

## Data Science Seminar

Hosted by Department of Mathematical Sciences

- Date: Thursday, April 20, 2017 (note special day and time)
- Time: 1:15-2:15
- Room: WH-100E
- Speaker: Qiusheng Wu (Geography at Binghamton University)
- Title: Environmental Monitoring and Analysis with Geospatial Big Data Powered by Google

### **Abstract**

Earth observation data have been collected by various satellite and airborne sensors through remote sensing technologies since the 1970s. On the one hand, the petabyte archives of remote sensing imagery are crucial for many environmental and societal applications such as surface water mapping, deforestation tracking, drought monitoring, disaster response, disease surveillance and so on. On the other hand, the ever-increasing volume and variety of geospatial big data pose great challenges in data storage, management, analysis, and visualization. Until recently, global-scale environmental analyses with fine-resolution remote sensing imagery have been very limited due to the excessive computational cost associated with these geospatial big data. Google Earth Engine is a new cloud computing platform that combines a multi-petabyte catalog of satellite imagery and geospatial datasets with planetary-scale analysis capabilities, allowing scientists and researchers to access and analyze vast amounts of satellite imagery free of charge. The platform offers parallel computational access to thousands of computers in Google's data centers. This talk will demonstrate the application of Google Earth Engine and high-resolution light detection and ranging (LiDAR) data for various environmental applications, such as wetland mapping and monitoring.

More details about the Data Science seminar can be found at <https://www2.math.binghamton.edu/p/seminars/sml>

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