**Session 1 Water**

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| **Faculty Presenter** | **Abstract Title** | **Abstract** |
| Mani Rouhi Rad | Managing Water Resources: An Interdisciplinary Approach | Sustainable management of water resources requires an interdisciplinary approach that brings together biophysical and social scientists. Ignoring either set of skills will likely result in policy recommendations that are at best biased and at worst misleading. This presentation will discuss and encourage discussions between social scientists and biophysical scientists and engineers on potential problems related to water resources in the region and interdisciplinary approaches that can be adopted to solve them. |
| Brian Powell | Geochemistry of iron and trace metals in wetlands and monomictic ponds | I will discuss the geochemical controls on the flux of iron across oxidation/reduction boundaries formed in the shallow pore waters of wetland streams and across the thermocline formed in monomictic ponds during the summer months. An emphasis will be placed on how these systems evolve seasonally and how the flux of iron controls the release of contaminants within these water bodies. |
| J. Todd Petty | Freshwater species conservation at the interface of land use and climate change in Appalachian watersheds | Climate change and its effects on water temperature and flow is expected to have profound consequences for freshwater species conservation throughout the Appalachian region. Our team has been actively addressing these questions through three lines of research: 1- advanced bio-monitoring technologies; 2- understanding complex biological response to climate, land use and restoration; and 3- modeling expected ecosystem response to future climate and land use conditions. I will summarize results across these lines of research, and I will discuss how we can use watershed restoration as an experimental perturbation to better understand climate related influences on freshwater resources. |