



**ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΕΙΡΑΙΩΣ
ΣΧΟΛΗ ΧΡΗΜΑΤΟΟΙΚΟΝΟΜΙΚΗΣ ΚΑΙ ΣΤΑΤΙΣΤΙΚΗΣ
ΤΜΗΜΑ ΣΤΑΤΙΣΤΙΚΗΣ ΚΑΙ ΑΣΦΑΛΙΣΤΙΚΗΣ ΕΠΙΣΤΗΜΗΣ**

ΠΡΟΣΚΛΗΣΗ

Σας προσκαλούμε στη **διαδικτυακή ομιλία του**

Dr Kostas Triantafyllopoulos (University of Sheffield)

η οποία θα διεξαχθεί

την Παρασκευή 22 Ιανουαρίου 2021 και ώρα 16:00-17:00,

μέσω της εφαρμογής MsTeams, με θέμα:

«Bayesian Inference of a General Class of Spatio-Temporal Models»

Περίληψη: This talk concerns statistical inference of spatio-temporal models, with the view to describe and explore data exhibiting spatial and temporal variation, possibly in high dimensions (e.g. river-flows, whale or other animal movement, etc) . The foundation of this work is the Gaussian dynamic spatio-temporal model; in its basic form this model considers observations in space and time, which are decomposed into an unobserved signal plus noise. The unobserved or latent signal is assumed to be smooth and to follow an integral autoregressive-type equation. This signal is then approximated by a finite wavelet decomposition, which introduces sparsity. This is essentially a hierarchical state-space model, for the estimation of which we propose Bayesian inference consisting of a hybrid MCMC algorithm. The methodology is illustrated with some simulations of 2-D images and real data consisting of pollution levels of NO around the network of Athens. The proposed methodology is general and if there is time I will discuss extensions to model observations which follow Poisson, multinomial and multivariate gamma distributions

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