

PROMOTION RECOMMENDATION
UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF INTERNAL MEDICINE
DEPARTMENT OF CELL AND DEVELOPMENTAL BIOLOGY

Approved by the Regents
May 20, 2010

Deneen M. Wellik, Ph.D., assistant professor of internal medicine, Department of Internal Medicine, and assistant professor of cell and developmental biology, Department of Cell and Developmental Biology, Medical School, is recommended for promotion to associate professor of internal medicine, with tenure, Department of Internal Medicine, and associate professor of cell and developmental biology, without tenure, Department of Cell and Developmental Biology, Medical School.

Academic Degrees:

Ph.D.	1996	University of Wisconsin-Madison
A.B.	1986	Washington University in St. Louis

Professional Record:

2003-present	Assistant Professor of Internal Medicine, University of Michigan
2003-present	Assistant Professor of Cell and Developmental Biology, University of Michigan

Summary of Evaluation:

Teaching: Dr. Wellik has excelled in a variety of teaching settings, and has been very active in teaching developmental biology and genetics since her first year as an assistant professor, devoting approximately 15% of her time to this effort. Specifically, Dr. Wellik lectures for three contact hours in the Human Growth and Development sequence, one of the core modules for first-year medical students, and lectures for six contact hours in CDB 580, a graduate level course in Developmental Biology. Dr. Wellik's student evaluations have consistently ranked in the excellent to outstanding range, and she has been instrumental in the continuous re-design of the graduate student CDB 580 course. Since her involvement in the program, this course has expanded from being offered every two years with 8-12 students enrolled, to now being offered every year with 23 students attending in Spring 2009, a testament to her improvements in the course design and content. In addition to classroom teaching, Dr. Wellik currently has two post-doctoral fellows, two graduate students, and three undergraduate trainees in her laboratory. Her first graduate student defended her thesis in May of 2009, and two undergraduate students have performed undergraduate thesis work in her laboratory. Dr. Wellik has additionally served on ten dissertation and preliminary exam committees.

Research: Dr. Wellik's research focuses on the role of *Hox* genes in development and disease, particularly in dissecting the molecular pathways in which *Hox* genes operate and how disruptions in their expression contribute to limb and skeletal deformities. This is an extremely sophisticated area of developmental biology wherein Dr. Wellik has established herself as a

leading figure in *Hox* gene research. This painstaking work of generating multiple sets of triple and quadruple mutant mice has produced 14 peer-reviewed publications with several additional manuscripts currently under review in prestigious journals. It should be stressed that the generation of these complex mutant mice requires an enormous effort with several years expended in the “simple” production of these transgenic strains. Nevertheless, Dr. Wellik’s current trajectory is excellent as exemplified by the fact that she is currently the principal investigator on two R01s, and an additional grant which is funded by the NSF--all underscoring the keen interest engendered by her work within the scientific community. Furthermore, Dr. Wellik is an ad hoc reviewer for several highly recognized journals including *Development*, *Molecular & Cellular Biology* and *Development Biology*. She also serves the scientific community as an ad hoc reviewer for the NIH (DEV1) and other funding institutions. Dr. Wellik is a well-received lecturer who has a national, and growing international, reputation due to her expertise in the field of developmental genetics.

Recent and Significant Publications:

Wellik DM: *Hox* genes and vertebrate axial pattern. *Current Topics in Developmental Biology*, in press, 2009.

Nelson LT, Rakshit S, Sun H, Wellik DM: Generation and expression of a targeted *Hoxa11eGFP* allele in mice. *Developmental Dynamics* 237(11):3410-3416, 2008.

McIntyre DC, Rakshit S, Yallowitz AR, Loken L, Jeannotte L, Capecchi MR, Wellik DM: *Hox* Patterning of the Vertebrate Rib Cage. *Development* 134:2981-2989, 2007.

Gong K-Q, Yallowitz AR, Sun HS, Dressler GR, Wellik DM: A *Hox*-*Eya*-*Pax* complex regulates kidney developmental gene expression. *Molecular & Cellular Biology* 27(21):7661-7668, 2007.

Wellik DM, Capecchi MR: *Hox10* and *Hox11* genes are required to globally pattern the mammalian skeleton. *Science* 301:363-367, 2003.

