

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

Bhargav Bhatt, 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.	2010	Princeton University
M.A.	2010	Princeton University
B.S.	2005	Columbia University

Professional Record:

2014 – present	Associate Professor, Department of Mathematics, University of Michigan
2012 – 2014	Member, School of Mathematics, Institute for Advanced Study, Princeton University
2010 – 2012	Assistant Professor, Department of Mathematics, University of Michigan

Summary of Evaluation:

Teaching – Since his promotion to associate professor in 2014, Professor Bhatt has taught three courses with outstanding results. Student evaluations give him median scores on the question about being an excellent teacher that range from 4.75 to 5.00 on a 5-point scale. In addition, he is supervising three post-doctoral researchers and a doctoral student. He also supervised a project in the Research Experience for Undergraduates program.

Research – Professor Bhatt’s research is in algebraic geometry, the branch of mathematics that connects polynomial equations with geometric structures. His greatest strength lies in his combination of technical skills with a clear vision of what is essential in rather complicated mathematics. This combination has enabled him to improve some fundamental constructions in algebraic geometry and to solve long-standing open problems. He is internationally recognized as a leader in his field for these solutions. His discoveries in algebraic geometry are regarded as breakthroughs and are expected to greatly influence future work throughout the field.

Recent and Significant Publication:

“Integral p-adic Hodge theory: Announcement,” with M. Morrow and P. Scholze, *Mathematical Research Letters*, 22(6), 2016, pp. 1601–1612.

“Algebraization and Tannaka duality,” *Cambridge Journal of Mathematics*, 4(4), 2016, pp. 403–461.

“The pro-étale topology for schemes,” with P. Scholze, *Asterisque*, 369, 2015, pp. 99–201.

“Local cohomology modules of a smooth Z-algebra have finitely many associated primes,” with M. Blickle, et al., *Inventiones Mathematicae*, 197(3), 2014, pp. 509–519.

Service – Since his promotion in 2014, Professor Bhatt has served on several departmental committees with a high workload, including the Personnel, Graduate Admissions, Fellowships, and Undergraduate Scholarships and Awards Committees. He has organized several seminar

series and a workshop. Outside the university, he has been a co-organizer of a symposium series for the Simons Foundation and two workshops at the Mathematical Sciences Research Institute (MSRI). He is the chief organizer of a semester-long program scheduled for spring 2019 at MSRI. He has also served as a referee for numerous journals.

External Reviews:

Reviewer (A)

“Bhargav is one of the absolutely best mathematicians of his generation with greatest promise for future brilliant achievements. ... Let me add that Bhargav is an excellent teacher: listening to his talks is always a pure joy.”

Reviewer (B)

“I have long been impressed with his tremendous capacity to dive into a new area of math (related to algebraic geometry) and come up with striking new results by virtue of his technical power and quite unique range of knowledge in certain rapidly-developing parts of the field.”

Reviewer (C)

“Bhargav Bhatt’s scholarly accomplishments are among the very best, if not the best, in his field. Yes, he has demonstrated clear evidence of sufficient progress in an outstanding research program... ..Bhatt is at the very top of his field in international standing and recognition.”

Reviewer (D)

“...Bhatt is internationally recognized as one of the leading researchers in arithmetic geometry and related fields. He is a truly outstanding mathematician. ...I expect his future research to be at least as interesting as the work he has already completed, and probably even more so.”

Reviewer (E)

“I’m very impressed by his work and the way he masters powerful algebraic technics notably in the framework of derived algebraic geometry, p-adic Hodge theory. There is no doubt that he should be awarded a Full Professorship.”

Reviewer (F)

“I had assumed that he already was promoted to Professor with tenure at Michigan. Since this hasn’t yet happened...I can unequivocally state that this has to be the most obvious case for such a promotion that I have ever personally seen in the areas of math with which I have some expertise.”

Reviewer (G)

“I am very impressed by his work, I consider him to be the best mathematician [in his cohort] in the US in the domain of algebraic geometry à la Grothendieck. ... He has already organized numerous conferences and is the lead organizer for the future special program at the MSRI about derived algebraic geometry that will be a very important event... His talks at conferences are excellent and I never miss one...”

Reviewer (H)

“I would characterize his record as outstanding, particularly for someone only a few years out from his PhD. I am impressed both with the volume of his output (which speaks to the breadth of his interests) and with the depth of individual papers (from which I’ve learned a lot). I would say he has a very strong research program, and expect great things from him in the future.”

Reviewer (I)

“Bhatt is extremely visible internationally, attending many conferences at the highest level and organizing an MSRI semester among other things, and is able to talk and work with a very large set of people in number theory, algebraic geometry, representation theory, commutative algebra, algebraic topology and beyond.”

Summary of Recommendation:

Professor Bhatt has established himself as a leading researcher in algebraic geometry and commutative algebra. He is an excellent teacher and has mentored researchers ranging from undergraduate students to post-doctoral scholars. He has successfully undertaken heavy service assignments within the university and beyond. The Executive Committee of the College of Literature, Science, and the Arts and I recommend that Associate Professor Bhargav Bhatt be promoted to the rank of professor of mathematics, with tenure, College of Literature, Science, and the Arts.



Andrew D. Martin, Dean
Professor of Political Science and Statistics
College of Literature, Science, and the Arts

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