

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
SCHOOL OF INFORMATION

Rahul Sami, assistant professor of information, School of Information, is recommended for promotion to associate professor of information, with tenure, School of Information.

Academic Degrees:

Ph.D.	2003	Yale University, New Haven, CT
M.S.	2000	Yale University, New Haven, CT
B.Tech.	1998	IIT, Bombay, India

Professional Record:

2005 – present	Assistant Professor, School of Information, University of Michigan
2003 – 2005	Researcher, MIT CS & AIO Laboratory
2002	Researcher, NEC Research Institute, Princeton, NJ

Summary of Evaluation:

Teaching: Since Professor Sami joined the School of Information (SI) faculty in 2005, he has taught or co-taught 21 course sections of six different courses (Recommender Systems, Electronic Commerce, Reputation Systems, Content Management Systems, Aggregation and Prediction Markets, and Understanding Networked Computing). On his own, Professor Sami developed new curricula for two of the courses and jointly developed the curriculum for a third course. In addition, he helped shape the School's curriculum through his service on the Curriculum Committee during 2008-2009.

Professor Sami has been a dedicated and effective instructor in the classroom. Professor Sami received good to excellent course and teacher evaluation ratings in nearly all of the 21 course sections he has taught or co-taught (with the sole exception the result of introducing an innovative, but in the end unsuccessful, pedagogical method to an introductory required course). Professor Sami's courses have been central in the Incentive-Centered Design specialization and, to a lesser extent, the Social Computing specialization.

Professor Sami has been thesis co-chair for two students (one in Electrical Engineering and Computer Science, and another in Industrial and Operations Engineering, both in the College of Engineering) and a committee member for three SI Ph.D. students, four EECS Ph.D. students, and a student at MIT.

Research: Professor Sami is a successful and highly visible researcher who applies methods common to theoretical computer science and economics to solve practical problems in internet routing, prediction markets, and recommender systems. He has published 23 peer-reviewed conference presentations or journal articles, of which 15 postdate his move to the University of Michigan. Professor Sami has also had success in obtaining research funding: three grants since he joined the University of Michigan, all from the National Science Foundation (NSF). In addition, he was a senior participant in landing a \$3 million NSF IGERT award on incentive-centered design for information and communication systems.

Professor Sami's work is well-known and well-cited. For example, according to Google scholar he has six papers with over 50 citations. Among his principal results are an analysis of internet routing showing that when formalized as a constrained mechanism design problem it is possible to allocate router loads despite information that may not be reported honestly; a proof showing that in prediction markets if the aggregate function of traders' private information is not of a certain mathematical form, the trading process is not guaranteed to converge to equilibrium; and the invention of a mechanism for recommender systems that prevents manipulation of recommendations, such as to artificially boost the reputation of a person, product, or contribution.

Recent and Significant Publications*:

- Dimitrov, S., and Sami, R. (2010). Composition of markets with conflicting incentives. In *Proceedings of the 11th ACM Conference on Electronic Commerce* (pp. 53-62). New York: ACM Press.
- Resnick, P., and Sami, R. (2009). Sybilproof transitive trust protocols. In *Proceedings of the 10th ACM Conference on Electronic Commerce* (pp. 345-354). New York: ACM Press.
- Dimitrov, S., and Sami, R. (2008). Non-myopic strategies in prediction markets. In *Proceedings of the 9th ACM Conference on Electronic Commerce* (pp. 200-209). New York: ACM Press.
- Resnick, P., and Sami, R. (2008). The information cost of manipulation resistance in recommender systems. In *Proceedings of the 2008 ACM Conference on Recommender Systems* (pp. 147-154). New York: ACM Press.
- Resnick, P., and Sami, R. (2007). The influence limiter: Provably manipulation-resistant recommender systems.. In *Proceedings of the 2007 ACM Conference on Recommender Systems* (pp. 25-32). New York: ACM Press.
- Feigenbaum, J., Sami, R., and Shenker, S. (2006). Mechanism design for policy routing. *Distributed Computing*, 18, 293-305.
- Feigenbaum, J., Fortnow, L., Pennock, D., and Sami, R. (2005). Computation in a distributed information market. *Theoretical Computer Science*, 343, 114-132.
- Feigenbaum, J., Papadimitriou, C., Sami, R., and Shenker, S. (2005). A BGP-based mechanism for interdomain routing. *Distributed Computing*, 18, 61-72.

*It is the practice in theoretical computer science to list authors in alphabetical order and all of the papers listed here follow that convention.

Service: Professor Sami has provided significant service to the School of Information and to the broader professional community. Within SI he has served four years on the doctoral committee; one year on the curriculum committee; and one year on the master's admissions committee. He is currently serving as an elected member of the Dean's Advisory Committee (the School's equivalent of an executive committee). In addition, Professor Sami has served the last two years as the coordinator of the Yahoo! Seminar Series and as the coordinator for the Incentive-Centered Design specialization. In 2007-08, Professor Sami was the coordinator for the speaker series associated with the IGERT award on incentive-centered design.

