

Approved by the Regents  
May 14, 2009

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

Jianzhi Zhang, associate professor of ecology and evolutionary biology, with tenure, College of Literature, Science, and the Arts, is recommended for promotion to professor of ecology and evolutionary biology, with tenure, College of Literature, Science, and the Arts.

Academic Degrees:

Ph.D.	1998	Pennsylvania State University
M.S.	1994	Fudan University
B.S.	1992	Fudan University

Professional Record:

2005 – present	Associate Professor, Department of Ecology and Evolutionary Biology, University of Michigan
2001 – 2005	Assistant Professor, Department of Ecology and Evolutionary Biology, University of Michigan
1999 – 2001	Fogarty Postdoctoral Fellow, National Institute of Allergy and Infectious Diseases, National Institutes of Health

Summary of Evaluation:

Teaching – Professor Zhang is a conscientious, dedicated, and rigorous instructor, filling several crucial roles in our educational mission. At the undergraduate level, he teaches genetics, a required course for almost all the life sciences concentrations with a very large enrollment. At the graduate level, he excels in his teaching of a course in molecular evolution and systematics, which covers critical material for students in evolutionary biology. He also regularly leads a popular seminar in molecular evolution that attracts students from multiple departments. Professor Zhang is widely recognized for his truly outstanding graduate student mentorship—he attracts excellent students who typically publish regularly in top-ranked journals well before they defend their dissertations and go on to prestigious postdoctoral fellowships.

Research – Professor Zhang has been very productive, publishing a wealth of innovative and influential studies in leading scientific journals that have firmly established him as a leading scholar in the field of molecular evolution. They often meld computational and experimental approaches in a highly original manner, such as in his groundbreaking studies of convergent evolution in Asian and African leaf-eating monkeys. Professor Zhang’s research program continues to grow and to diversify in scope. Most recently, he has achieved prominence in the evolution of genetic networks, a highly promising new topic area in evolutionary genomics.

Recent and Significant Publications:

“Null mutations in human and mouse orthologs frequently result in different phenotypes,” with B.-Y. Liao, *Proceedings of the National Academy of Sciences USA*, 105, 2008, pp. 6987-6992.

“More genes underwent positive selection in chimpanzee evolution than in human evolution,” with M. A. Bakewell and P. Shi, *Proceedings of the National Academy of Sciences USA*, 104, 2007, pp. 7489-7494.

“Parallel adaptive origins of digestive RNases in Asian and African leaf monkeys,” *Nature Genetics*, 38, 2006, pp. 819-823.

“Gene losses during human origins,” with X. Wang and W. E. Grus, *PLoS Biology*, 4, 2006, pp. 366-377.

Service – Professor Zhang’s record of service to faculty and students at the University of Michigan, and to the national and international research communities in molecular evolution is exceptionally strong. He co-organized the Department’s annual symposium for early career scientists, was elected to the Executive Committee, and served on the graduate evaluation and seminar committees, as well as two faculty search committees. He currently serves the broader professional community as the elected secretary for the Society for Molecular Biology and Evolution, as a member of editorial boards for four scientific journals, a member of a National Institutes of Health study section, and an *ad hoc* reviewer for numerous journals and granting agencies.

#### External Reviewers:

##### Reviewer (A)

“I consider George as one of the creative leaders in the computational analysis of molecular evolution... He certainly ranks among the top of his cohort of scientists in this area... His work on human evolutionary genomics has drawn particular interest and acclaim. ... In short, I think Jianzhi George Zhang is an outstanding scholar, with a superb scientific record.”

##### Reviewer (B)

“... Dr. Zhang has been one of the most active evolutionists and he is certainly at the top of his peer group. ...[if] I were to compile a list of the most significant articles in recent years in this field, I would include his *Nature Genetics* paper on parallel adaptive origins of digestive RNases in Asian and African leaf monkeys, because it gives excellent examples of parallel evolution.”

##### Reviewer (C)

“The combination of the breadth of his research, that it includes both computational and experimental methods, and the quality of the research itself, makes him one of the most outstanding researchers [of his generation] in molecular evolution.”

##### Reviewer (D)

“His published work is universally of exceptionally high quality, carefully analyzed and really very thoughtful. He is one of the very best in the field at his stage. ... These papers [*Nature Genetics* 2002, 2006] are beautiful examples of the molecular basis for evolution and are among the best in the field. ...he is creative and rigorous, and his work has clearly influenced many in the field.”

##### Reviewer (E)

“The number of peer-reviewed papers while the candidate has been an associate professor is about 40, almost the same number of publications in his career till 2004. In particular, 2006 is

the most productive and importantly, most of 17 papers in this year were published in first-class journals.”

Reviewer (F)

“George is not only productive; he chose important problems to work on. He foresaw the potentials of evolutionary biology in systems study and has done wonderful work on this front. Many of his peers are now trying to catch up.”

Reviewer (G)

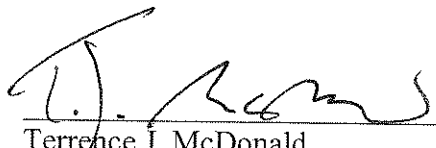
“...I find Dr. Jianzhi Zhang’s professional career to be exemplary and of the highest order. ... There is an urgent need for innovative, inventive research program in ‘molecular evolutionary genetics’ and the origin of new gene function. Dr. Zhang is uniquely qualified to lead such a new field.”

Reviewer (H)

“...he has a rare talent for doing both theoretical and experimental work successfully. ...he is a rising star in the field of molecular evolution.”

Summary of Recommendation:

Professor Jianzhi Zhang is a leading scholar in molecular evolution. He is an excellent teacher and has performed important service. The Executive Committee and the College of Literature, Science, and the Arts and I recommend that Associate Professor Jianzhi Zhang be promoted to the rank of professor of ecology and evolutionary biology, with tenure, in the College of Literature, Science, and the Arts.



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

May 2009