



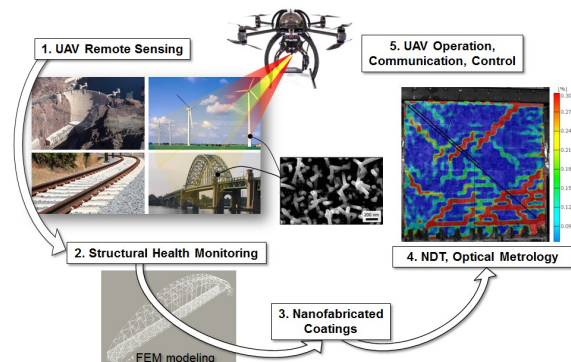
Jin Wen Receives U.S. Department of Energy BUILD Award

Associate Professor **Jin Wen, PhD** has received a U.S. Department of Energy Building University Innovators and Leaders Development (BUILD) award to promote university-industry partnerships to enhance building efficiency. Drexel is one of three universities to receive this award to help American universities establish stronger partnerships with industry and business in the area of building efficiency. Wen and researchers from her Building Science and Engineering Group will work to develop an innovative and cost-effective automated fault detection and diagnostics tool (AFDD) for commercial buildings which will help reduce energy waste. The team will test its program using data from the Stratton Building on Drexel's campus and the final deliverable will be a comprehensive package of data, analysis, and a commercialization program for an AFDD toolkit that provides a thorough overview of faults within a building's entire energy system. Wen will work with a team that includes Drexel engineering graduate and undergraduate students, students from Drexel's Charles D. Close School of Entrepreneurship, and industry partner KGS Buildings. More information about this project can be found at [DrexelNow](#) and on the [CAEE Department website](#).



Ivan Bartoli Receives NSF CMMI Award

Assistant Professor **Ivan Bartoli, PhD** recently received an NSF Civil, Mechanical and Manufacturing Innovation (CMMI) award titled "Remote Infrastructure Monitoring Assessment via Multispectral Imaging of Surface Coatings" in the amount of \$430,000 over a period of three years. Co-PIs are MEM Associate Professor **Antonios Kontsos, PhD** and MEM Assistant Professor **Matthew McCarthy, PhD**. This research project will test an innovative approach for structural health monitoring of large infrastructure systems such as bridges, railroads, masonry buildings, networks of pipelines, power lines, dams and more. As infrastructure in the United States continues to age, more efficient and affordable techniques need to be implemented to support monitoring and assessment of these large systems. This research will use nanofabricated coated sensors and unmanned aerial systems equipped with cameras to capture multispectral imaging. These images will then be analyzed using algorithms to measure the deformation of the given structural system. Combining these innovative sensors with the use of unmanned aerial vehicles provides a method of structural health monitoring that promises to be efficient, reliable, non-invasive, and cost-effective. More information can be found on the [CAEE Department website](#).



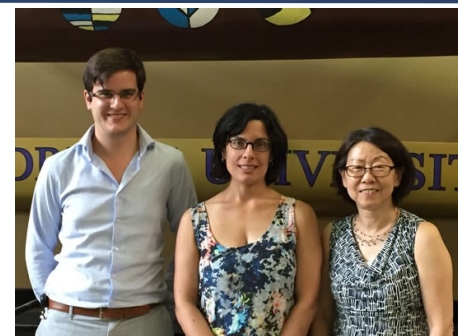
Mira Olson Receives GAANN Award



Associate Professor **Mira Olson, PhD** has received a three-year U.S. Department of Education Graduate Assistance in Areas of National Need (GAANN) award titled "Drexel University GAANN Fellowships in (Appropriate) Research Management in the Urban Environment." This award will support a select number of highly qualified graduate students to obtain doctoral degrees in the CAEE Department. This award will train civil, architectural, and environmental engineers to incorporate resource recovery, resource protection, energy efficiency, and appropriate resource management of the built environment into both their engineering professions and future academic curricula through guided research and teaching opportunities. More information can be found on the [CAEE Department website](#).

Pieter Billen, Grace Hsuan, and Sabrina Spatari receive NSF EAGER Award

CAEE Department Research Scientist **Pieter Billen, PhD** (PI), Associate Professor **Sabrina Spatari, PhD** (co-PI), and Professor **Grace Hsuan, PhD** (co-PI) (pictured left to right) recently received a NSF Early-concept Grant for Exploratory Research (EAGER) titled "EAGER: Spherical Porous Reactive Aggregates from Coal Bottom Ash." Coal power plants generate large amounts of bottom ash with no engineering value and a high environmental cost to the society. Bottom ash is the non-combustible, large particle size residue from a furnace or incinerator. The goal of this project is to convert this waste material into value-added reactive aggregates that will improve the cracking resistance of concrete by strengthening the bonding between the aggregate material and hardened cement. More information can be found on the [CAEE Department website](#).



