

SEMINAR

Tuesday, November 15th, 2016, 16:00 h, ETH Hönggerberg HIT K52

Prof. Ashish Sharma

School of Civil and Environmental Engineering, University of New South Wales

ON MODEL COMBINATION AS A MEANS OF TACKLING MODEL STRUCTURAL UNCERTAINTY – APPLICATIONS TO SPATIAL INTERPOLATION, RADAR RAINFALL ESTIMATION AND FORECASTING

Abstract

The benefits of combining multiple ensembles of a modelled system are well known, with clear benefits especially when structural uncertainty is significant. Here we present a recently developed framework for model combination that uses information about the dependence across ensembles as the basis for combination. This framework is demonstrated first with an application to spatial interpolation where the alternate ensembles result from different assumptions about the interpolation parameters adopted. This is followed with an application to forecasting radar rainfall using a combination of a ground based network and a newly developed non-parametric radar rainfall estimation algorithm. The last application that demonstrates the benefits of this model combination approach stems from the issue of seasonal forecasting of gridded rainfall across Australia, with alternate models coming from the many seasonal forecasting models currently in use worldwide.