Service: Dr. Wellik has played an extremely active role in University service. She has been a long-standing member of the Center of Organogenesis (2004-present) and has served on its Seminar Committee (2006-present), chairing the committee from 2006-2008. She has also served on the Symposium Committee for the Center since 2006, and has been active as a training grant reviewer for the program and in the bioartography initiative. In addition to these efforts, Dr. Wellik has also been very active in the Department of Cell and Developmental Biology, where she holds a secondary appointment. She has been a member of the Seminar Series Committee since 2005, chairing this committee from 2006-2008. She has also served on the Animal Care and Use Committee and was an Executive Committee member for the Department in 2007-2008. Additionally, Dr. Wellik serves on the MSTP Operating Committee (2006–present) and is a member of the Cell and Molecular Biology Training Program, serving as the past student seminar chair in 2007-2008, and on the Admissions Committee. Finally, beginning in this academic year, Dr. Wellik has agreed to serve on the Preliminary Exam Committee for Cellular and Molecular Biology.

External Review:

Reviewer A: “Dr. Wellik’s publications are marked by the precision with which she defines the problem to be addressed, the command of technical approaches she is capable of mastering, and above all, the thoroughness of the analysis of the questions addressed...Dr. Wellik is a focused, highly productive, mature, thoughtful and creative scientist and scholar. This description of accomplishments and attributes, coupled with her energy and enthusiasm for science places her among the very best of the scientists [in her cohort] in the field of developmental genetics.”

Reviewer B: “...based on my appraisal of her published studies and comments from leaders in the field of developmental biology, I have formed the opinion that Dr. Wellik is one of the top investigators [of her cohort] in the world studying *hox*-dependent body patterning in mice. I support her promotion with highest enthusiasm...In addition to generating a strong publication record, Dr. Wellik has participated in a wide variety of extramural activities while establishing her independent research program...She has been an ad-hoc member of NIH Study Sections, trained several post-doctoral fellows and graduate students and is...active in the graduate school curriculum...she is just the kind of colleague I would like to have in the office down the hall.”

Reviewer C: “Deneen is highly respected within the field for the quality of her publications. She always strives to produce a beautiful and highly significant set of data that leads to novel insights into the biology of embryonic patterning. For a number of years, I have used Deneen’s Science publication as a teaching tool for our graduate school classes because it tells a logical and impressive story that leads the students to a new level of knowledge, both about developmental biology as well as the sophistication and power of mouse genetics.”

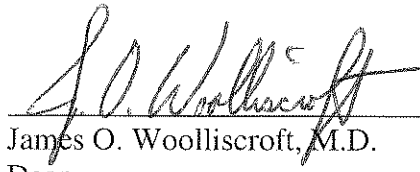
Reviewer D: “Dr. Wellik is frequently invited to speak about her work in meetings in several areas of Developmental Biology and Medicine...in a few years, Dr. Wellik established herself as a successful group leader and a leading figure in the highly competitive field of Hox genes.”

Reviewer E: “As an independent investigator, Dr. Wellik has forged a distinct and important niche in both the highly competitive fields of axial skeletal patterning and kidney development...Since Dr. Wellik’s current and future research directions are based directly upon the deep and sound foundation she has built from her own independent research, I anticipate that her research program both in mammalian axial skeletal and kidney development will continue to be highly productive and will further expand and blossom in future years...Dr. Wellik’s work will have a major and substantial impact on her areas of research...Dr. Wellik’s work is, indeed, ground-breaking. The expertise required to bring a research project to completion in this field of research, coupled with the extremely long times needed to successfully generate mutant mice via genetic engineering, means that only outstanding research is published and only after lengthy periods of fully-dedicated time.”

Reviewer F: “Not only is she doing unique work, no one else...has even maintained the large number of mutant mouse lines required to continue the analysis on a deeper level. This is an enormous undertaking even for a very well established lab. To do so as a new independent investigator displayed both insight into what is really important, and a great deal of bravery.”

Summary of Recommendation:

Dr. Wellik is an outstanding candidate for associate professor, with tenure. Her scientific efforts have raised the bar in the transgenic *Hox* world on several levels. Her insightful and persistent focus has paved the way for Dr. Wellik to be considered at the top of her field. Her passion for teaching has been recognized with high marks from her students at all levels. Finally, her presence in the developmental biology world-at-large is growing and I am confident she will remain a leading figure in the highly competitive field of *Hox* gene regulation. Therefore, I am pleased to recommend Deneen Wellik, Ph.D. for promotion to associate professor, with tenure, Department of Internal Medicine, and associate professor, without tenure, Department of Cell and Developmental Biology.



James O. Woolliscroft, M.D.

Dean

Lyle C. Roll Professor of Medicine

May 2010