VIEM Axe Eau Vendredi 24 juin 2016 – 10h30 : **Photochemistry in Complex Waters: Understanding the Challenges**

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**Abstract:** There are three well known mechanisms of photosensitization of reactive oxygen species (ROS) that occur in natural systems. Photocatalytic materials have been designed by scientists and engineers to utilize these photosensitization routes for use in various processes, including water treatment. Photocatalysis offers a promising route for low-cost disinfection, but there are several important challenges to overcome for effective photosensitized disinfection in natural or waste water streams. These challenges will be discussed in the context of the different photooxygenation mechanisms, and the use of membranes with photocatalysts as a synergistic technology will be introduced

**Biographical Sketch:**

Samuel Snow is currently a postdoctoral researcher at Michigan State University, working to develop synergistic membrane and photocatalytic disinfection strategies for natural and wastewater streams. He earned his B.S. (Earth and Atmospheric Science) and Ph.D. (Environmental Engineering) at the Georgia Institute of Technology, where he studied the effects of chemical functionalization on fullerene photochemistry. During his graduate work with disinfection technology, Samuel helped formulate and teach a course titled, "Environmental Technology in the Developing World." His involvement with this course highlighted his passions for advancing technology and education for the provision of sustainable water globally.

