

Approved by the
Regents
May 21, 2015

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF NEUROLOGY
DEPARTMENT OF CELL AND DEVELOPMENTAL BIOLOGY

William T. Dauer, M.D., associate professor of neurology, with tenure, Department of Neurology, and associate professor of cell and developmental biology, without tenure, Department of Cell and Developmental Biology, Medical School, is recommended for promotion to professor of neurology, with tenure, Department of Neurology, and professor of cell and developmental biology, without tenure, Department of Cell and Developmental Biology, Medical School.

Academic Degrees:

M.D.	1990	Washington University
B.S.	1986	Duke University

Professional Record:

2009-present	Associate Professor of Neurology, University of Michigan
2009-present	Associate Professor of Cell and Developmental Biology, University of Michigan
2001-2009	Assistant Professor of Neurology, Columbia University

Summary of Evaluation:

Teaching: Since arriving at the University of Michigan in 2009, Dr. Dauer has actively and enthusiastically participated in the teaching of a diverse group of basic science and clinical learners, totaling roughly 600 hours/year. During his two weeks/year of in-service neurology attending he teaches M3 and M4 students (30 hours/year), as well as neurology residents (75 hours/year) in the diagnosis and management of patients with neurological disease, and he performs similar teaching in the course of his outpatient clinical work. Both medical students and residents find their time with Dr. Dauer beneficial to their education and recent comments from the medical student evaluations include "Working with him helped me to clarify my clinical thinking." "Dr. Dauer takes an interest in students and their education, and it makes it a pleasure to work with him as an M3." "His clinical acumen is very high and he has a great deal of knowledge and patience with which to answer students' questions." Dr. Dauer also educates movement disorders fellows by supervising their care of patients in a half-day weekly clinic (150 hours/year). His major teaching effort occurs in his basic research laboratory (7.5 hours/week), in which he mentors undergraduate students, Ph.D. students and post-doctoral scientists in the design and interpretation of hypothesis-driven scientific studies, the clear and effective publication of this work, and provides career guidance. He has served on three thesis committees. The successes of his trainees include acquiring funding (K award, MICHR PTSP award, NIH training grant support, foundation fellowships) and one of his recent trainees is currently a tenure track faculty member.

Research: Dr. Dauer's research aims at elucidating the molecular and cellular mechanisms of human diseases that disrupt motor function. His studies primarily involve developing and characterizing cell and mouse genetic models of inherited forms of Parkinson's disease and dystonia. His laboratory has made several original and highly significant advances since his last promotion, including developing novel insights into the mechanisms whereby LRRK2 dysfunction causes PD neurodegeneration and developing long sought mouse models of DYT1 dystonia and Emery-Dreifuss muscular dystrophy. This work has appeared in outstanding journals, including the *Journal of Clinical Investigation*, *Developmental Cell*, and *Proceedings of the National Academy*. Development of symptomatic mouse model of dystonia is a particularly notable recent advance, and is the basis for several ongoing studies exploring the molecular and circuit mechanisms of dystonia, and the development of therapeutics (in collaboration with Pharma). A related project on another inherited form of dystonia (DYT6) involving extensive *in vitro* and *in vivo* analyses is revealing fundamental and unexpected insight into dystonia pathogenesis; this work is expected to yield several impactful publications and R01 funding in the coming years. On September 12, 2014, Dr. Dauer was notified by NIH that his proposal for a Udall (Parkinson's Disease; P50) Center grant has been approved for funding by NINDS Council. The Udall Center will receive \$11.5 million (direct plus indirect over five years) to carry out studies combining human neuroimaging, early phase clinical therapeutic testing and basic animal modeling to develop a therapy for gait dysfunction and falls in Parkinson disease.

Recent and Significant Publications:

Liang C-C, Tanabe LM, Jou S, Chi F, Dauer WT: TorsinA hypofunction causes abnormal twisting movements and sensorimotor circuit neurodegeneration. *JCI* 124:3080-3092, 2014.

Shin, JY, Mendez-Lopez, I, Wang, Y, Hays, AP, Tanji, K, Lefkowitz, JH, Schulze, PC, Worman, HJ, Dauer WT: Lamina-associated polypeptide-1 interacts with the muscular dystrophy protein emerin and is essential for skeletal muscle maintenance. *Dev Cell* 26:591-603, 2013.

Kett LR, Boassa D, Ho CC, Rideout HJ, Hu J, Terada M, Ellisman M, Dauer WT: LRRK2 Parkinson disease mutations enhance its microtubule association. *Hum Mol Genet* 21:890-899, 2012.

