



DEPARTMENT OF GEOGRAPHY

INDIANA UNIVERSITY

College of Arts and Sciences
Bloomington

SPRING 2019 - COLLOQUIUM SERIES

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The Environmental Master Variable: Watershed Suspended Sediment Dynamics from Headwaters to the Harbor

Abstract: All natural aquatic systems transport fine sediments in suspension, where they play important physical, chemical and biological roles, perhaps most valued as substrate for floodplain, beach, and wetland maintenance. However, over-abundance of suspended sediment and contamination with human generated pollutants together represent the most prevalent impairment of water bodies in the US. Human development has resulted in spatio-temporal patterns of both sediment impairment and resource deficiencies within individual watersheds. Efforts to define thresholds of acceptable sediment abundance and composition, and develop watershed-scale management plans to achieve these goals, are further complicated by highly variable and poorly characterized natural sediment regimes. We know that the provenance, travel time and transport path of fine sediments largely control their composition and pollutant load. Yet these watershed-scale dynamical characteristics are usually not considered in assessments of sediment as resource or impairment, which tend to rely on 'snapshot' ambient characterizations of suspended and/or bed sediments. How long will ambient impairments or sediment starvation persist? What is the sediment impairment or accretionary/erosional trajectory for a given site? We will explore recent advancements in the study of sediment dynamics, and consider exciting potential applications that may help address these questions and others critical to the management of aquatic systems at the watershed scale.

Friday, March 1, 2019

3:35 p.m. in Student Building 005

(Refreshments provided at **3:15 p.m. in Student Bldg. 018**)

Questions: Dr. Taehee Hwang, (812) 856-2846