CoCo Seminar Series
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Toward a True Green Energy Transition

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Hybrid (EB-T1 & Zoom; meeting link available on http://coco.binghamton.edu/)

Transitioning from fossil fuel to renewable energy is crucial in combating climate change. The predominant renewables are solar, wind, hydropower, biomass, and geothermal power. Despite their clean energy reputation, the manufacturing, deployment, operation, and disposal stages of renewable technologies involve the use of hazardous chemicals, the releases of which contribute to environment pollution and negative impacts to human health. Due to the intermittency of renewables, lithium-ion batteries are used worldwide to store excess energy and release them when it is needed. Although energy storage technologies are critical to ensure the supply of renewable energy, their manufacturing and disposal can release persistent fluorinated compounds including hazardous per-and polyfluoroalkyl substances (PFAS). PFAS are synthetic chemicals widely used in a wide range of industry processes and products. PFAS are known for their persistence in the environmental and human body, and are linked to harmful health effects. Failing to address the chemical impacts of renewable and energy storge technologies will diminish their climate and environment benefits. In this talk, we emphasize the chemical impacts associated with renewable technologies and battery recycling, and stress the importance of ensuring their benefits are not gained at the expense of the environment.

Dr. Yuxin Wang is an Assistant Professor in the School of Systems Science and Industrial Engineering at Binghamton University. She obtained her Ph.D. in Civil and Environmental Engineering from Carnegie Mellon University. She was a postdoctoral associate in the School of Civil and Environmental Engineering at Cornell University, and a visiting instructor in Sustainable Engineering at SUNY ESF, before joining Binghamton University. Her research interests include water quality challenges arising from human activities, developing laboratory experiments and mechanistic models, and exposure risk assessment for contaminants in natural and engineered systems.

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