PROMOTION RECOMMENDATION
The University of Michigan-Dearborn
College of Arts, Sciences, and Letters

Mahesh Kumar Agarwal, assistant professor of mathematics, Department of Mathematics and
Statistics, College of Arts, Sciences, and Letters, is recommended for promotion to associate
professor of mathematics, with tenure, Department of Mathematics and Statistics, College of
Arts, Sciences, and Letters.

Academic Degrees:

Ph.D.  2007  University of Michigan, Ann Arbor, Mathematics
M.Sc.  2001  Indian Institute of Technology, Kanpur, India, Mathematics
B.Sc.  1999  Delhi University, Delhi, India, Mathematics

Professional Record:

2009 – present  Assistant Professor of Mathematics, Department of Mathematics and Statistics,
                University of Michigan-Dearborn
2007 – 2009     Postdoctoral Fellow, McMaster University, Hamilton, Ontario

Teaching:  Professor Agarwal's is rated excellent in teaching.  In his five years on campus,
Professor Agarwal has taught a wide variety of courses from pre-calculus through post-calculus,
has made a genuine commitment to two upper level courses (number theory and abstract algebra),
developed a topics course on cryptography and expressed a willingness to develop a second on
financial mathematics, and has attracted three independent study students.  His teaching
evaluation numbers are outstanding: they average 4.6 for freshman/sophomore classes, and even
higher for upper level classes.  Many students mention the impressive passion for mathematics
that he brings to the classroom.  On a programmatic level Professor Agarwal has been a critical
leader in the introduction and administration of WeBWorK, an online homework platform
developed at Syracuse University and maintained by the MAA.  He self-started this project here
and has been the leader, innovator, and the one who devotes considerable time every semester to
making the process work.  He has had a major impact in helping more than 15 department
members make use of this innovative teaching tool.

Research:  Professor Agarwal's is rated significantly capable in research.  He has been a frequent
speaker at national and regional mathematics meetings, and a contributor to seminar and
colloquium series at our own university as well as regional colleges and universities.  He is one
of the co-organizers of the Number Theory Workshop this spring Ann Arbor.

Recent and Significant Publications:

Agarwal, M. and Brown, J., "Saito-Kurokawa lifts of square-free level," *Kyoto Journal of
       Mathematics* (to appear, accepted, 8/2014) (22 pages).
Agarwal, M. and Brown, J., "On the Bloch-Kato conjecture for elliptic modular forms of square
       free level," *Mathematische Zeitschrift*, 276, no. 3-4, 2014, pp. 889-924 (36 pages).

Agarwal, M. and Klosin, K.,"Yoshida lifts and the Bloch-Kato conjecture for the convolution *L*-function," *Journal of Number Theory*, vol. 133, 2013, pp. 2496-2537 (41 pages).

Service: Professor Agarwal's is rated excellent in service. He has served on many committees within the department, and two at the college and campus levels. He was central to inviting Professor Stephen DeBacker from Ann Arbor for the Turfe Lecture Series in 2014. Two departmental committees of particular note are the executive committee and the curriculum review task force. On these committees and elsewhere, Professor Agarwal's voice is a strong and thoughtful one; one that brings the focus back to our students time and time again. His contributions to the department's embracing of WeBWorK and to the development and assessment of our mentoring program represent tremendous service to our students. These students that may never meet him personally, but nevertheless he has influenced their education in a deep way.

External Reviewers:
Reviewer A: "Agarwal's work is concerned with a central topic and method of the present day number theory. All papers are written in a very clear style, the introductions explain very well the content of the paper. I think that Professor Agarwal is well respected and accepted as a member of the community. By moving from p-adic interpolation of L-functions to questions related to the Bloch-Kato conjecture, Professor Agarwal has already made a significant development. His area of research has a rich potential for progress in number theory. Judging from his results obtained so far, we may expect that Professor Agarwal will contribute to this progress."
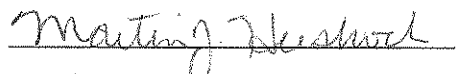
Reviewer B: "I'm favorably impressed that Mahesh is active with multiple collaborators, apparently in three different groups: with Klosin and/or Brown, with Lachance and Clifford, and with Natarajan. Such collaboration leads to new opportunities, accountability, and often the potential for considerably more work than one can accomplish individually. The three active partnerships in which Mahesh is engaged position him for ongoing research in the years ahead; indeed, his record to date suggests to me that he can be expected to be actively investigating open questions, producing new insights, and writing interesting papers that summarize his work."

Reviewer C: "My impression is that Agarwal is a serious mathematician who is probably better than he looks on paper, and has the potential to produce more good publications in the future. For me, the most important thing is that Agarwal is working in a very interesting area, richly connected to the mainstream of modern mathematics, an active area with much more to give."

Reviewer D: "He has an impressive record; even at this early state, it is clear that he is both a committed teacher and scholar of mathematics. I'm impressed with his mathematical work, the clarity with which he writes, and his concern for student learning. I believe Professor Agarwal has found the perfect balance of teaching and scholarly activity; one that will allow him to continue to grow and to produce interesting mathematics while at the same time maintaining his commitment to the students as a teacher of mathematics."

Reviewer E: "Looking at Mahesh's mathematical writing, one notices two disjoint themes. The first theme represents hardcore number theoretic research, utilizing complicated techniques from the modern theory of automorphic forms. It shows that Mahesh is not only familiar with the extremely abstract methods used in the Bloch-Kato papers, but also has an excellent background in the classical theory of elliptic and Siegel modular forms. The three Geometry papers are even more testimony to him being a well-rounded mathematician. They are 'elementary' only in the sense that they stay within the scope of what is (possibly) understandable by undergraduate students, not in the sense that they are 'easy;' in fact, the geometric arguments in these papers are very clever and creative."

Summary of Recommendation: Professor Agarwal has been rated excellent, significantly capable, and excellent in the three respective areas of teaching, research, and service. He is an excellent representative of the teacher-scholar model, making contributions inside and outside the classroom that enhance opportunities for his students and his colleagues. We are very pleased to recommend, with strong support of the College of Arts, Sciences, and Letters Executive Committee, Mahesh Kumar Agarwal for promotion to associate professor of mathematics, with tenure, Department of Mathematics and Statistics, College of Arts, Sciences, and Letters.


Martin J. Hershock, Dean
College of Arts, Sciences, and Letters

Daniel Little, Chancellor
University of Michigan-Dearborn


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