4th Annual ND WRRI Distinguished Water Seminar



Dr. Gregory V. Lowry

Walter J. Blenko, Sr. Professor of Civil & Environmental Engineering

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Nanotechnology in Water Science and Engineering: Sustainably Harnessing the Power of Nanotechnology

<u>Date & Time</u> :	February 19 (Thursday), 2015, 10:00-11:30 AM (Refreshments will be served at 9:45 AM)
<u>Place</u> :	Hidatsa Hall, Memorial Union
<u>Sponsor</u> :	North Dakota Water Resources Research Institute
<u>Co-Sponsors</u> :	Civil Engineering, Agricultural and Biological Engineering,
	Geosciences, Environmental and Conservation Sciences, and
	School of Natural Resources Sciences

Abstract: Nanotechnologies have tremendous potential for helping to achieve the Millennium Goals for sustainable development. However, the introduction of new technologies and materials must be done sustainably to achieve those benefits. The Environmental Nanotechnology field has evolved over the past decade, moving from unrealistic expectations of the benefits of nanotechnology and overblown fears about negative impacts, to realizing some of those benefits and gaining a better understanding of the potential for negative impacts of nanomaterials along their lifecycle. Dr. Lowry will present an overview of the history of the Environmental Nanotechnology field, and recent advances in applications and implications of engineered nanomaterials.

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Speaker: Dr. Gregory V. Lowry

Dr. Lowry is a Professor of Civil and Environmental Engineering at Carnegie Mellon University. He teaches courses in Environmental Engineering, Environmental Fate and Transport of Organic Compounds in Aquatic Systems, Environmental Nanotechnology, Water Quality Engineering, and Environmental Sampling and Sample Characterization.

His research interests broadly include Environmental Nanotechnology, Energy and Environment, and Environmental Remediation. Specific research areas include nanoparticle characterization, reactivity, and transformations, macromolecule-nanoparticle interactions, and contaminant fate in the subsurface.

He is an experimentalist working on a variety of fundamental and application-oriented research projects including developing nano-enabled environmental technologies, assessing environmental fate of engineered and natural nanomaterials and organics, and understanding the impacts of CO_2 on deep subsurface biogeochemistry.

(Please visit Dr. Lowry's website for more details: <u>http://faculty.ce.cmu.edu/lowry/</u>).



All interested faculty and students are welcome to attend the seminar and participate in discussions/meetings with Greg before his seminar. For additional information, please contact Dr. G. Padmanabhan (<u>g.padmanabhan@ndsu.edu</u>, 1-7043), or Dr. Xuefeng Chu (<u>xuefeng.chu@ndsu.edu</u>, 1-9758), or Dr. Achintya Bezbaruah (<u>a.bezbaruah@ndsu.edu</u>, 1-7461)