关于美国西北太平洋国家实验室(PNNL) Jiwen Fan 博士学术报告通知

报告题目：Deep Convective Clouds and Associated Aerosol Impacts: Physical Understanding, Parameterizations, and Challenges

报告人： Dr. Jiwen Fan，美国西北太平洋国家实验室（PNNL）

报告时间：2017 年 7 月 10 日 10：00 -11：00 (星期一)

报告地点：浙江大学农生环大楼 C216 会议室

报告人简介： Dr. Jiwen Fan is a Senior Research Scientist at Pacific Northwest National Laboratory. She is also an Adjunct Professor at State University of New York (SUNY) at Albany. Dr. Fan received her Ph.D. degree in 2007 from Texas A&M University. Since then, she has been working at Pacific Northwest National Laboratory (PNNL). She has a wide range of research experience and interests, varying from atmospheric chemistry and aerosols, to cloud physics and convection. Her primary focus is to improve physical understanding of aerosol-cloud interactions focusing on mixed-phase and deep convective clouds, and improve representations of cloud microphysics and cumulus clouds. Jiwen has published 65 peer-reviewed journal publications, with papers published in *PNAS*, *Nature-Geosciences*, and *Geophy. Res. Lett*. Her h-index is 28 by Google Scholar and 24 by ISI Web of Science. She was awarded a few prestigious research awards including the PNNL Ronald L. Brodzinski Award for Early Career Exceptional Achievement and 2015 AGU ASCENT award for exceptional mid-career scientists. Jiwen has been actively committed to services to scientific communities and demonstrated strong leadership skills. She served to AGU Publication Committee for two terms. She served as the Chair of AMS Atmospheric Chemistry Committee for 5 years, and organized the symposiums on aerosol-cloud-climate interactions at the AMS annual meetings for 6 years. She was the Chair of the Editor-in-Chief (EiC) Search Committees for Reviews of Geophysics and JAMES.

报告摘要：

Deep convective clouds (DCCs) play a crucial role in the general circulation, energy, and hydrological cycle of our climate system. Anthropogenic and natural aerosol particles may influence DCCs through changes in cloud properties, precipitation regimes, and radiation balance. In this talk, I will present our recent understandings gained from process-level studies about aerosol impacts on convective intensity, precipitation, and cloud anvil properties by acting as cloud condensation nuclei (CCN) and ice nuclei (IN). I will demonstrate how aerosols escalate an extreme precipitation event through aerosol-radiation interactions. Furthermore, I will talk about improving bulk microphysical parameterizations and parameterizing cumulus clouds and the associated aerosol impacts in regional and global climate models. Finally, I will summarize some significant challenges and discuss future directions.

浙江大学环境与资源学院

2017 年 6 月 18 日