

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

Mircea I. Mustata, 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.	2001	University of California, Berkeley
M.S.	1996	University of Bucharest
B.S.	1995	University of Bucharest

Professional Record:

2004 – present	Associate Professor, Department of Mathematics, University of Michigan
2001 – 2004	Research Fellow, Clay Mathematics Institute
2002 – 2004	Visiting Assistant Professor, Department of Mathematics, Harvard University
2002	Isaac Newton Institute for Mathematical Sciences
2001	Universite de Nice-Sophia

Summary of Evaluation:

Teaching – Because of substantial grant support, Professor Mustata has taught two courses each year. For the first two years these were small graduate courses, and in winter 2007 he taught two sections of the core undergraduate algebra course for math majors. His evaluations in the graduate courses were excellent and in the undergraduate course his scores were nearly as good. He is, therefore, proving himself to be a very successful classroom teacher. He is currently supervising three doctoral students.

Research – Professor Mustata has worked on a very broad range of questions in algebraic geometry, but his most important contributions have dealt with the singularities that arise in birational geometry. He was hired into a tenured position only three years after his Ph.D., but his career trajectory since joining our faculty has more than met the high expectations at his hiring. He has written approximately twenty new papers, has won a Packard Fellowship, and has been invited to direct several important international meetings and schools in algebraic geometry. He is universally recognized as one of the leaders of his field.

Recent and Significant Publications:

- “Invariants of singularities of pairs,” with L. Ein, *International Congress of Mathematicians, Volume II*, 2006, pp. 583-602.
- “Asymptotic invariants of base loci,” with L. Ein, et al., *Annales de L’Institut Fourier (Grenoble)*, 56, 2006, pp. 1701-1734.
- “Ehrhart polynomials and stringy Betti numbers,” with S. Payne, *Mathematische Annalen*, 333, 2005, pp. 787-795.
- “Combinatorial description of the roots of the Bernstein-Sato polynomials for monomial ideal,” with N. Budar and M. Saito, *Communications in Algebra*, 34, 2006, pp. 4103-4117.

Service – Professor Mustata has served on several departmental committees, including the Fellowships and Admissions Committee. He has been one of the advisors to the Undergraduate Math Club for two years.

External Reviews:

Reviewer (A)

“Mustata is a very creative and productive mathematician with a striking individual mathematical personality and an established reputation as one of the world leaders in algebraic geometry. ... It seems totally appropriate that he should be promoted to Full Professor.”

Reviewer (B)

“Mustata is a first rated mathematician. He is creative and original with deep insight. He has already made significant contributions in many areas of algebraic geometry. He is already one of the leading algebraic geometers of his generation.”

Reviewer (C)

“My own area of expertise is commutative algebra, not algebraic geometry, which is what Mustata is chiefly interested in. However, among researchers of a similar age in my own area, I would put Mustata at the top. If I had a choice of who to hire at his age group, I would choose Mustata. ... There is no question [that] he has established a strong international reputation. I support his promotion in the strongest terms.”

Reviewer (D)

“I cannot recall anyone in the last 10 years whose research career started with such extraordinary speed and variety. ... The proof shows great imagination, foresight and a superb control of various techniques. ...his conference and seminar lectures are superb. They are very clear, well organized and to the point.”

Reviewer (E)

“Mircea Mustata was a star right out of graduate school and he has kept the same level ever since. ... Mustata is able to communicate with a broad spectrum of mathematicians and he is able to do that effectively. This is shown by the extraordinary number of his collaborators. In particular, his collaboration with Lawrence Ein has been especially fruitful...”

Reviewer (F)

“In particular, he discovered very surprising connections between Bernstein-Sato polynomials and F-thresholds. These connections were completely unexpected and are still very mysterious. ... What Mustata has discovered here is an important and deep new mathematical mystery that has completely escaped the attention of other mathematicians. ... He certainly belongs to the top 5 algebraic geometers of the same generation in the US.”

Reviewer (G)

“...Mircea’s work since his 2004 promotion to associate professor with tenure contains many other substantive results. His cumulative research accomplishments since his 2001 Ph.D. have been extraordinarily rich. They are truly remarkable for breadth, quantity and quality.”

Reviewer (H)

“I believe he is the leading person working on the border between commutative algebra and algebraic geometry and that he will remain in this position for some time to come.”

Summary of Recommendation:

Professor Mustata's stature in his field is increasing rapidly. He has also proved himself to be an excellent teacher and a generous citizen. The Executive Committee of the College of Literature, Science, and the Arts and I recommend that associate professor Mircea I. Mustata 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

May 2008