

PROMOTION RECOMMENDATION

The University of Michigan
College of Engineering
Department of Industrial and Operations Engineering
School of Public Health
Department of Health Management and Policy

Amy E.M. Cohn, associate professor of industrial and operations engineering, with tenure, Department of Industrial and Operations Engineering, College of Engineering, and associate professor of health management and policy, without tenure, Department of Health Management and Policy, School of Public Health, is recommended for promotion to professor of industrial and operations engineering, with tenure, Department of Industrial and Operations Engineering, College of Engineering, and professor of health management and policy, without tenure, Department of Health Management and Policy, School of Public Health.

Academic Degrees:

Ph.D. 2002 Massachusetts Institute of Technology, Operations Research, Cambridge, MA
A.B. 1991 Harvard University, Applied Mathematics, Cambridge, MA

Professional Record:

2012-present Associate Director, Center for Healthcare Engineering and Patient Safety,
University of Michigan
2012-present Associate Professor (without tenure), Health Management and Policy, School
of Public Health
2011-present Arthur F. Thurnau Professor
2009-present Associate Professor (with tenure), Department of Industrial and Operations
Engineering, University of Michigan
2009-2011 Director, Engineering Global Leadership Program, University of Michigan
2002-2009 Assistant Professor, Department of Industrial and Operations Engineering,
University of Michigan

Summary of Evaluation:

Teaching: Professor Cohn is an exceptional teacher. She has won numerous departmental teaching awards (e.g., the APM Professor of the year award eight times; and the Holt Award for Teaching Excellence five times), college and university awards (e.g., the Distinguished Engineering Professor Award from the Athletic Department, the MICHHR Distinguished Clinical and Translational Research Mentor Award, and the Thurnau Professorship) and national awards (e.g., the Institute of Industrial Engineers Operations Research Teaching Award). Her Q1/Q2/Q4 scores are exceptional averaging 4.48/4.73/4.11 over the course of her tenure at Michigan, with nearly half of her teaching in a large undergraduate class with an average enrollment of 115. She has supervised 15 Tauber projects. She has been active in engineering education research through a number of small CRLT grants. The student letters attest to her excellence in teaching and to the immensely high regard in which her students hold her.

Research: Professor Cohn's research focuses on applications of operations research to aviation systems and healthcare. She has graduated ten Ph.D. students and has four students in progress. She has advised and supervised over 125 undergraduate students on research projects, mostly in the healthcare area. She is working with two post-doctoral fellows. Two of her projects have been finalists in the prestigious Daniel H. Wagner Prize for Excellence in Operations Research Practice, in 2011 and in 2015. To date, she has had roughly \$1.8 million in funded research, mostly from foundations and industry and has another \$1.2 million in current funding. Professor Cohn has published over 30 refereed papers in archival journals, several refereed papers in conference proceedings and three book chapters. She has given numerous invited presentations. She has over 1100 citations and an H-index of 15. Overall, her publication record is very strong, particularly for someone doing applications-driven research in this field.

Recent and Significant Publications:

Shumacher, K., R. L. Chen and A. Cohn, "Transmission Expansion with Smart Switching under Demand Uncertainty and Line Failures," to appear in *Energy Systems*.

Castaing, J., A. Cohn and B. Denton, "A Stochastic Programming Approach to Reduce Patient Wait Times and Overtime in an Outpatient Infusion Center," to appear in *IIE Transactions on Healthcare*.

Schumacher, K., R. L. Chen, A. Cohn and J. Castaing, "Algorithm to Solve a Chance-Constrained Network Capacity Design Problem with Stochastic Demands with Finite Support," to appear in *Naval Research Logistics*.

AhmadBeygi, A. Cohn, Y. Guan and P. Belobaba, "Analysis of the Potential for Delay Propagation in Passenger Airline Networks," *Journal of Air Transport Management* 14 (5): pp. 221 - 236, September 2008.

Cohn and C. Barnhart, "Improving Crew Scheduling By Incorporating Key Maintenance Routing Decisions," *Operations Research* 51 (3): pp. 387 – 396, May – June 2003.

Service: Professor Cohn has an exemplary record of service to the department, college, and university. She received the College of Engineering Service Excellence Award in 2015. She has served as an elected member of the IOE Department Committee five times, on the Steffy Lecture Committee, on the IOE Undergraduate curriculum committee for eight years, and on the departmental chair search committee. At the college level, she served on the dean search committee. At the university level, she is a member of the leadership team for the Institute for Healthcare Policy and Innovation and is an external advisor to the Hillman Scholars Program in the School of Nursing. She currently serves on the University Senate. Professor Cohn also has a very strong record of professional service. She served as the chair of the aviation applications section of INFORMS in 2009-2010 and was the vice chair, and secretary/treasurer prior to that. She served on the Government of Qatar review panel five times and on six NSF panels. She is a member of the MIT Global Airline Industry Program and has been since 2002. She has also served in the Sloan Industry Studies Program and chaired the group's Early Career Development Committee.

External Reviewers:

Reviewer A: “Her work has an impressive degree of both variety and depth. ...I honestly believe that Professor Amy Cohn is one of the OR superstars.”

Reviewer B: “There is no doubt in my mind that Dr. Cohn would be promoted to the rank of full professor in [my institution]. ...Dr. Cohn is an exemplar of what an engineering professor should be. Her work is both methodologically rigorous and real-world relevant.”

Reviewer C: “She must be considered an internationally leading researchers [sic] in operations research in the airline industry.”

Reviewer D: “I have no hesitancy in suggesting that Professor Cohn’s overall contributions to scholarly pursuits is worthy of promotion to Professor...”

Reviewer E: “I endorse her promotion to full Professor in the strongest terms.”

Reviewer F: “I would definitely support her case if she were being considered for promotion at [my institution].”

Summary of Recommendation: Professor Cohn has an impressive record of research, teaching, and service as outlined above. Her research is in operations research with applications to aviation systems and healthcare. She is an exceptionally great teacher and student mentor. It is with the support of the College of Engineering and School of Public Health Executive Committees that we recommend Amy E.M. Cohn for promotion to professor of industrial and operations engineering, with tenure, Department of Industrial and Operations Engineering, College of Engineering, and professor of health management and policy, without tenure, Department of Health Management and Policy, School of Public Health.



Alec D. Gallimore, Ph.D.
Robert J. Vlasic Dean of Engineering
College of Engineering



Martin A. Philbert, Ph.D.
Dean, School of Public Health

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