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Application of Net Zero Principles to the Army's Industrial Base

Christos Christodoulatos

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The Doctoral Program in Environmental Science & Management
and MSU Sustainability Seminar Series Present:

Application of Net Zero Principles to the Army's Industrial Base

WHEN: September 21, 4:00 pm WHERE: CELS 120 lecture hall

Dr. Christos Christodoulatos
Stevens Institute of Technology



Dr. Christos Christodoulatos is the Director of the Center for Environmental Systems (CES) at Stevens Institute of Technology, a position he holds since 2002. He has been teaching and performing research in environmental systems since 1988 and serves as a consultant to government and private organizations. He has managed and executed over a hundred and sixty major research projects in environmental technology and sustainability. Over the last few years his research is focused on the valorization of waste streams from munitions production and industrial facilities for generation of algal biomass and its subsequent conversion to green fuel. He holds several patents in water and air treatment technology and has authored over 170 articles in professional journals, conference proceedings, and handbooks. Dr. Christodoulatos is a Fellow of the National Academy of Inventors (NAI) since 2013.

In January 2014, the Secretary of the Army distributed Army Directive 2014-02 "Net Zero Installations Policy". The Net Zero Policy requires installations to: (1) reduce overall energy use, maximize efficiency, implement energy recovery and cogeneration opportunities, and offset the remaining demand with the production of renewable energy from onsite sources and (2) reduce overall water use, regardless of the source; increase use of technology that uses water more efficiently; recycle and reuse water. The Army's industrial base and especially munitions manufacturing facilities generate waste streams with high nutrient and carbon content and therefore present unique opportunities for development and application of sustainable technology and environmental management. In this presentation we will explore approaches that have the potential to convert these water-intensive and energivorous operations into shining examples of environmentally sustainable practices and at the same time help the Army achieve its vision to manage the natural resources with a goal of Net Zero in energy, water and solid waste at its installations.