

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

Jinho Baik, associate professor of mathematics, with tenure, College of Literature, Science, and the Arts, is recommended for promotion to professor of mathematics, with tenure, College of Literature, Science, and the Arts.

Academic Degrees:

Ph.D.	1999	Courant Institute of Mathematical Sciences, New York University
B.S.	1995	Korea Advanced Institute of Science and Technology

Professional Record:

2006 – present	Associate Professor, Department of Mathematics, University of Michigan
2002 – 2005	Assistant Professor, Department of Mathematics, University of Michigan
2002 – 2003	Assistant Professor, Department of Mathematics, Princeton University
1999 – 2002	Veblen Research Instructor, Department of Mathematics, Princeton University and Institute for Advanced Study

Summary of Evaluation:

Teaching – Professor Baik is a valuable member of the teaching staff in the Department of Mathematics. He is one of the best classroom teachers and has received very high evaluation scores from students. He has often taught service courses, sometimes even teaching extra sections when there was a shortage of other qualified instructors. Outside the classroom, he is currently supervising a Ph.D. student and mentoring two postdoctoral scholars (one officially and one unofficially). He has supervised four undergraduate research projects.

Research – Professor Baik is a leader in the study and analysis of probabilistic phenomena, especially those involving universality of certain probability distributions. He is praised for his technical skill and for the wide variety of methods he uses. In addition to their theoretical importance, his results have found application in statistics in modeling noisy data. He has published a book and several research articles. A second book and several more papers are in preparation, and there is every indication that his research will continue at a very high level. He has given invited addresses at several recent major conferences and was chosen to be one of the organizers of a semester program on random matrix theory, interacting particle systems, and integrable systems at the Mathematical Sciences Institute at Berkeley.

Recent and Significant Publications:

“Limit process of stationary TASEP near the characteristic line,” with P. Ferrari and S. Péché, *Communications in Pure and Applied Mathematics*, 63, 2010, pp. 1017–1070.

“Total integrals of global solutions to Painlevé II,” with R. Buckingham, et al., *Nonlinearity*, 22, 2009, pp. 1021–1061.

“On the Christoffel-Darboux kernel for random Hermitian matrices with external source,” *Computational Methods and Function Theory*, 9, 2009, pp.455–471.

*Discrete Orthogonal Polynomials: Asymptotics and Applications*, with T. Kriecherbauer, et al., *Annals of Mathematics Studies*, Princeton University Press, 2007.

Service – Professor Baik has served on the Personnel Committee, undergraduate advising, and graduate admissions and fellowships. He is also on the editorial boards of two journals and is an editor of the *Handbook of Random Matrix Theory* (Oxford University Press). He has been active in organizing conferences and in refereeing, including serving on panels of the National Science Foundation. He makes a significant contribution to the department and to his profession.

External Reviews:

Reviewer (A)

“...Baik is a very excellent citizen of the mathematical community, having co-organized seven conferences and co-edited...the enormous, 940page, *Handbook of Random Matrix Theory*, which will be of tremendous use to the now mature field of RMT [Random Matrix Theory]. ...Baik’s lectures are excellent and very well motivated, and he is very well respected in the RMT community, both as a citizen and profound researcher.”

Reviewer (B)

“Professor Baik is a world-class researcher in the area of random matrix models and their applications to combinatorial problems of mathematical physics. ... The papers of Baik are very well written and very readable. ...Baik’s talks...were very clear, well prepared and organized, and very interesting. ...Baik satisfies and exceeds the requirements for promotion...”

Reviewer (C)

“Jinho Baik is the best analytic probabilist [of his generation] in the world. He has achieved wonderful things, started new areas, and found definitive solutions to long-open problems.”

Reviewer (D)

“...of all the seminars given at the meeting, his was by far the most logically structured and clearly presented. ... By mathematical standards...[his] works have seen a huge number of citations, and Dr. Baik has established his reputation, and earned the respect of his colleagues.”

Reviewer (E)

“I believe that Jinho is one of the best researchers (among the top 5...) in the area of integrable systems applied to random matrices. He is an extremely good technician and knows how to pick interesting problems...”

Reviewer (F)

“...Dr. Baik is one of the top world mathematicians working in the area of random matrices and random processes. He has made several spectacular contributions to the development of this, very important branch of modern mathematical physics and analysis.”

Reviewer (G)

“Baik is very highly regarded within the area of random matrices and random processes. He received frequent invitations to speak at conferences and workshops. He has also received a number of prestigious grants and fellowships, such as a Sloan fellowship and a number of NSF grants. ... His achievements are truly outstanding...”

Reviewer (H)

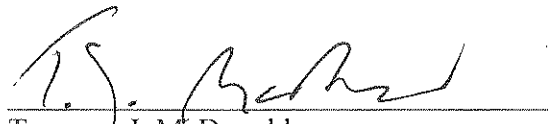
“...there is absolutely no doubt that Jinho Baik is working in a field that is at the leading edge of pure mathematics, and has numerous applications in statistics, number theory, combinatorics, and mathematical physics, quite apart from its own great intrinsic interest. ... He is not just a technician with one powerful technique. He has the ability to take a wide range of problems in pure and applied mathematics, to formulate them in appropriate ways, and then to do the hard analysis. ... His international standing is clear from his editorships and plenary talks.”

Reviewer (I)

“...his work is very first rate, he solves hard problems and has exquisite taste... ..the breadth, depth and the abundance of Baik’s work deserve, in my opinion, a promotion to Professor with tenure.”

Summary of Recommendation:

Professor Baik is a leader in the broad area of mathematical probability theory and its applications. He is an excellent teacher and has been a generous citizen to his department, the university, and the field at large. The Executive Committee of the College of Literature, Science, and the Arts and I recommend that Associate Professor Jinho Baik be promoted to the rank of professor of mathematics, with tenure, 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

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