Queens College, School of Earth and Environmental Science, Spring 2026 Colloquium

Science Building Room C207 and by zoom (see below for zoom link)

Wednesday February 25 th, 12:15-1:15pm

Title: ***"Advances in the Co–Recovery of Commodity Materials and Sustainable Energy Carriers from Unconventional Alkaline Resources for a Sustainable Energy and Resource Recovery Future"***

Dr. Greeshma Gadikota, Lenfest Professor of Earth & Environmental Engineering, Columbia University
Director, Lenfest Center for Sustainable Energy, Columbia University

Abstract: Comprehensive valorization of alkaline resources including ores, industrial alkaline residues, and brines is crucial for advancing a secure and sustainable energy and resources future. In a significant departure from conventional routes for recovering metals which are focused on a single product alone, comprehensive co – recovery of multiple high value products is proposed for comprehensive valorization. One specific example include the recovery of lithium, magnesium hydroxide, calcium carbonate with the co – utilization of CO_2 emissions, hydrochloric acid, sodium hydroxide, H_2, and O_2 from brines. Another example is the co – recovery of nickel and magnesium from olivine, an earth abundant minerals. Advances in novel electrochemical processes and sorption routes unlock new possibilities for the co – recovery of these critical and commodity materials.

Bio: Dr. Greeshma Gadikota is the Lenfest Earth Institute Professor in the Department of Earth and Environmental Engineering and Director of the Lenfest Center for Sustainable Energy at Columbia University. Dr. Gadikota directs the Sustainable Energy and Resource Recovery Group. She served on the faculty at Cornell University, held postdoctoral research associate appointments at Princeton University and Columbia University, and a research associate appointment at the National Institute of Standards and Technology (NIST). Her PhD in Chemical Engineering and MS degrees in Chemical Engineering and Operations Research are from Columbia University. Her BS in Chemical Engineering is from Michigan State University. Her scientific contributions are recognized by the DOE, NSF and ARO CAREER Awards, Sigma Xi Young Investigator Award, Cornell Engineering Research Excellence Award, Inaugural Cornell Rising Women Innovator Award, AICHE Sabic Award for Young Professionals, and ACS Women's Chemists Committee (WCC) Rising Star Award to list a few notable recognitions.

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