



# OFFICE OF THE SENIOR VICE PRESIDENT AND PROVOST PRESIDENTIAL DREAM COURSE

OFFICE OF THE VICE PRESIDENT FOR RESEARCH AND PARTNERSHIPS  
**DISTINGUISHED LECTURE SERIES**

CEES 4373/5373 WATER RESOURCES MANAGEMENT

## Hydrologic forecasting and the relative role of its three pillars: models, observations and parameterization

FEATURING **SOROOSH SOROOSHIAN**

**4 - 5 P.M. MONDAY, FEB. 24**

First Floor, National Weather Center Atrium

*Open to the public*

To be responsive to the need for more effective management of water resources, engineers and scientists must utilize more sophisticated hydrologic prediction tools. Depending on the problems, the hydrologic information needed may range from hourly forecasts (i.e., in the case of flash floods) to seasonal to inter-annual (i.e., in the case of water resources systems such as reservoir operation), and to decadal to century (i.e., in the case of long-range water supply planning and structural designs). While good progress has been reported related to both, “weather-scale” and “climate-scale” hydrologic predictions, many challenges face the research community attempting to extend the forecast lead time and accuracy.

Over the past half century and with the advent of digital computers, hydrologic models of various levels of complexity have been developed and continually refined and proposed. Progress toward development of more sophisticated and efficient parameter estimation methods have also been made and extensively reported in the literature. More recent advances we are witnessing are related to both space-based and in-situ observation tools to measure hydrologic fluxes at space-time resolutions required by the new generation of models.

However, despite the progress in each of these three pillars of hydrologic forecasting, the improvements in the overall forecast quality is yet to reach the users’ expectations. Some recent results from a number of reported evaluation studies will be presented. Personal reflections based on over three decades of research and experience will be shared with the goal of encouraging further discussion about the recent proposed strategies to advance hydrologic sciences.



### Soroosh Sorooshian

DISTINGUISHED PROFESSOR  
UNIVERSITY OF CALIFORNIA IRVINE

Dr. Soroosh Sorooshian is the director of the Center for Hydrometeorology & Remote Sensing and Distinguished Professor of Civil & Environmental Engineering and Earth System Science Departments at UC Irvine. Prior to 2003 he was a faculty member at the University of Arizona for 20 years. His area of expertise is hydrometeorology, water resources systems, climate studies and application of remote sensing to earth science problems with special focus on the hydrologic cycle and water resources issues of arid and semi-arid zones. He also consults on problems related to surface hydrology and urban flooding.

He is a member of the U.S. National Academy of Engineering; Member of the International Academy of Astronautics; Fellow, American Association for the Advancement of Science, Board of Directors for Geophysical Union, Fellow, American Meteorological Society.

He is a Fellow, International Water Resources Association; Member, Joint Scientific Committee, of the World Climate Research Programme; Past Chair, Science Steering Group of Global Energy and Water Cycle Experiment of the World Climate Research Programme; Past President of AGU’s Hydrology Section; member of five editorial boards; and former editor of AGU’s Water Resources Research.

#### NATIONAL WEATHER CENTER ACCOMMODATIONS:

For accommodations based on disability, or more details, please contact the National Weather Center at **405-325-3095**. Visitor parking is available for all University visitors. However, faculty/staff/students must have a current multi-purpose parking permit. Additional parking is available at Lloyd Noble Center for those individuals who do not have a parking permit.

You do not need a permit to park in one of 1,200 spaces reserved for CARD bus riders, although you must ride the CART shuttle to park in the reserved area. This area is on the north central side of the Lloyd Noble Center. Elsewhere at the LNC, permits are required.

For more information contact Melany Dickens-Ray at [mdickens@ou.edu](mailto:mdickens@ou.edu) | [ou.edu/research-norman](http://ou.edu/research-norman)

The University of Oklahoma is an equal opportunity institution. [www.ou.edu/eoo](http://www.ou.edu/eoo) | For accommodations, please contact the National Weather Center at (405) 325-3095.

*The UNIVERSITY of OKLAHOMA.*