



UNIVERSITY OF
GEORGIA
College of Engineering

2017-2018
**Lecture
Series**



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Department of Environmental
Engineering and Earth Sciences
Clemson University

*“Flow and Transport in Porous Media: Applications in
Agriculture, Environment and Energy”*

ABSTRACT

Flow and transport in porous media with applications in agriculture, environment and energy are complex phenomena that encompass a wide range of disciplines. Understanding flow and contaminants transport processes in porous media is critical for the mitigation of their impacts, the development of effective remediation procedures, the exploitation and management of subsurface resources, and the protection of the environment and public health. To study the fate and transport of these contaminants in the vadose zone, we have investigated their mobility under different hydrodynamic and biogeochemical conditions found in the natural environment. We have demonstrated the critical role that preferential flow (macropore flow and fingered flow); transient in water content and velocity; transient in solution chemistry, gas-water interfaces; solid interfaces; system heterogeneities; plants and microbes; and their interactions and feedback have in the flow, transport, and retention of contaminants in the vadose zone.

BIOGRAPHY

Christophe Darnault is an assistant professor in the Department of Environmental Engineering and Earth Sciences at Clemson University. He is one of Clemson’s representatives for the Consortium of Universities for the Advancement of Hydrologic Science, Inc. His research and teaching experience includes work at Rensselaer Polytechnic Institute and the University of Illinois at Chicago.

Darnault received his Ph.D. in Environmental and Water Resources Engineering from Cornell University (2000), 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 (1995). Dr. Darnault’s teaching and research interests are in the fields of biological and environmental engineering, agricultural engineering, hydrological sciences, and water resources engineering.

FRIDAY

March 9, 2018

NOON - 1:30 P.M.

**COVERDELL CENTER
AUDITORIUM
(Room 175)**