

PROMOTION RECOMMENDATION
UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY

Christiane E. Wobus, Ph.D., assistant professor of microbiology and immunology, Department of Microbiology and Immunology, Medical School, is recommended for promotion to associate professor of microbiology and immunology, with tenure, Department of Microbiology and Immunology, Medical School.

Academic Degrees:

Ph.D.	2000	German Cancer Research Institute, Heidelberg, Germany
M.S.	1997	Michigan State University
B.S.	1994	University of Göttingen, Göttingen, Germany

Professional Record:

2007–present	Assistant Professor of Microbiology and Immunology, University of Michigan
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Summary of Evaluation:

Teaching: Dr. Wobus is a dedicated and capable teacher of department courses for medical and graduate students. She teaches in Microbiology 615, a literature-based graduate level course which focuses on cellular and molecular mechanisms of viral pathogenesis. In that course, Dr. Wobus commits roughly 72 hours of contact and presentation time, with additional time devoted periodically to course restructuring. Her evaluations are uniformly strong; written comments from students applauded her strengths in explaining material. Her commitment to teaching follows through in her training of students and post-doctoral fellows. She has attracted five graduate students, 18 undergraduate students and six post-doctoral fellows to train with her since she joined the faculty at Michigan. Many of these graduate students and fellows have successfully published their work in good journals and obtained honors, awards and opportunities for presenting their work at national meetings in the field. A student who graduated from her lab was first author of three publications and second author of three more. Dr. Wobus is sought after by students in other labs to serve on their thesis committees, having served on seven of these, in addition to those of her students, since 2007. She has served on 20 student preliminary examination committees in several graduate programs. In addition to the graduate program in Microbiology and Immunology, she is a member of the training faculty for two interdepartmental graduate programs.

Research: Dr. Wobus leads a thriving research program directed at understanding the basic biology of norovirus infections. As of this date, her publications have been cited over 1,800 times with an H-index of 18. In her post-doctoral research before coming to Michigan, she advanced norovirus research in two important ways. First, she discovered a murine norovirus. Second, she developed a tissue culture system for that norovirus. These advances allowed the

development of the first model systems for investigating norovirus infections. Since beginning her own lab at the University of Michigan, she has continued to make important discoveries relevant to norovirus infection and disease prevention. She has done so by recruiting and training a large and talented cohort of junior investigators, which includes undergraduates, graduate students and post-doctoral fellows. Her lab described the structure of the murine norovirus capsid protein which binds to host cell surfaces. They determined the mechanism of virus entry into murine macrophages. They identified a role for host ubiquitin pathways in resistance to norovirus infection and characterized a deubiquitinase inhibitor for its potential antiviral activities. Most significantly, they developed a mouse infection model for human norovirus infection, which opens a path to direct mechanistic studies of human norovirus infections. Dr. Wobus has also cultivated strong collaborations with other senior investigators at Michigan and elsewhere, which has broadened the reach of her norovirus research and strengthened studies of some very different infectious microorganisms. The strength of Dr. Wobus' research program is indicated by the quantity and quality of her publications, the financial support it has received through numerous research grants and her many invitations to speak about her work. Since joining the faculty at the University of Michigan, she has co-authored one U.S. patent application and 24 papers, 13 as senior author in high quality journals. She is the PI (or co-PI) on an NIH R01 grant, two NIH R21 grants and a DOD DARPA grant. In that same period, she has given 27 lectures or oral presentations at universities, medical schools and national or international conferences.

Recent and Significant Publications:

Taube S, Rubin JR, Katpally U, Smith TS, Kendall A, Stuckey JA, Wobus CE: High resolution X-ray structure and functional analysis of the murine norovirus (MNV)-1 capsid protein protruding (P) domain. *Journal of Virology* 84:5695-5705, 2010.

Perry J and Wobus CE: Endocytosis of murine norovirus 1 (MNV-1) into murine macrophages is dependent on dynamin II and cholesterol. *Journal of Virology* 84:6163–6176, 2010.

Taube S, Perry JW, McGreevy E, Yetming K, Perkins C, Henderson K, Wobus CE: Murine noroviruses (MNV) bind glycolipid and glycoprotein attachment receptors in a strain-dependent manner. *Journal of Virology* 86:5584-5593, 2012.