Department and College Promotions



As of September 1st **Michael Waring, PhD** was promoted to Associate Professor. His research investigates indoor air and environmental quality specifically as it pertains to indoor chemistry and aerosol formation and mitigation practices; low energy, Indoor Air Quality (IAQ)-enhancing sustainable ventilation strategies for buildings; and indoor microbial community response to environmental stimuli. As an educator, Waring has been an active facilitator of the Architectural Engineering Program and assisted with the creation of the MS and PhD programs in Architectural Engineering as well as the new undergraduate Digital Building concentration. More information can be found on the [CAEE Department website](#).



Professor **James Mitchell** was appointed the Associate Dean for Undergraduate Affairs for the College of Engineering. Mitchell has been at Drexel since 1988, where he started as an associate professor and then professor in the CAEE Department. He developed the Architectural Engineering program and was the program director since almost its inception. In his new role, Mitchell oversees the College of Engineering's Undergraduate Advising Center and will provide leadership and guidance for all undergraduate related academic activities. More information can be found on the [CAEE Department website](#) and on the [Undergraduate Advising web page](#).

Professor Waring will take over the role as Director of the Architectural Engineering program and he will serve as the Associate Department Head for Undergraduate Affairs within the CAEE Department.

Research in Venice, Italy

Associate Professor **Franco Montalto, PhD** and Drexel have partnered with University IUAV in Venice on an Erasmus Plus Mobility Grant. This grant will fund Drexel MS and PhD students, as well as faculty and administrators to travel to Venice on collaborative research projects. In exchange, IUAV students, faculty, and administrators will also be traveling to Drexel. The theme for the exchanges is Climate-Proofed Cities, and work leading to the development of adaptation, mitigation, and resilience building strategies in cities like Philadelphia and Venice. Collaborations with IUAV are already underway. Two IUAV doctoral students are working under Franco Montalto this fall. **Filippo Magni's** research focuses on the link between new climate change policies/planning tools and traditional planning tools. His research while in Philadelphia will focus on what policy measures are used to build urban resilience to climate change in the city. **Denis Maragno's** research focuses on knowledge management for climate proof planning and post-disaster risk strategy and in Philadelphia he is studying urban heat island dynamics and reduction strategies. Their advisor, Professor **Francesco Musco**, will be traveling to Drexel throughout this exchange. If you are interested in applying for a research opportunity, please contact Professor Montalto at fam26@drexel.edu.



Patrick Gurian and IExE group complete a report for the Mayor's Office of Sustainability



A group of Drexel faculty and students, including many CAEE participants, recently completed a report commissioned by The City of Philadelphia Mayor's Office of Sustainability to address the City's options for achieving greenhouse gas emissions reductions of up to 80% by 2050. The group concluded that such a dramatic reduction is attainable with current technology and the report outlines a set of technological options capable of achieving this target. Policy approaches are also discussed. Associate Professor **Patrick Gurian, PhD** led this group of faculty and students from both the College of Engineering and the College of Arts and Sciences. This effort was sponsored by the The **A.J. Drexel Institute for Energy and the Environment**. An event was held at Drexel to present the report. Over 100 students, faculty, government officials, and stakeholders were in attendance. For more information visit the [CAEE Department website](#).

Aspasia Zerva hosts second ENHANCE meeting

Professor **Aspasia Zerva, PhD** hosted the second ENHANCE meeting in September 2015. ENHANCE (Enhancing the Career of Female Faculty in Earthquake Engineering Research) is an NSF-funded Collaborative Project, with Drexel as the Lead Institution, and Northeastern University, Stanford University, the University of Delaware, the University of Minnesota, and the University of Texas at Austin as Collaborators. PIs of the project, all senior female faculty in Earthquake Engineering, mentor junior female faculty to assist them with advancing their careers and fulfilling their full potential both professionally and personally. During this two day workshop, three NSF Program Directors visited the group to provide insight into proposal preparation, submission and review, topics that NSF is/is not interested in, and in-depth presentations of the newly revised structure of the NSF CMMI Division. The final day was devoted to a workshop by Dr. Sabina Nawaz, an Executive Coach, on the topic: "Navigate your Career's Compass ... in three steps: know yourself, show yourself and grow yourself."

