Amgen Seminar Series in Chemical Engineering

in

Cherry Auditorium, Kirk Hall, 12:45 PM

Presents on November 8, 2018

'All That is Gold Does Not Glitter' – Environmental Applications of Gold Enabled Plasmonics

By

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Clean air and clean water are the cornerstones of environmental engineering and environmental science. To assure the quality of these matrices, we currently rely upon a broad range of monitoring techniques - many of which are outdated, unreliable, or excessively expensive. Recent advances in both nanotechnology and biotechnology, however, are poised to provide novel and previously unattainable alternatives that have the potential to be more sensitive as well as more cost-effective than many existing methods. In this presentation, we will present work conducted to develop gold enabled plasmonic platforms that facilitate detection of inorganic, organic, biologic, and nanoparticulate contaminants. As will be shown, both light spectroscopy and Raman spectroscopy can be used to detect and quantify environmental contaminants in a range of different media.

Bio: Dr. Peter J. Vikesland is the Nick Prillaman Professor at Virginia Polytechnic Institute and State University. He received his B.A. from Grinnell College in Chemistry in 1993 and M.S. and Ph.D. in Civil and Environmental Engineering from University of Iowa in 1995 and 1998. Dr. Vikesland's research interests examine the fate of nanomaterials in the environment and their use to improve sensors for environmental quality assessment. He is a past President of the Association of Environmental Engineering and Science Professors (AEESP) and is the Editor-in-Chief of *Environmental Science: Nano*.

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