

PROMOTION RECOMMENDATION
The University of Michigan
College of Literature, Science, and the Arts

Ursula H. Jakob, associate professor of molecular, cellular, and developmental biology, with tenure, College of Literature, Science, and the Arts, is recommended for promotion to professor of molecular, cellular, and developmental biology, with tenure, College of Literature, Science, and the Arts [also associate professor of biological chemistry, without tenure, Medical School].

Academic Degrees:

Ph.D. 1995 University of Regensburg
Diplom (M.S.) 1991 University of Regensburg

Professional Record:

2010 – present Associate Professor, Department of Biological Chemistry, University of Michigan
2007 – present Associate Professor, Department of Molecular, Cellular, and Developmental Biology, University of Michigan
2001 – 2007 Assistant Professor, Department of Molecular, Cellular, and Developmental Biology, University of Michigan
1999 – 2001 Assistant Research Scientist, Department of Biology, University of Michigan

Summary of Evaluation:

Teaching – Professor Jakob has provided important teaching contributions to her department, including the 300-level introductory biochemistry course, 400-level bacterial physiology course, and a graduate course designed to train students in paper writing, grant preparation and effective scientific presentations. Student evaluations are consistently high in spite of the rigorous grading in some of these courses. Professor Jakob has demonstrated a strong commitment to research training. She has provided research opportunities for undergraduates in her own laboratory, as well as co-sponsoring a large number of undergraduates carrying out research outside of her department. She has also trained many graduate students in her lab, including numerous students enrolled in German universities, and she has served on the thesis committees of over a dozen students. Students praise her passion and enthusiasm as well as her concern for their careers.

Research – Professor Jakob’s research focuses on the proteins involved in protein folding known as “heat shock proteins” (HSPs). Her work has caused a paradigm shift in the understanding of how HSPs operate, establishing herself one of the top investigators in this area. Her research grant from the National Institutes of Health (NIH) was recently renewed and she is often invited to give talks about her work at international conferences and universities around the world. She recently began a second line of research into protein oxidation and she has received funding from the NIH for this project as well. She has consistently produced high profile publications in the top journals in her field.

Recent and Significant Publications:

“Bleach activates a redox-regulated chaperone by oxidative protein unfolding,” with J.

Winter, et al., *Cell*, 135, 2008, pp. 691-701.

“Quantifying changes in the thiol redox proteome upon oxidative stress *in vivo*,” with L. I. Leichert, et al., *Proceedings of the National Academy of Sciences, USA*, 105, 2008, pp. 8197-8202.

“Effects of oxidative stress on behavior, physiology, and the redox thiol proteome of *Caenorhabditis elegans*,” with C. Kumsta and M. Thamsen, *Antioxidant and Redox Signaling*, October 2010, epublication ahead of print.

Service – Professor Jakob has served with distinction on a variety of departmental and interdepartmental committees since her promotion in 2007. In her department, she has served as chair of the Graduate Student Affairs Committee, the ADVANCE STEP Committee, the Executive Committee, and two tenure review panels. She has also served at the college and university levels on the Biomedical Research Council and as associate director for the interdepartmental Cell and Molecular Biology Graduate Program. At the national level she participated in an NIH grant panel and at the international level she organized the International Union of Microbiological Societies in 2008.

External Review:

Reviewer (A)

“...Dr. Jakob...has developed an extremely strong independent research program during her years at the University of Michigan. ... She is a first-rate scientist who not only has the highest experimental standards, but communicates her work extremely well both verbally and in writing.”

Reviewer (B)

“She has become a leader and innovator, moving to the very top rank of scientists. Specifically, she has set a paradigm for a whole new class of stress proteins... Ursula is an excellent communicator and passionate about her teaching and mentorship. ...[she] is a spectacular scientist and a great community member.”

Reviewer (C)

“She is one of the top people in understanding how the redox state of the proteome is regulated. I have every reason to believe that she will continue to develop new methodology, discover new redox regulated proteins and discover new features of biology centered around redox regulation. She compares favorably [sic] to other full professors in the general area of stress biology.”

Reviewer (D)

“In that short time [since 2006] she has published a number of high-profile papers that have shaped the field. ... Dr. Jakob is a scientist at the top of her game. Her lab is well supported by independent grants... Only a handful of people worldwide rank with Ursula in terms of the understanding she has brought to oxidative stress.”

Reviewer (E)

“The work on Hsp33 is simply phenomenal. It ranges from elegant genetics and whole-cell experiments...all the way to structural biology. ... Ursula is clearly the leader in the field that

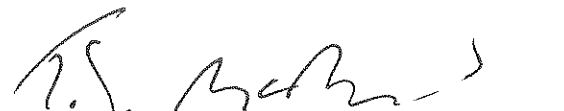
she initiated and she is well respected internationally for her achievements. ... Ursula is on the top of her [generation]. She is exceptionally innovative, fearless, and thorough.”

Reviewer (F)


“I believe that Ursula merits this promotion. Were she at [my institution], I think her accomplishments would merit promotion here as well.”

Summary of Recommendation:

Professor Jakob is a leader in her field. She is sought after as a speaker for scientific conferences and university seminars. She is a passionate and dedicated teacher. Her service contributions are extensive and include leadership roles at the departmental and university levels and in the broader academic community. The Executive Committee of the College of Literature, Science, and the Arts and I recommend that Associate Professor Ursula H. Jakob be promoted to professor of molecular, cellular, and developmental biology, with tenure, College of Literature, Science, and the Arts.



Terrence J. McDonald
Arthur F. Thurnau Professor,
Professor of History and Dean
College of Literature, Science, and the Arts



James O. Woolliscroft
Lyle C Roll Professor of Medicine and Dean
Medical School

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