Ulug AM, Vo A, Argyelan M, Tanabe L, Schiffer WK, Dewey S, Dauer WT, Eidelberg D: Cerebellothalamocortical pathway abnormalities in torsinA DYT1 knock-in mice. *Proc Natl Acad Sci USA* 108:6638-6643, 2011.

Kim CE, Perez A, Perkins G, Ellisman MH, Dauer, WT: A molecular mechanism underlying the neural-specific defect in torsinA mutant mice. *Proc Natl Acad Sci USA* 107:9861-9866, 2010.

Service: Dr. Dauer has provided exemplary service to his University of Michigan departments and to national organizations. For the Department of Neurology, he serves on the APAC committees for both instructional and research track faculty, the Executive Committee, and as chair led a successful search committee for the Neurology Genes, Environment and Behavior

faculty candidate. He also serves as the director of the movement disorders group. Nationally, he is chair of the Chronic Dysfunction and Integrative Neurodegeneration Study section, has been a member of the scientific boards of the Dystonia Medical Research Foundation and the Bachmann-Strauss Dystonia & Parkinson Foundation, chair or co-chaired major scientific sessions on Parkinson disease or movement disorders symposia for the American Academy of Neurology and the American Neurological Association and recently delivered an invited lecture at the annual meeting of the International Parkinson and Movement Disorder Society on his work in dystonia. Dr. Dauer cares for patients with movement disorders one half day/week and attends on the Neurology inpatient service for two weeks/year. His care of patients has been exemplary, as evidenced by multiple laudatory patient letters.

External Reviewers:

Reviewer A: "I think Dr. Dauer is terrific....Dr. Dauer is among the top physician scientists of his generation and is considered the top molecular and cellular dystonia research scientist."

Reviewer B: "...I view Dr. Dauer as one of the key figures in the field of dystonia and movement disorders. He has attained wide recognition for his innovative research. I place him in the top 10% of peers."

Reviewer C: "In addition to Bill's papers and grants, he has received many honors and institutional awards. He has lectured widely national [sic] and internationally at leading academic institutions. He has been a member of the CDIN NIH study section since 2010 and was just named chair of this study section from 2014-2016, a great honor....He serves on the editorial board of several journals, most notably as an associate editor for the Journal of Neuroscience, a very important honor and role."

Reviewer D: "Dr. Dauer is a rare breed of physician scientists who truly excels in basic research and clinical medicine. He has rigorous high level scientific activities and keeps up clinically with superb clinical skills and insights in movement disorders. I would put him up at the very top tier of this rare breed of true triple threats of academic neurology. In fact, I tried to recruit him to [my institution] a few years ago when I was there because I thought he was the best clinician scientist in our field among his contemporaries."

Reviewer E: "He has been a real pioneer in the field of nuclear envelope and generalized dystonia pathogenesis....Bill is frequently asked to give lectures both nationally and internationally which speaks to his recognition among his peers as a leader in his field. I would rank him as an outstanding clinician scientist doing basic pathophysiology research in the general field of movement disorders and neurodegeneration."

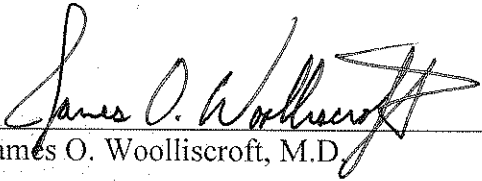
Reviewer F: "One of Dr. Dauer's hallmarks is that he is a beautiful writer. I can tell when he has been involved in a paper, even if he is just a co-author. He is also very scholarly; eh is careful and appropriate in assigning credit to others in the field. I am sure that he is a masterful grant writer....In terms of physicians who truly understand how alterations in the cell nuclear envelope relate to neurological disease, I would rank him among the best. Among neurologists, he is a

role model for medical students, residents, and fellows who aspire to careers in academic medicine.”

Reviewer G: “Dr. Dauer is a highly accomplished physician-scientist who has made many important contributions to enhance understanding of the pathogenesis of Parkinson disease and torsion dystonia.”

Summary of Recommendation:

Dr. Dauer is an internationally recognized physician-scientist with an exemplary record of high quality and innovative research, teaching, and service. It is with great pleasure that I recommend William T. Dauer, M.D. for promotion to professor of neurology, with tenure, Department of Neurology, and professor of cell and developmental Biology, without tenure, Department of Cell and Developmental Biology, Medical School.



James O. Woolliscroft, M.D.

Dean

Lyle C. Roll Professor of Medicine

May 2015