

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

Mattias Jonsson, 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.	1997	Royal Institute of Technology
B.Sc.	1990	University of Gothenburg

Professional Record:

2005 – present	Associate Professor, Department of Mathematics, University of Michigan
2004 – 2006	Associate and Professor, Department of Mathematics, Royal Institute of Technology
2004 – 2006	Senior Researcher, Swedish Research Council
2001 – 2005	Assistant Professor (tenure-track), Department of Mathematics, University of Michigan
1998 – 2001	Assistant Professor (non-tenure-track), Department of Mathematics, University of Michigan
1998	TMR Postdoctoral Fellow, Université de Paris Sud
1998	Research Affiliate, Yale University

Summary of Evaluation:

Teaching — Although financial mathematics is Professor Jonsson’s secondary research area, it has been, because of departmental needs, his primary teaching area. Since 2001 (when he was moved from a non-tenure-track position to a tenure-track one), almost all of Professor Jonsson’s teaching has been in courses dealing with finance or with computational methods chosen for their usefulness in finance. His student evaluations are very good; it has been five years since he got a score below 4 (on a 1–5 scale) on the “excellent teacher” question. He has been active in supervising graduate students and mentoring postdoctoral scholars, and he has taught in our summer program for bright high-school students.

Research — Professor Jonsson’s primary research field is in the area of pure mathematics concerned with dynamics and singularities in several complex variables. He has also done applied research in financial mathematics, but his standing in pure mathematics is sufficient, by itself, to justify promotion to professor. He has made several major discoveries, one of which, the so-called valuative tree has led to important developments in a variety of areas.

Recent and Significant Publications:

“Differentiability of volumes of divisors and a problem of Teissier,” with S. Boucksom and C. Favre, to appear in the *Journal of Algebraic Geometry*.

“Portfolio optimization with derivatives and indifference pricing,” with A. Ilhan and R. Sircar in *Indifference Pricing: Theory and Applications*, Princeton University Press, 2009.

“Valuations and plurisubharmonic singularities,” with S. Boucksom and C. Favre, *Publications of the Research Institute for Mathematical Sciences*, 44, 2008, pp. 519–538.

“Valuations and multiplier ideals,” with C. Favre, *Journal of the American Mathematical Society*, 18, 2005, pp. 655–684.

Service — Professor Jonsson has taken on numerous service tasks in the Mathematics Department, most notably as a member of the Executive Committee. He has also served as an undergraduate advisor. Outside the department, he has done extensive refereeing for journals in both pure mathematics and mathematical finance, and he has served as an NSF reviewer and as an NSF panel member.

#### External Reviews:

##### Reviewer (A)

“In the final years of the previous millennium, Jonsson started working in...[complex dynamics] obtaining, by himself and in collaboration with others, a number of interesting results... But he has obtained his most brilliant results in this millennium, and particularly in the last five years; and it is possible that his best work is yet to come.”

##### Reviewer (B)

“His research is in my opinion of very high quality... I personally consider Mattias Jonsson to be one of the world’s leading experts in several complex variables, certainly one of the most outstanding in his generation. ... His research interests are in my opinion quite broad (even not taking into account financial mathematics) and are related to important areas of mathematics...”

##### Reviewer (C)

“...[Jonsson is] a collaborative and open minded mathematician. I am convinced that he will be able to pursue very fruitful research in the years to come...”

##### Reviewer (D)

“I cannot think of anybody in North America, around Jonsson’s age, who works in or near Jonsson’s fields, and who would be better than him. ... Jonsson is a very creative mathematician, who keeps coming up with original ideas. He has discovered new phenomena, but he has also worked with great success on problems posed by others. Even within pure mathematics, his breadth is quite rare. Few people among the ones I know can match the clarity and precision of his exposition, both written and oral.”

##### Reviewer (E)

“Jonsson is an internationally recognized leader in research on dynamics in several complex variables. ... I would rank him...at the top among [his generation of] researchers in this area.”

##### Reviewer (F)

“M. Jonsson has been very productive and I see no reason why he would not continue to do so. He has an impressive research program with connections to many areas of mathematics...”

Reviewer (G)

“I would put Jonsson at the top of the list of mathematicians [of his generation] in this country who have worked in higher dimensional complex dynamics... ..he is a powerful mathematician who has a good internal sense of direction and no fear about taking on new challenges.”

Reviewer (H)

“...Jonsson’s series of lectures on multiplier ideals at Luminy were among the most well organized, well prepared, illuminating and useful lectures I have heard in a long time. ...I wholeheartedly recommend that Mattias Jonsson be promoted to the rank of Full Professor.”

Summary of Recommendation:

Professor Jonsson has established a reputation as one of the top researchers in the theory of dynamics and singularities in several complex variables. He makes an essential contribution to the Department’s teaching mission and has taken on significant service assignments. The Executive Committee of the College of Literature, Science, and the Arts and I recommend that Associate Professor Mattias Jonsson be promoted to the rank of professor of mathematics, with tenure, in the College of Literature, Science, and the Arts.



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

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