

PROMOTION RECOMMENDATION  
UNIVERSITY OF MICHIGAN  
MEDICAL SCHOOL  
DEPARTMENT OF NEUROLOGY

David N. Irani, M.D., associate professor of neurology, without tenure, Department of Neurology, Medical School, is recommended for the granting of tenure to be held with his title of associate professor of neurology, Department of Neurology, Medical School.

Academic Degrees:

M.D.	1987	University of Michigan
B.S.	1985	University of Michigan

Professional Record:

2007-present	Associate Professor of Neurology (without tenure), University of Michigan
1996-2007	Assistant Professor of Molecular Microbiology and Immunology, Johns Hopkins University
1996-2007	Assistant Professor of Neurology, Johns Hopkins University
1993-1996	Instructor of Neurology, Johns Hopkins University

Summary of Evaluation:

Teaching: Dr. Irani teaches in three distinct settings: a) in the clinic and hospital to medical students, neurology residents and multiple sclerosis (MS) fellows, b) in a didactic/classroom-type setting to patient/caregiver groups, medical and graduate students, neurology trainees and practicing physicians, and c) in a research environment to graduate students and post-doctoral fellows. A total of 15% of his time is spent teaching. His teaching evaluations are excellent.

Research: The majority of Dr. Irani's research effort is focused on translational and basic science research underway within his laboratory; however he does commit a small amount of time to clinical research being undertaken in his division. His main research effort focuses on the use of animal models to study how host immune responses trigger neuroaxonal injury. Most of the work undertaken in his laboratory has used an acute viral encephalomyelitis model to accomplish this goal, but they have also recently used experimental autoimmune encephalomyelitis (EAE), a rodent model of human multiple sclerosis, to ask similar questions. Another goal of his laboratory has been to better understand the pathophysiology of neuroimmunological disease through the careful study of cerebrospinal fluid (CSF) samples obtained directly from patients with MS and related disorders. Over the last 10 years, he has collected >500 such specimens from patients undergoing a diagnostic lumbar puncture. The value of these samples is increased by the simultaneous collection of clinical and radiographic data that has been painstakingly assembled in a database, thereby allowing him to rapidly assemble groups of specimens with related clinical or MRI features. A focus of both published and ongoing work has been to identify biomarkers that predict a given diagnosis (i.e., MS or not)

or future clinical event (i.e. recovery from an acute episode of transverse myelitis). Shortly before his appointment at the University of Michigan in 2007, Dr. Irani had obtained a five-year R01 award and this year he is co-investigator on another five-year R01. He has 30 peer-reviewed publications, eight since coming to the University of Michigan in 2007.

Recent and Significant Publications:

Blakely PK, Kleinschmidt-DeMasters BK, Tyler KL, Irani DN: Disrupted glutamate transporter expression in the spinal cord with acute flaccid paralysis caused by West Nile Virus infection. *J Neuropathol Exp Neurol* 68:1061-1072, 2009.

Irani DN: Aseptic meningitis and viral myelitis. *Neurol Clin* 26:635-655, 2008.

Prow NA, Irani DN: The inflammatory cytokine, interleukin-1 beta, mediates loss of astroglial glutamate transport and drives excitotoxic motor neuron injury in the spinal cord during acute viral encephalomyelitis. *J Neurochem* 105:1276-1286, 2008.

Irani DN, Prow NA: Neuroprotective interventions targeting detrimental host immune responses protect mice from fatal alphavirus encephalitis. *J Neuropathol Exp Neurol* 66:533-544, 2007.

Irani DN, Anderson C, Gundry R, Cotter R, Moore S, Kerr DA, McArthur JC, Sacktor N, Pardo CA, Jones M, Calabresi PA, Nath A: Cleavage of cystatin C in the cerebrospinal fluid of patients with multiple sclerosis. *Ann Neurol* 59(2):237-247, 2006.

Service: Dr. Irani fulfills various service responsibilities to the Department of Neurology, the University of Michigan, private and federal research organizations, and professional journals in his field. For the last two years, he has served as a member of the Resident Selection Committee for the Department of Neurology. For 2010-2011 and 2011-2012, he is serving on the Preliminary Examination Committee for the Graduate Program in Immunology. In May 2010, Dr. Irani accepted the position as medical director of the East Ann Arbor Infusion Center, Ambulatory Care Unit. He oversees all aspects of Infusion Center operations, and chairs the Non-Cancer Ambulatory Infusion Formulary Committee, a sub-committee of the institution's Pharmacy & Therapeutics Committee. In 2008, he was asked to join the editorial board of ASN NEURO, the online open-access journal of the Society for Neurochemistry. In this capacity, he reviews manuscripts and makes recommendations about their suitability for publication to the editor-in-chief. Since 2002, he has served as a scientific reviewer for the Charles A. Dana Foundation, critiquing proposals for both their Neuroimmunology and Brain and Immuno-Imaging Programs. Since February 2007, he has served as an ad hoc member of the Cellular and Molecular Biology of Glia Study Section at the National Institutes of Health. In this capacity, he reviews grant proposals, write critiques, and attends review committee meetings. He recently was asked to submit material to be considered for full committee membership.

Dr. Irani's book publication in 2009, Cerebrospinal Fluid in Clinical Practice, was a monumental achievement and a tremendous resource for neurologists throughout the world. Dr. Irani has been an attending neurologist in the Multiple Sclerosis Clinic from 1993 to the present.

External Review:

Reviewer A: “The quality of Dr. Irani’s research is excellent and the impact of his publications is very good....Dr. Irani has taught above expectation....At a National and International level, Dr. Irani served on several peer review panels, and other neuroimmunology/neurovirology committees. In addition he serves as Associate editor for two Journals....I believe Dr. Irani’s career will continue to flourish for years to come...”

Reviewer B: “Dr. Irani is highly respected in the field of neuroimmunology and neuroinfectious diseases. He exudes quiet leadership and is highly respected in the field. Moreover, he is widely respected as an educator, with a very high ranking from his previous institution...”

Reviewer C: “Dr. Irani has made a number of important contributions to our understanding of neurological responses to viral infection. One characteristic of his work is that it combines cutting edge science with a clear clinical focus....his current and emerging studies promise to provide critical insights into the biology and therapeutics of viral induced demyelination.”

Reviewer D: “...I would rate his scholarship and research highly....I’ve been very impressed by Dr. Irani’s ability to educate other study section members (almost all PhDs) with respect to the clinical implications of the applications being reviewed, as well as with his own mastery of translational neurobiology....he has been active as both a mentor for research pre- and post-doctoral fellows, and as a medical student teacher.”

Reviewer E: “...he has had excellent training in neurology and neurovirology. He has received peer reviewed funding, currently has an active RO1, and is well respected in both the neuroimmunology and multiple sclerosis (MS) fields.”

Reviewer F: “...David Irani is an excellent, versatile clinician investigator who has made a series of unique contributions to our understanding of neuroinflammatory disease....David Irani has every attribute one could want in a clinician-investigator...he’s a creative, focused and persistent researcher; a fine colleague, mentor and role model.”

Summary of Recommendation:

Dr. Irani is a nationally respected scholar in neuroimmunology. In addition to his excellent teaching skills, his research and his new book on cerebrospinal fluid reflect well on the University of Michigan. I am pleased to recommend David Irani, M.D. for tenure to be held with his title of associate professor of neurology, Department of Neurology, Medical School.



James O. Woolliscroft, M.D.

Dean

*Lyle C. Roll Professor of Medicine*

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