Beyond his campus service, Professor Sami has been active in several conference program committees through his involvement in the Association for Computing Machinery (ACM), Special Interest Group on Electronic Commerce (EC '06, EC '07, EC '09, and EC '10) and has also served on program committees for other influential conferences (e.g., the annual World-

Wide Web conference and the ACM Recommender Systems Conference). In addition, he was the workshop chair for EC '10 and has organized two special meetings (Practice and Theory of Incentives in Networks and Economics of Networked Systems and Incentive-Based Computing) jointly sponsored by the ACM's Special Interest Group on Electronic Commerce and the Special Interest Group on Communications and Computer Networks. Finally, Professor Sami serves as an *ad hoc* reviewer for several journals and has been a reviewer for NSF proposals.

External Reviewers:

Reviewer A: "Professor Sami is a productive scholar, with a clear and well-articulated line of research, and has developed a strong portfolio of journal and conference publications. Together with his record of teaching and service, he would certainly be a strong case for tenure at my institution."

Reviewer B: "Prof [essor] Sami works in interesting areas using a solid and rigorous methodology. He has already carved a niche for himself for doing rigorous mechanism design work on systems, such as recommender systems, reputation mechanisms and prediction markets, that the popular press collectively labels as 'Web 2.0.' What I find particularly distinct about his work on both reputation systems and prediction markets is the creative blend of information theory and game theory that he uses in his models, a blend that has produced several interesting and elegant results."

Reviewer C: "While there is widespread rhetorical support for interdisciplinary research and education, it is still more difficult for [junior faculty] doing it to get tenure than it is for similarly talented [junior] people who work in established areas of computer science. Thus, Rahul's early career choices show that, in addition to being technically excellent, he is forward-looking, confident, and willing to take risks. His promotion to Associate Professor with tenure would signal to the entire computer-science world that risk taking and interdisciplinary research will be rewarded concretely as well as rhetorically. I recommend him for this promotion in the strongest possible terms."

Reviewer D: "Rahul Sami has produced strong research and leadership in several areas in the emerging area of connections between economics and computer science and strongly deserves promotion to associate professor with tenure in the School of Information at the University of Michigan."

Reviewer E: "[Professor Sami] has done an extremely good job taking theoretical rigor (mathematical, computational, and economic) and applying it to a number of interesting and important problems where deployed solutions are often *ad hoc* rather than grounded in such theory. The level of rigor in the proofs presented in the papers I've read (both those provided, and those in the recommender systems design) is very high, and the application of that work to the problem domain is much closer to real-world than many theoretical approaches."

Reviewer F: "Rahul Sami has established an admirable reputation for high-quality theory in the interface between economics and computer science. He has had a strong impact in several important areas, and the quality of his work is excellent. The U Michigan School of Information is the strongest university group in this growing discipline, so should impose the highest

standards on promotion and tenure. Nevertheless, in my estimation, Sami would receive tenure at Michigan's peers (Berkeley, Northwestern) and merits tenure at Michigan."


Reviewer G: "... Rahul is a talented researcher and a thought leader in these important problems related to information aggregation of various kinds amongst self-interested participants, and with great importance to the future design of stable and robust Internet scale systems. His research agenda is intrinsically multi-disciplinary and I think a very good fit with the mission of the School of Information. All things considered, I am glad to recommend him for promotion to the position of Associate Professor with tenure."

Reviewer H: "...[I] strongly recommend promotion of Dr. Rahul Sami to Associate Professor with Tenure."

Reviewer I: "... I believe that Rahul Sami's record is outstanding both in impact of his work, and in working on an impressive range of important areas. He is a clear leader in algorithmic game theory. He would be a great asset for any university. He has my strongest recommendation for the promotion."

Internal Review: The promotion and tenure subcommittee that produced Professor Sami's casebook concluded that his contributions in the areas of teaching, research, and service constitute a strong case for promotion, and they voted unanimously for this recommendation. The full promotion and tenure committee of the School, consisting of all tenured governing faculty at or above the rank of associate professor, also voted unanimously for promotion.

Summary of Recommendation: Professor Sami has a strong national and international reputation for his scholarship and contributions to the field. He is a dedicated teacher who takes on classroom challenges and is well respected. He provides service leadership to the School, University, and beyond. It is with the unanimous support of the promotion and tenure committee of the School of Information that I enthusiastically recommend Rahul Sami for promotion to associate professor of information, with tenure, School of Information.



Jeffrey K. Mackie-Mason
Arthur W. Burks Collegiate Professor of Information and Computer Science,
Professor of Economics and Public Policy, and Dean, School of Information

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