



Presented By:
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Environmental Engineering *Seminar Series*

Friday, November 13th
MDEA
1:30PM - 2:30PM

Improving Novel, Low-Carbon Energy Systems To Improve Thermodynamics, Economics & Environmental Performance

Dr. Whitney G. Colella, Ph.D., M.B.A. has over 18 years of research and development (R&D) experience in academia, government, and private industry in the areas of advanced energy conversion system design, operation, and control. Her areas of expertise include the thermodynamics, chemical engineer process plant design, economics, computer modeling, and independent testing of advanced energy systems. Dr. Colella has served as a Principal Investigator (PI) on energy R&D projects totaling over \$8 million and as a key technical contributor on energy R&D projects totaling over \$20 million.

Dr. Colella spearheads computer simulation, testing, and independent analysis of novel, low-carbon energy systems to improve their thermodynamics, economics, and environmental performance. Dr. Colella develops and applies analytic approaches to understand the design and performance space of networked stationary polygenerative fuel cell power plants and other distributed energy generation and storage devices, as well as advanced transportation systems. An aim of Dr. Colella's research is to use relatively inexpensive computer simulation to better design low-carbon energy devices so that they meet time-dependent energy demands; reduce greenhouse gas emissions, air pollution, and energy costs; and benefit national security through increased energy efficiency and security and diversity of energy supply.

Dr. Colella earned a B.S. in Mechanical Engineering (highest honors) from Princeton University, a M.S. in Science & Public Policy from Sussex University, a M.S. in Engineering from Stanford University, and an M.B.A. and a doctorate in Engineering Science from Oxford University on British Marshall, National Science Foundation (NSF), British Overseas Research Student (ORS), Lillian Moller Gilbreth, and Thomas J. Watson Fellowships and Scholarships. Dr. Colella has published 42 journal articles and conference proceedings, 29 peer-reviewed reports, 2 editions of the engineering textbook Fuel Cell Fundamentals, and 11 book chapters. Dr. Colella has presented 4 plenary conference presentations, 6 keynote conference presentations, 102 oral conference presentations, 137 invited talks, and 43 poster conference presentations.

