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**Environmental Engineering**

**and Earth Sciences**

**EEES Department Seminar**

**Environmental Fluid Mechanics and Geoscience Processes:**

**Flow, Transport, and Mechanics in Porous Media**

**Dr. Christophe Darnault**

Department of Environmental Engineering and Earth Sciences

Clemson University

Soil, water, food, and energy are fundamental components of life’s essentials. Advancing the understanding of the mechanisms that govern single-phase and multi-phase fluid flow in porous media, such as soil, aquifers, and oil reservoirs, is critical for a number of applications related to agriculture, environment, and energy. This presentation will explore studies focusing on flow phenomena and transport processes, in particular on soil hydrology, chemical enhanced oil recovery (EOR), and surface and subsurfaces interactions. Finally, the development of 2D and 3D visualization methods/tools, as well as remote sensing and imaging workflow to elucidate the mechanisms and parameters affecting flow phenomena and transport processes in the environment will be introduced.

**About Dr. Darnault:**

Dr. Christophe Darnault is an Associate Professor at the Department of Environmental Engineering and Earth Sciences at Clemson University. He is the Chair of the South Carolina Section of the American Society of Agricultural and Biological Engineers. He is one of Clemson’s representatives for the Consortium of Universities for the Advancement of Hydrologic Science, Inc. He has research and teaching experience at Rensselaer Polytechnic Institute and University of Illinois at Chicago. He was also a visiting scholar at Yale University. He received his Ph.D. in Environmental and Water Resources Engineering from Cornell University, and his combined M.S. & B.S. degree (Diplôme d’Ingénieur) in Agricultural, Environmental, and Biological Engineering from the Institut Supérieur d'Agriculture, Lille, France.

**2:30 PM**

**Friday, January 13, 2023**

**Brackett Hall 100**

***Attendance is mandatory for graduate students enrolled in***

***EES 8610, EES 9610, and GEOL 8610.***