Community-based air quality measurements in the Salt Lake Valley

Air pollution is a significant global health and economic concern. It accounted for 7 million deaths worldwide in 2012 and $21 billion in air-pollution related health care costs in 2015. It will continue to be a concern as the world’s population becomes more urbanized, placing ever-increasing burdens on constrained airsheds, like the Salt Lake Valley - a region that periodically experiences some of the worst short-term fine particulate matter pollution episodes in the country. In parallel with these challenges, advances in sensing, computing, and communication technologies have transformed individuals’ lives, and they promise to transform communities by improving efficiency and infrastructure, generating economic opportunities, and improving quality of life. The AQ & U team is building on these advances to develop a layered framework for integrating sensor data of variable quality using state-of-the-art data modeling and visualization coupled with a citizen-science effort to engage residents to host and maintain sensors across the city. Citizens can view the sensor data, estimates of fine particulate matter and uncertainty through engaging visualizations. AQ&U takes a citizen-centric approach both in the way that we deploy and maintain our sensor network, as well as in the way we design tools for public access. We rely on individual and school volunteers to host sensors and help identify poor-quality data. The Salt Lake Valley has over 100 sensing nodes in the AQ&U network, and the network includes high-quality data from state monitors and research-grade instrumentation as well as lower quality information from community networks of low-cost, particulate matter sensors. Dr. Kelly will highlight AQ&U results as well as some of the challenges in deploying, operating and obtaining meaningful data from the network.

Dr. Kerry E. Kelly
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Wednesday, November 28, 2018, at 3:15pm
295 FASB
Refreshments and Meet the Speaker at 3:00pm

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