Burke has applied HSR simulation techniques to identifying improved approaches to subgroup analyses and exploring the societal implications of new treatment approaches for neurodegenerative diseases such as Alzheimer’s Disease and Huntington’s Disease.

Just as Dr. Burke has applied unique HSR methods to optimizing individual decisions, he has applied data sources typically used in HSR methodology to identify opportunities to improve the efficiency of neurologic care. For example, Dr. Burke’s experience with administrative data bases has shed light on inefficient and costly neuroimaging practices on conditions ranging from stroke to headache. Dr. Burke’s work has defined the scope of the headache neuroimaging problem in the United States—while guidelines recommend against neuroimaging in most patients with headache, almost 50% of migraine patients receive a neuroimaging study within five years of diagnosis. While the reasons for this practice pattern are not yet known, his work has found that systems-factors are likely key contributors—neuroimaging is considerably less common in the Veteran Affairs system than in patients with Medicare. This work has served as the preliminary data for a recently scored VA Merit proposal to study the reasons to optimize headache neuroimaging. Dr. Burke has also made contributions to optimizing stroke neuroimaging and developing better stroke systems of care to deliver acute thrombolytic therapies. The latter work is serving as the basis for a new grant submission to understand how some regions deliver thrombolysis more effectively than others. Dr. Burke has more than 85 peer-reviewed publications including many in high impact journals.

#### Recent and Significant Publications:

Callaghan BC, Kerber KA, Pace RJ, Skolarus LE, Burke JF: Headaches and neuroimaging: high utilization and costs despite guidelines. *JAMA Intern Med* 174:819-821, 2014.

Burke JF, Langa KM, Hayward RA, Albin RL: Modeling test and treatment strategies for presymptomatic Alzheimer disease. *PLoS One* 9:e114339, 2014.

Burke JF, Freedman VA, Lisabeth LD, Brown DL, Haggins A, Skolarus LE: Racial differences in post-stroke disability - results from a nationwide study. *Neurology* 83:390-397, 2014.

Burke JF, Sussman JB, Kent DM, Hayward RA: Three simple rules to ensure reasonably credible subgroup analyses. *BMJ* 351:h5651, 2015.

Skolarus LE, Meurer WJ, Shanmugasundaram K, Adelman EE, Scott PA, Burke JF. Marked Regional Variation in Acute Stroke Treatment Among Medicare Beneficiaries. *Stroke* 2015 Jun 2, 2015.

Service: Dr. Burke has made service contributions within the department, within the Medical School and to the broader scientific community. Within the department, Dr. Burke has taken a leadership role in resident research mentorship, led resident journal clubs, participated in the development and roll out of an e-Consults for neurology, organizes and maintains the acute stroke call schedule, and organizes the bi-annual stroke research day. Within the Medical School, Dr. Burke is on the IHPI data core advisory committee and has helped in recruitment of key personnel as well as in the development of a data management tool for administrative data that is in the process of being widely rolled out to facilitate data access for IHPI members. Dr. Burke's most substantial contributions have been to the wider scientific community. He has served as an associate editor at the journal *BMC Neurology* and is starting a similar role at *Circulation: Cardiovascular Quality and Outcomes*. He is a member of the National Quality Forum's Neurology Standing Committee where he performs peer review of neurologic quality measures and participates in the overall evaluation process. He has served as an ad hoc peer reviewer on an NINDS study section and was recently appointed to a standing role on the AHA outcomes study section. He also serves as a peer reviewer for more than 19 journals, while also reviewing abstracts for the International Stroke Conference and serving as the Neurology section editor for the Michigan Manual of Medicine.

Professional Work: Dr. Burke has clinical responsibilities in the inpatient, outpatient and acute care settings. Dr. Burke spends two weeks per year on the neurology consult and wards services respectively where he leads teams caring for patients with a wide variety of neurologic conditions. In the outpatient setting, he staffs general/stroke clinic at the Ann Arbor VA one half day per week, and staffs resident stroke clinic at the University of Michigan one day per month, on average. He covers about eight to twelve acute stroke call shifts per month and four weeks of inpatient call at the Ann Arbor VA per year.

External Reviewers:

Reviewer A: "Dr. Burke's research productivity and track record of receiving competitive grand funding is simply outstanding....Dr. Burke has established himself as a clear national leader in neurology."

Reviewer B: "Within the broad field of cerebrovascular disease, he has achieved a national reputation for expertise in the areas of quality improvement, costs of health care, and improving outcomes for patients with neurologic illness. The study that he did on enrolment of women and minorities in NIH trials is very important."

Reviewer C: “The quantity and work exceeds what I have typically seen among junior faculty upon promotion to an Associate Professor.”

Reviewer D: “Dr. Burke is one of the most productive junior faculty members in Neurology at any institution in the country. His peer-reviewed publication record far exceeds that of essentially all of his peers... He appears to be emerging as one of the leading epidemiological health services researchers in the US, certainly in the area of neurology.”

Reviewer E: “Dr. Burke’s work is positioning him to being one of the leaders in influencing changes in stroke care towards reducing health disparities... He is clearly an established leader in his field as documented by his funding as an independent researcher and his strong publication record.”

Summary of Recommendation:

Dr. Burke is emerging as one of the leading epidemiological health service researches in the United States in the area of neurology. In addition, his teaching and service contributions are strong. I am, therefore, pleased to recommend James F. Burke, M.D. for promotion to associate professor of neurology, with tenure, Department of Neurology, Medical School.



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

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