

Thursday
May 23, 2019

12:30 pm
(CET)

The **Working Group on Risk - CREAR**, with the support of the IDS dpt, Institut des Actuaire, LabEx MME-DII, and the group BFA (SFdS), has the pleasure to invite you to the seminar by:

Prof. Sreekar VADLAMANI

TIFR-CAM Bangalore & Lund Univ., Statistics Dpt.

“Unraveling clusters: a Markov random field approach with an application to Indian Monsoon”

*at ESSEC La Défense (CNIT) - Amphi 237, 12:30-1:30pm
and ESSEC Asia Pacific - Level 3, classroom 7, 6:30-7:30pm*

Analysing high dimensional spatio-temporal data has been a central theme of research in areas ranging from natural sciences to social sciences. Specifically, identifying interesting patterns and clusters hidden in such complex databases is undoubtedly a challenging and critical task. Common clustering algorithms like k-means perform the task of clustering without utilising additional information like the physics of the data. Often, when studying natural phenomenon like weather, the data is supported by well established physical theories and models. A data analyst may want to use this information to her/his advantage by appropriately incorporating the physical theories in the (clustering) algorithms. In this aspect, researchers have used graphical models to understand complex data structures in various different contexts, and gained significant understanding of many different phenomena.

Taking cue from the confidence shown by researchers on graphical models, we fit a Markov random field model to Indian monsoon during the monsoon season, and identify chief spatio-temporal patterns in rainfall over the Indian landmass. In the process, we also identify what are called the "active" and "break" spells during the monsoon season which have long been considered the primary indicators of good or bad monsoon.

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For any information:

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<http://crear.essec.edu/working-group-on-risk>



Labex MME-DII
Modèles Mathématiques et Économiques de la
Dynamique, de l'incertitude et des Interactions

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Prof. Sreekar VADLAMANI

TIFR Center for Applicable Mathematics, Bangalore (India),
and Department of Statistics, Lund University (Sweden)

Dr. Sreekar Vadlamani's research interests are in random fields (and their geometry), random graphs and stochastic analysis. Sreekar is Reader at TIFR-CAM and, since August 2017, also a Guest Researcher at the Department of Statistics of Lund University. He holds a PhD from Technion – Israel Institute of Technology (2007).



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