

PROMOTION RECOMMENDATION
The University of Michigan
College of Engineering
Department of Electrical Engineering and Computer Science

Cynthia J. Finelli, associate professor of electrical engineering and computer science, with tenure, Department of Electrical Engineering and Computer Science, College of Engineering, and associate professor of education, without tenure, School of Education, is recommended for promotion to professor of electrical engineering and computer science, with tenure, Department of Electrical Engineering and Computer Science, College of Engineering, and professor of education, without tenure, School of Education.

Academic Degrees:

Ph.D.	1993	University of Michigan, Electrical Engineering, Ann Arbor, MI
MS	1989	University of Michigan, Electrical Engineering, Ann Arbor, MI
B.S.	1988	University of Michigan, Electrical Engineering, Ann Arbor, MI

Professional Record:

2016 – present	Associate Professor (without tenure), Department of Higher Education, School of Education, University of Michigan
2015 – present	Associate Professor (with tenure), Department of Electrical Engineering and Computer Science, University of Michigan
2015 – 2016	Research Associate Professor, courtesy appointment, School of Education, University of Michigan
2010 – 2015	Research Associate Professor, Engineering Education, University of Michigan
2004 – 2010	Associate Research Scientist, Engineering Education, University of Michigan
2003 – 2015	Founding Director, Center for Research on Learning and Teaching in Engineering, University of Michigan
2003	Coordinator of Engineering Education, Center for Research on Learning and Teaching in Engineering, University of Michigan
2002 – 2003	Richard L. Terrell Professor for Excellence in Teaching, Engineering, Kettering University, Flint, MI
2000 – 2003	Founding Director, Center for Excellence in Teaching and Learning, Kettering University, Flint, MI
1996 – 2003	Associate Professor, Electrical Engineering, Kettering University, Flint, MI
1993 – 1996	Assistant Professor, Electrical Engineering, Kettering University, Flint, MI
1992	Instructor, Electrical Engineering Kettering University, Flint, MI

Summary of Evaluation:

Teaching: Professor Finelli is a highly effective teacher. Her classroom instruction is grounded in evidence-based best practices that support the learning of all students and which research demonstrates are particularly efficacious for women and underrepresented minority students. Her Q1 and Q2 scores average 4.17 and 4.40, respectively. Her leadership on the development of a Ph.D. and master's graduate program in EER has created a rigorous, interdisciplinary opportunity for students seeking to improve engineering education. Professor Finelli, along with a colleague, is implementing the first EER graduate course. She has mentored multiple Ph.D. graduate students, many while director of CRLT-Engin through her research projects. She has graduated one Ph.D. student, is currently mentoring three (two as co-advisor), and expects to take on more as the EER

graduate program officially starts. Professor Finelli has also supervised or co-supervised four master's students and 28 undergraduate projects, and six post-doctoral researchers.

Research: Professor Finelli's expertise lies in the field of Engineering Education Research (EER), with two primary focuses: studying the impact of innovative pedagogical methods and curricula on student learning and understanding barriers for faculty to use active learning and methods to lower them. Her research has appeared in the top journals in the EER field as well as the field of education. Her outstanding contributions to the EER field are reflected by her selection as a Fellow of the American Society of Engineering Education (ASEE). Her h-index and citation count (22 and over 2200 per Google Scholar) are very strong. Professor Finelli has attracted significant research funding, mostly from NSF, and demonstrated the ability to sustain and grow a healthy program of research over time. Her contributions have been lauded by each of her external reviewers, who highlighted her foundational role in building the field of engineering education research.

Recent and Significant Publications:

- C. J. Finelli, K. A. Nguyen, R. M. DeMonbrun, M. Borrego, M. J. Prince, J. Husman, C. Henderson, P. Shekhar, and C. K. Waters, "Reducing student resistance to active learning: Strategies for Instructors," *Journal of College Science Teaching* 47(5), 80-91 (2018).
- R. M. DeMonbrun, C. J. Finelli, M. Prince, M. Borrego, P. Shekhar, C. Henderson, and C. K. Waters, "Creating an instrument to measure student response to instructional practices," *Journal of Engineering Education*, 106 (2), 273-298 (2017).
- C. J. Finelli, M. Borrego, and G. Rasoulifar, "Special Report: Development of a taxonomy of keywords for engineering education research," *Journal of Engineering Education*, 104 (4), 365-387 (2015).
- C. J. Finelli, S. R. Daly, and K. M. Richardson, "Bridging the research-to-practice gap: Designing an institutional change plan using local evidence," *Journal of Engineering Education*, 103 (2), 331-361 (2014).
- C. J. Finelli, M. A. Holsapple, E. Ra, R. M. Bielby, B. A. Burt, D. D. Carpenter, T. S. Harding, and J. A. Sutkus, "An assessment of engineering students' curricular and co-curricular experiences and their ethical development," *Journal of Engineering Education*, 101 (3), 469-494 (2012).

Service: Professor Finelli's record of service to the field of engineering education research is both substantial and noteworthy. She has assumed significant leadership roles in the emerging engineering education research scholarly community, with major contributions made through roles on the program committees at key technical conferences. In the first two years as an ECE associate professor, Professor Finelli led the creation of the College of Engineering's new graduate program in engineering education research and chaired each faculty search committee in this area. Professor Finelli has been an active contributor to the ECE Division and was recently elected by her peers to serve on the ECE Executive Committee and to serve as the director of the Engineering Education Research area in ECE. Professor Finelli is also well known across the university and has been tapped for several university-level committees.

External Reviewers:

Reviewer A: "I would place Cindy Finelli on the short list of the top engineering educators in the world. She is a pioneer at the forefront of the current generation of faculty members who are deeply involved in the emerging area of engineering education research."

Reviewer B: "Her work examines critical problems for engineering education including ethical

development of engineering students, faculty use of research-based teaching practices, and peer evaluation for student teams. She is a recognized leader in all of these areas and her work has won prestigious awards and perhaps more importantly been adopted by others to expand its impact.”

Reviewer C: “...Dr. Finelli has a sustained record of high quality research in engineering education, with the skillful application of both qualitative and quantitative methods of education research.”


Reviewer D: “Her reputation within the community is considerable, and places her on the same level as prominent professors in the area.”

Reviewer E: “She has contributed to the advancement of engineering education research and practice at the local, national and international levels.”

Summary of Recommendation: Professor Finelli is a pioneer and very prominent leader in the field of engineering education research. It is with the support of the College of Engineering Executive Committee that I recommend Cynthia J. Finelli for promotion to professor of electrical engineering and computer science, with tenure, Department of Electrical Engineering and Computer Science, College of Engineering, and professor of education, without tenure, School of Education.



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



Elizabeth Birr Moje, Dean
George Herbert Mead Collegiate Professor of
Education, and Arthur F. Thurnau Professor
School of Education

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