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

Jens-Christian D. Meiners, assistant professor of physics, College of Literature, Science, and the Arts, is recommended for promotion to associate professor of physics, with tenure, College of Literature, Science, and the Arts. (Also being promoted to associate research professor in the Biophysics Research Division.)

Academic Degrees:

1997	Ph.D.	Universität Konstanz
1994	M.S.	University of Delaware
1991	B.A.	Universität Konstanz

Professional Record:

2000 – present	Assistant Professor, Department of Physics, and Assistant Research Scientist, Biophysics Research Division, University of Michigan
1997 – 2000	Postdoctoral Scholar, Biophysics, California Institute of Technology

Summary of Evaluations:

Teaching – Professor Meiners has successfully taught at several levels and has demonstrated a remarkable commitment to undergraduate and graduate education. His evaluations are solid and student comments are quite positive. He has been research advisor for eighteen undergraduate researchers and is supervising six graduate students. He also led the Research Experiences for Undergraduates (REU) program for four years which provides summer research opportunities for about 30 Michigan students each year. This program has been very successful and was approved for another three years of funding by the National Science Foundation. It's continued success is a tribute to Professor Meiners' energetic leadership.

Research – Professor Meiners' research area is in the area of DNA polymer physics as well as regulation and control of DNA expression. His success has been impressive and he has published thirteen major journal papers with three additional papers submitted and two more in preparation. He has also presented over 30 conference papers. He has been effective in getting outside funding and received a Research Corporation grant, a Sloan Fellowship, and a five-year RO1 grant from the National Institutes of Health (NIH), among others. In further evidence of the esteem in which he is held by the biophysics community, Professor Meiners has been asked to serve on an NIH Study Section.

Recent and Significant Publications:

"Microfluidic chip for low flow push-pull perfusion sampling in vivo with online analysis of amino acids," with N. A. Cellar, et al., *Analytical Chemistry*, 77, 2005, p. 7076.

"3D characterization of tethered microspheres by total-internal-reflection microscopy," with S. Blumberg, et al., Biophysical Journal, 89, 2005, p. 1272.

"All-optical constant-force laser tweezers," with R. Nambiar and A. Gajraj, *Biophysical Journal*, 87, 2004, p. 1978.

"Particle transport in asymmetric scanning line optical tweezers, with B. Liesfeld and R. Nambiar, *Physical Review E*, 68, 2003, p. 51907.

Service – Professor Meiners joined our faculty at a time when the Department of Physics and the Biophysics Research Division were facing retirement of key faculty. As a result, he was faced with carrying a large service load in both units and he has proved himself to be a valuable resource. In addition to his membership on several joint committees, he made a major contribution to the Department of Physics by running the REU program. He is currently chairing the Biophysics Planning Committee, which is charged with development of a long range plan for that science in the College.

External Reviews:

Reviewer (A)

"Chris Meiners is one of the researchers [of his generation] who is widely recognized as working on interesting systems, coming up with fundamental technical innovations and producing high quality results. ... It is very predictable that other universities will try to hire him and, in my opinion, Michigan would be well advised to make an effort to keep him..."

Reviewer (B)

"He has made significant contributions in both experiments and theory, and he has applied single-molecule methods to important biological problems: DNA looping and RNA folding. ... The future research is exciting and demonstrates a grasp of significant problems."

Reviewer (C)

"As I'm sure you appreciate by now, he is a very good and careful scientist and a wonderful colleague. In addition to his published record, his lab is bursting with new results which indicate a bright and productive future. There is no question that he deserves tenure at Michigan."

Reviewer (D)

"His NIH grant and involvement in a NIH Study Section are significant and demonstrate his potential for engagement in the biological community at a national level. I believe that Jens-Christian Meiners has not only forged a solid research record at this point, but is an emergent leader in his chosen area of research."

Reviewer (E)

"In the spring of 2002...we began a series of experiments using a method known as the Tethered Particle Method in which a bead is attached to a piece of DNA which is itself attached to a microscope slide. ... The reason I say all of this is that at every step of the way as we have worked to develop this technique, we have looked to Meiners for both inspiration and guidance."

Reviewer (F)

"Dr. Meiners's has demonstrated expertise in the areas of polymer physics and single molecule measurements. He has extended his physical investigations to explore aspects of the biological function of nucleic acids, in particular the role of force in regulating transcription. ...he shows high promise to continue and expand his research enterprise."

Reviewer (G)
"...I can say that he has made several solid, even exciting, contributions to both polymer physics and experimental methods for advancing our knowledge of single molecule dynamics."

Reviewer (H)
"Meiners is exactly the sort of person I would like to have in my department: He is doing interesting work in an area of physics that is clearly going to be one of the most timely and important areas in the coming few years. I think that Meiners is making his mark in this area, and will continue to evolve toward [being a] real leader in the field."

Summary of Recommendation:
Professor Meiners has shown the highest intellectual quality, productivity, inventiveness, and leadership in creating and disseminating knowledge in physics. The Executive Committee of the College of Literature, Science, and the Arts and I recommend that Assistant Professor Jens-Christian D. Meiners be promoted to the rank of associate professor of physics, with tenure.

Terrence J. McDonald, Dean
College of Literature, Science, and the Arts

May 2006