At the Department of Engineering Education (EED) many of our faculty and staff do more than teach. In addition to educating, they are conducting groundbreaking research in many areas at The Ohio State University and world-wide. These are the highlights of research interests from the 2017-2018 academic year to the present.

**Monica F. Cox, Ph.D.**  
*Professor and Department Chair*

Dr. Cox earned her Bachelors in Mathematics from Spelman College, a Master’s degree in Industrial Engineering from the University of Alabama, and a Ph.D. in Leadership and Policy Studies from Vanderbilt University. She is also the Director of the International Institute of Engineering Education Assessment (i2e2a) and the CEO of STEMinent LLC, a company that houses educational assessment, Prepared to Be a Pioneer® professional development, and Quirky Time® media offerings. In 2011, she became the first African American female to earn tenure in the College of Engineering at Purdue University. Her research focuses on the use of mixed methodologies to explore significant research questions in engineering education; to explore issues of intersectionality among women, particularly Women of Color in engineering; and to develop, disseminate, and commercialize reliable and valid assessment tools for use in science, technology, engineering, and mathematics (STEM) education.

Dr. Cox has led and collaborated on multidisciplinary projects totaling approximately $15 million, and has authored over 100 publications.

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**David A. Delaine, Ph.D.**  
*Assistant Professor*

Dr. Delaine is a co-founder and past president of the Student Platform for Engineering Education Development (SPEED) and has served two terms as an executive member of the International Federation of Engineering Education Societies (IFEES) as a Vice President for Diversity & Inclusion. Ongoing research includes an NSF funded project entitled “Community-Engaged Student Learning (CESL) for the Development of Empathy in Engineering” which pursues knowledge into how CESL can foster the development of empathy in engineers and enhance learning outcomes. Additionally, a collaborative research effort with the Biomedical Engineering Department entitled “Analyzing inequities in undergraduate workforce opportunities between biomedical and other engineering disciplines,” seeks to understand the elements which can inhibit engineers’ ability to enter the workforce. Lastly, a collaborative effort with OSU Medical campus is performing research on the integration of mentorship and wellness to support university faculty members.

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**Emily Dringenberg, Ph.D.**  
*Assistant Professor*

Dr. Dringenberg is an Assistant Professor at The Ohio State University in the Department of Engineering Education. Her research lab utilizes qualitative methods to explore beliefs in engineering. For example, she currently has two NSF-funded projects to study the beliefs that engineering students hold about 1) intelligence and 2) types of reasoning for decision making in the context of design. Her research has an overarching goal of leveraging engineering education research to shift the culture of engineering to be more realistic and inclusive. She is also interested in neuroscience, growth mindset, engineering ethics, and race and gender in engineering. In general, she is always excited to learn new things and work with motivated individuals from diverse backgrounds to improve the experiences of people at any level in engineering education.

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**Lisa Abrams, Ph.D.**  
*Associate Chair and Professor of Practice*

Dr. Abrams’ areas of interest are recruitment, retention, and success of undergraduate students, especially those populations who are under-represented in engineering; climate and culture in an engineering environment; and faculty and staff mentoring. Dr. Abrams has designed and taught courses and workshops to empower women and assist men in finding ways to be allies to all in both academic and industrial settings. She is also interested in building on these initiatives to measure behavior change, and their impact on the climate.

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Krista Kecskemety, Ph.D.

**Assistant Professor of Practice**

Dr. Kecskemety’s doctoral dissertation focused on computational modeling of wind turbine wake aerodynamics. She teaches in the EED’s first-year engineering program. Dr. Kecskemety’s engineering education scholarship interests include investigating first-year engineering student experiences, examining the impact of course activities on retention of knowledge of programming languages, and assessing training with Teaching Assistants. Many of her research activities have been sparked by questions from what was happening in the EED’s first-year engineering courses. In addition, she works with the K-12 visually impaired population using complex models to make conceptually difficult topics accessible to this special population.

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**Other research activities have focused on students’ perceptions of the inverted classroom, active learning techniques, and how and why students are selecting and staying in specific engineering majors. Currently, she is working on research projects related to how the EED teaches programming in first-year engineering courses and how that knowledge is retained as students move onto their majors.**