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

James Bardwell, 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 holds an appointment as associate professor of biological chemistry, without tenure, Medical School.)

Academic Degrees:

1987	Ph.D.	University of Wisconsin, Madison
1981	B.S.	University of Saskatchewan

Professional Record:

2005 – present	Associate Professor, Department of Biological Chemistry, Medical School, University of Michigan
2001 – present	Associate Professor, Department of Molecular, Cellular, and Developmental Biology, University of Michigan
1996 – 2001	Assistant Professor, Department of Biology, University of Michigan
1993 – 1995	Alexander von Humboldt Postdoctoral Fellow, Universitat of Regensburg, Germany
1989 – 1993	Postdoctoral Research Associate/Helen Hay Whitney Fellow, Harvard University
1987 – 1989	Fogarty Fellow, National Cancer Institute

Summary of Evaluations:

Teaching – During Professor Bardwell's four years in rank as an associate professor, he has had a strong teaching record. He has participated in two important undergraduate course offerings: cell biology and protein structure and function. He has made significant improvements to the cell biology course and has incorporated recent research findings into his lectures. The protein structure course exposes students to the rapidly advancing field of bioinformatics. Here he has incorporated computer simulations as well as primary research articles, and he emphasizes critical thinking and experimental design—all of which have been very well received. In addition to teaching formal courses, Dr. Bardwell has effectively mentored many undergraduates, graduate students, and postdoctoral associates in his research laboratory.

Research – Since his promotion to associate professor, Professor Bardwell has continued to study key steps in the synthesis of disulfide bonds and related processes in living cells. His research productivity during this period has been impressive, with 14 research articles and 14 review papers published during his time in rank. His work has appeared in the very best journals in the field, including *Proceedings of the National Academy of Sciences*, the *European Molecular Biology Organization (EMBO) Journal, Science,* and the *Journal of Biological Chemistry*. He has been successful at obtaining a high level of funding for his research program, consistently holding two federal research grants at a time. His prominent stature in the field is evident from the invitations he has received to write review articles and to present his research in seminars and

international scientific meetings. His research excellence has been recently recognized with his appointment as a Howard Hughes Medical Investigator, a prestigious national honor.

Recent and Significant Publications:

"Mutational analysis of the disulfide catalysts DsbA and DsbB," with J. Tan and Y. Lu, *Journal of Bacteriology*, 187, 2005, pp. 1504-1510.

"A de novo engineered pathway for the formation of protein disulfide bonds," with L. Masip, et al., *Science*, 303, 2004, pp. 1185-1189.

"Disulfide bond formation involves a quinhydrone-type charge-transfer complex," with J. Regeimbal, et al., *Proceedings of the National Academy of Sciences USA*, 100, 2003, pp. 13779-13784.

"Reconstitution of a disulfide isomerization system," with J. F. Collet, et al., *Journal of Biological Chemistry*, 277, 2002, pp. 26886-26892.

Service – Professor Bardwell's service record has been appropriate. He performed admirably for a year as the Department's Associate Chair of Graduate Studies. He was effective as a member of several search committees and the departmental Ph.D. admissions committee, a member of various graduate student program committees at the University level, and a member of two grant review panels and two scientific meeting organizing committees at the national level.

External Reviews:

Reviewer (A)

"He is among the top few scientists in the world in the field of disulfide bond biochemistry and function. There is certainly nobody in that field that I would put above him. ... I am certain, based on his record, on his ability to combine sophisticated genetics and sophisticated biochemistry, and on his ability to smell out unique and interesting subjects, that Jim will continue to be a leader in his field."

Reviewer (B)

"...I think extremely highly of him and believe him to be one of two or three world's experts in oxidative reductive stress and signaling in cells, as well as disulphide bond formation. He is now tackling the bold topic of protein experimental evolutions. He is always rigorous and creative and is definitely a first rank scientist. In addition, although I have never seen him teach, James' research lectures are superb. I strongly believe that he would receive a similar promotion at my institution..."

Reviewer (C)

"James clearly stands out as one of a few outstanding scientists [of his generation] in the field of protein folding. ... James is a very creative and productive researcher. He has a depth of knowledge and insight that are rarely seen."

Reviewer (D)

"Jim has continued to make important contributions, has been selected by his peers to organize important research conferences and has recently been selected as a Howard Hughes Medical Institute investigator. ... With his broad expertise in biochemistry, microbiology, physiology and genetics, he is the perfect fit for a biology department because he brings so many strengths."

Reviewer (E)
"Jim is one of the most innovative, imaginative and successful scientists that I have encountered. Jim thinks broadly and deeply and has established an international reputation as a clear leader in the [sic] protein folding as evidenced by his recent selection to become an Investigator at the Howard Hughes Medical Institute."

Reviewer (F)
"He has established himself as a major contributor and important figure in a contemporary area of science of wide interest and impact. He has demonstrated creativity, ingenuity, ability to identify important and approachable scientific issues and a pattern of sustained scientific contributions. I am confident that his career will continue to flourish and that his prominence and importance will continue to increase."

Reviewer (G)
"Jim's stellar publication record, the impact of his findings and the momentum of his research unquestionably put him at the top of the microbiology community."

Reviewer (H)
"...I believe that Jim is one of the best prokaryotic molecular biologists in his peer group. I think the fact that he was just appointed a Howard Hughes Medical Investigator demonstrates that others share this view."

Summary of Recommendation:
Professor Bardwell is a highly visible, creative, and productive researcher. He is a dedicated, conscientious teacher and has provided helpful service to the Department and the University. The Executive Committee of the College of Literature, Science, and the Arts and I recommend that Associate Professor James Bardwell be promoted to the rank of professor of molecular, cellular and developmental biology, with tenure.

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

Allen S. Lichter, M.D., Dean
Medical School

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