Perry JW, Ahmed M, Chang K.-O, Donato NJ, Showalter HD, Wobus CE: Antiviral activity of a small molecule deubiquitinase inhibitor occurs via induction of the unfolded protein response. *PLoS Pathogens* 8:e1002783, 2012.

Taube S, Kolawole AO, Höhne M, Wilkinson JE, Handley SA, Perry JW, Thackray LB, Akkina R, Wobus CE: A mouse model for human norovirus. mBIO (accepted for publication, 2013).

Service: Dr. Wobus serves ably on faculty committees, bringing the same focus and insight to these activities that she does to her research and teaching. In the Department of Microbiology and Immunology, she has served on the Graduate Studies Committee and the Appointments, Promotions and Awards Committee. At the institutional level, Dr. Wobus served on advisory committees for the interdisciplinary graduate programs in Cellular and Molecular Biology

(CMB) and Immunology. Additionally, she co-chaired a one-day symposium at the University of Michigan entitled, "Microbial Interactions at Mucosal Surfaces." At the national and international levels, she served as ad hoc reviewer for 19 journals, as a guest editor for *Current Opinion in Virology* and as an editorial board member for the *Journal of General Virology*. She reviewed grant applications for 13 national or international research funding agencies. Thus, Dr. Wobus' efforts are contributing in key ways to our mission.

External Reviewers:

Reviewer A: "Simply put, the rigor, creative elegance, and significance of Dr. Wobus's [sic] studies place her at the top of her field. Given the appropriate resources, she will have decades of exciting and influential science in the future....She is a leader in the field of norovirus biology and continues to perform studies that shed light on how this virus causes diseases."

Reviewer B: "Christiane has established a vibrant independent laboratory at the University of Michigan, successfully obtained impressive external grant funding and continued to publish seminal papers on key aspects of the norovirus replication cycle, focusing on virus-host interactions."

Reviewer C: "She works on a class of viruses that are very important human pathogens and that have proven difficult to study over the past 30 years because of tractable model systems. She has been in the vanguard of developing such systems....Dr. Wobus is clearly perceived as a rising star both nationally and internationally in the area of enteric viruses and norovirology."

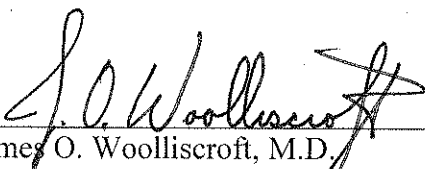
Reviewer D: "...Dr. Wobus has carved out an important niche for herself that should allow her to continue forward as a well-respected and creative leader in the norovirus field....Her publication record, grantsmanship, and service record have all been outstanding as an Assistant Professor. She has established herself as one of the leading and most influential scientists [of her cohort] in the norovirus field, providing many of the essential insights and advances that have allowed the field to advance and for her fellow scientists to probe new areas of norovirus biology and pathogenesis. I have no doubt that she will continue to be a highly productive investigator and that her future contributions to the field will be significant."

Reviewer E: "I believe that Dr. Wobus has become a nationally and internationally recognized expert on noroviruses....I have heard Dr. Wobus speak a number of times and I can confirm that she is a clear and compelling communicator. There is no doubt that she is viewed as a talented, creative, and productive virologist both in her field and beyond."

Reviewer F: "...Christiane's publication record and extramural funding are excellent, and her impact in the field bodes extremely well for the future. She is an educator, a mentor, and a respected community contributor. She would certainly be offered tenure and promotion at my own institution, and you are indeed fortunate to have her!"

Summary of Recommendation:

Dr. Wobus has distinguished herself as an outstanding researcher who has earned the respect of her peers in the field and the admiration of her colleagues at Michigan. She is a leader in an important and medically relevant field of research. She is clearly on a trajectory to advance her field significantly. She has made outstanding contributions in research, teaching and service, and she shows great promise for continued growth as a scholar and colleague. I enthusiastically recommend Christiane E. Wobus, Ph.D. for promotion to associate professor of microbiology and immunology, with tenure, Department of Microbiology and Immunology, Medical School.


James O. Woolliscroft, M.D.
Dean
Lyle C. Roll Professor of Medicine

May 2014