



UC MERCED ENVIRONMENTAL SYSTEMS SEMINAR

12:30 to 1:30 pm

October 10th, 2018

Student Services Building Room 130

Vegetarian snacks, fresh coffee and tea will be provided. Please, bring your own mug to decrease waste. Visit <http://es.ucmerced.edu/seminars>

Dr. Natasha Stavros – California Institute of Technology

Host: Dr. Erin Hestir

Environmental Science in the Information Age: A Fire Ecology Example of Data and Information System Engineering for a Big Data Application

We live in the “information age”; we are collecting data so fast that to actually leverage that data, we need to take a step back and examine how it is that it can inform action. At present, data is being collected from thousands of sources including satellite and airborne sensors as well as crowdsourced user input (e.g., web/mobile apps). To actually use all that data, we need to understand how the best computer on earth, the human brain, systematically collects and processes data into information that motivates the actions we take. As you read this, your eyes are bombarded by the photons emitted from the screen/page. These Data are then processed into Information – words on the page. Those words are in a sentence and that sentence tells you something with which you do or do not agree; this is Knowledge. Based on this knowledge, you then nod or shake your head as informed action, or Wisdom. This process of transforming data into action (commonly referred to as the knowledge hierarchy) happened in a brief second; not even as fast as you read it had you done the action. This talk presents the WKID Innovation hypothesis and provides a fire ecology example for how to identify, develop, and integrate big data into environmental science and resource management.

Dr. Natasha Stavros



Dr. E. Natasha Stavros is a Applied Science System Engineer at Jet Propulsion Laboratory, California Institute of Technology. She specializes in end-to-end data and information system engineering, which includes facilitating collaborations among interdisciplinary researchers and decision makers (managers & policy), mapping inter-organizational information systems, assessing market needs, and architecting and managing projects/tasks to fill gaps between information demand and data supply. She developed these skills as a fire and terrestrial ecosystem ecologist, but applies them in other complex systems, with particular emphasis on NASA flight projects, technology and data systems. She received a B.A. in Mathematics and Computer Science from the University of Colorado, Boulder where her career with NASA began at the Laboratory of Atmosphere and Space Physics (LASP) doing mission operations and data analysis for data product calibration. She received a M.S. in Environmental Sustainability from the University of Edinburgh, Scotland specializing in remote observation integration into a mechanistic model for forest management, and a Ph.D. in Forest and Fire Ecology from the University of Washington specializing in linking climate, fire ecology, and air quality degradation.

Did you know...? The ES Seminar is committed to decrease our environmental footprint. Our luncheons and seminar snacks are only vegetarian or vegan options. We brew our own coffee and tea, and encourage the participants to bring their own mugs to decrease waste.