Approved by the Regents May 15, 2014

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

Annette M. Ostling, assistant professor of ecology and evolutionary biology, College of Literature, Science, and the Arts, is recommended for promotion to associate professor of ecology and evolutionary biology, with tenure, College of Literature, Science, and the Arts.

Academic Degrees:

Ph.D.	2004	University of California, Berkeley
M.S.	1999	University of Illinois, Urbana-Champaign
A.B.	1994	Columbia University

Professional Record:

2006 – present	Assistant Professor, Department of Ecology and Evolutionary Biology, University of Michigan
2004 – 2006	Council on Science and Technology Postdoctoral Fellow, Princeton University

Summary of Evaluation:

Teaching – Professor Ostling is a good instructor at the introductory level, a strong instructor at the graduate level, and an outstanding research mentor to both undergraduate and graduate students. Her teaching statement reflects her careful thinking about the structure of her lectures, especially in the large introductory courses she has taught. Her General Ecology (Biology 281) course attracts a broad population of students (biology, ecology, environment, and others) and she successfully merges theoretical and empirical aspects of the science.

Research – Professor Ostling is well-respected for her research contributions in the field of theoretical ecology. She develops ecological theory to understand some of the most puzzling patterns on earth like immense numbers of species in certain ecosystems despite seemingly similar resource requirements, and associated empirical (macroecological) regularities observed in nature for ensembles of individuals across ensembles of species. Her papers taken together set the stage for Professor Ostling to play an important role in further development of a deeper and more testable diversity theory. She is one of a handful of theoreticians with sufficient mathematical knowledge and analytical abilities to construct such a theory. Her productivity is strong with 32 papers at the start of her tenure review process and five currently under review. Professor Ostling has received a substantial National Science Foundation (NSF) grant from the Advancing Theory in Biology program in a highly competitive process. She has participated in one NSF review panel, contributed numerous reviews for journals, and has been invited to participate in a prestigious Gordon conference.

Recent and Significant Publications:

"How specialized must natural enemies be to facilitate coexistence among plants?" with B. Sedio, *Ecology Letters*, in press.

"Revising the tolerance-fecundity tradeoff, or on the consequences of discontinuous resource use," with R. D'Andrea and G. Barabas, *American Naturalist*, 181: E91-E101, 2013, DOI: 10.1086/669902.

"Species packing in nonsmooth competition models," with G. Barabas and R. D'Andrea, *Theoretical Ecology*, 6(1), 2013, pp. 1-19, DOI: 10.1007/s12080-011-0151-z pdf (online publication: January 2012).

"Large-scale spatial synchrony and the stability of forest biodiversity revisited," *Journal of Plant Ecology*, 5, 2012b, pp. 52-63, DOI: 10.1093/jpe/rtr035.

Service – Professor Ostling has provided strong service to the department and the external community. She has been an active participant on several important committees in Ecology and Evolutionary Biology and was a co-organizer of the department's Early Career Scientist Symposium (2007-2008). She chaired the seminar committee for several years and made important changes in the speaker selection process. She has served the larger community as organizer for two symposia/oral sessions at annual meetings of the Ecological Society of America. She has also served as a reviewer for a large number of scientific journals, both broadly based (*Science*, *Nature*, *PLos ONE*, *PNAS*) and high impact journals in her field (*Ecology*, *Oecologia*, *American Naturalist*). Professor Ostling has participated in broader outreach efforts to recruit and mentor women in science. She has run focus groups for university efforts in this area, including Women in Science and Engineering (WISE) and Girls in Sciences and Engineering (GISE).

External Reviewers:

Reviewer (A)

"…I see Dr. Ostling growing as a scientist as her thinking becomes even more tightly integrated with experiments. Her outstanding skills as a mentor serve both the field and her own future, through sensitive appreciation and fostering of new ideas. These talents and energy make her an ideal member of the faculty…and I am delighted to recommend her without reservation for promotion and tenure."

Reviewer (B)

"The bottom line is that Annette is very good. … She publishes regularly in the first-rate peer-reviewed journals, has obtained grant support (including a NSF grant), is mentoring Ph.D. students and postdocs who are going on to good positions, and is earning a growing reputation in her field as indicated by invitations to workshops, seminar visits, and reviewing."

Reviewer (C)

"She has several strong related research thrusts where she is pursuing well thoughtout [sic] agendas. In achieving her goals, she has shown considerable skill in assembling teams to produce an impressive body of work."

Reviewer (D)

"…[Professor Ostling] has an extraordinary gift for conceiving fresh ideas and defining them rigorously in theory and models to address many of the major conceptual issues and unsolved problems in community ecology."

Reviewer (E)

"…several of Ostling's papers are major theoretical advances, reflected in the journals where they appeared (*Nature*, *American Naturalist*, *Ecology Letters*… Her papers typically include cogent and thorough reviews of the main theory, a careful historical understanding, and reflect deep thinking on complex topics."

Reviewer (F)
"...it is clear that Dr. Ostling has very recently published a truly impressive number of papers in the very top journals...and leading specialized journals...that have established her as one of the more innovative researchers working on neutral theory. My own read of these papers is that they are quite clever (she clearly has very good ability in model development and analysis)..."

Reviewer (G)
"I am impressed by the quality and novelty of several of the lines of research that Dr. Ostling is pursuing. Her work on tradeoffs and multi-species coexistence is excellent, as are her analyses of the role of neutral processes. I think, though, that her most significant work will come from the synthesis of niche and neutral perspectives that she has recently undertaken. In particular, Dr. Ostling has begun pursuing the analytical formalization of stochastic niche theory. Only someone with her mathematical skills will be able to address this important issue and thus develop the next wave of ecological theory. I eagerly await her findings."

Reviewer (H)
"Annette is highly motivated for all the right reasons -- a sense of joy in doing good science and a love of ecology. I am convinced that she is progressing on track to a long brilliant career in ecology. I doubt I could design from scratch a better candidate for a tenured position in theoretical ecology."

Summary of Recommendation:
Professor Ostling is an internationally-recognized scholar in community ecology, an excellent teacher and mentor of undergraduate and graduate students, and a valuable citizen of the department and her professional community. The Executive Committee of the College of Literature, Science, and the Arts and I recommend that Assistant Professor Annette M. Ostling be promoted to the rank of associate professor of ecology and evolutionary biology, with tenure, College of Literature, Science, and the Arts.

Susan A. Gelman
Heinz Werner Distinguished University Professor,
Professor of Psychology and Interim Dean,
College of Literature, Science, and the Arts

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