



LSGI & RILS RESEARCH SEMINAR

Integrated Regional Climate/Weather/Environment Prediction: Opti-Parameterizations and Coupled Data Assimilation

 **27 FEB 2025 (THU)**

 **2:00 - 3:00 PM**

 **Y304, POLYU**

 **ENGLISH**

Prof. Seon Ki PARK

Professor

*Department of Climate and Energy Systems Engineering
Ewha Womans University, South Korea*



ABSTRACT

Numerical prediction of climate/weather/environment is an important source for adequate policy making in an era of changing climate. It requires a coupled modeling system, e.g., atmosphere-land surface-chemistry; its performance can be improved through better estimation of parameters and initial conditions. Numerical climate/weather/environment models provide not only their future states but also the analysis data at given grid sizes, which are useful in data void areas. Recent efforts to improve regional climate/weather/environment prediction will be introduced as an integrated approach: estimating optimal parameter values, seeking an optimized set of parameterization schemes, combining optimizations of parameterization schemes and parameter values sequentially (i.e., opti-parameterization), and applying a hybrid ensemble-variational data assimilation through the coupled models (e.g., WRF-Noah-MP and WRF-Chem) and satellite data.

BIOGRAPHY

Dr. Seon Ki Park is Professor of Climate and Energy Systems Engineering at Ewha Womans University (EWU), Seoul, Korea. His research focuses on storm- and meso-scale meteorology, coupled modeling of land surface-atmosphere-chemistry, and numerical prediction of high-impact weather/climate/environment, including data assimilation and parameter optimization. He obtained a Ph.D. in Meteorology from U. of Oklahoma in 1996, then worked at U. of Maryland and NASA/GSFC before he joined EWU (2001). He served as President of Atmospheric Sciences Section of the Asia Oceania Geosciences Society in 2012-2014, and currently serves as President of Korean Meteorological Society. He published several books, including Data Assimilation for Atmospheric, Oceanic and Hydrologic Applications, Principles of Data Assimilation (2022), and Numerical Weather Prediction: East Asian Perspectives (2023).

Moderator: Prof. Shuo WANG, LSGI

All are welcome! Please register now to join us on-site!

Enquiry: Mr Jimmy Kwan | Tel: (852) 2766 4350 |
Email: jimmy.lh.kwan@polyu.edu.hk



THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學



DEPARTMENT OF
LAND SURVEYING AND GEO-INFORMATICS
土地測量及地理資訊學系



RILS 土地及空間研究院
Research Institute for Land and Space