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CLIMATE/ATMOSPHERIC SCIENCE & ENGINEERING COLLOQUIUM

Multiphase Atmospheric Chemistry:

From the lab to the atmosphere

Professor V. Faye McNeill

Columbia University, Departments of Chemical Engineering and Earth and Environmental Engineering

- **Friday, Oct. 29, 2021 | 1 to 2 p.m. (CDT) | Via Zoom**
- **Free Registration:** https://uiowa.zoom.us/meeting/register/tJYkdeuoqDMuH9zbMbPv9z2eYXJR8s5FLJ4f

  Registration takes less than a minute. A confirmation email will follow with instructions to join the

ABSTRACT: A fundamental challenge of atmospheric chemistry is bridging the gap between the detailed molecular-level knowledge generated by laboratory experiments and computationally constrained large-scale models. I will provide case studies illustrating my group's approach using process models to (a) extract kinetic parameters necessary for modeling novel chemistry from laboratory studies (b) evaluate the potential impact of that chemistry under ambient environmental conditions and (c) focus and inform future laboratory studies. I will also discuss our recent progress in automating the reduction in scale of complex atmospheric chemical mechanisms for inclusion in large-scale models.

BIO: V. Faye McNeill is a Professor in the Department of Chemical Engineering and the Department of Earth and Environmental Sciences at Columbia University. She is also an associate member of the Earth Institute Faculty and Principal Investigator of the Columbia University Clean Air Toolbox for Cities Initiative. She joined Columbia in 2007 and received tenure in 2014. She received her B.S. in Ch.E. from Caltech in 1999 and her PhD in Ch.E. from MIT in 2005, where she was a NASA Earth System Science Fellow. From 2005-2007 she was a postdoctoral scholar at the University of Washington Department of Atmospheric Sciences. She received the NSF CAREER and the ACS Petroleum Research Fund Doctoral New Investigator awards in 2009. She was the recipient of the Kenneth T. Whitby Award of AAAR in 2015 and the Mellichamp Emerging Leaders lecturer at UCSB in 2018. She is the Associate Editor in charge of Atmospheric Chemistry for ACS Earth and Space Chemistry. She was a co-editor of Atmospheric Chemistry and Physics from 2007-2017. She has served in multiple elected officer positions in AIChE, AAAR, and AGU. She is an appointed member of the IUPAC panel on kinetic data evaluation and the ACS Committee on Environmental Improvement.

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