

Spatio-temporal modeling and its applications

Studi in onore di Mauro Coli

September 24-25, 2015

Dept. of Economics – University G. d’Annunzio Chieti-Pescara

Address: Viale Pindaro, 42 – Pescara, Italy

The workshop is open and free but limited to 50 participants maximum. For attending please send an e-mail to ippoliti@unich.it before September 22. The workshop will be held at the Villa Maria Hotel & Congress Center (<http://www.hvillamaria.it/it/>)

PROGRAM

Thursday 24 September

Statistical modeling of environmental phenomena: pollution, meteorology, health and their interactions

FIRB 2012, progetto RBF12URQJ

Discussions will be headed by John Kent (Leeds University), Raj Bhansali (University of Liverpool and Imperial College) and R.J. Martin (University of Sheffield and G. d’Annunzio)

09:45 10:00 **STEPHI introduction**

10:00-11:30 **Session 1** chair John Kent

10:00 -10:30 **Turin RU:** Bootstrap for uncertainty bands for predictions in functional kriging (M. Franco-Villoria, R. Ignaccolo)

10:30 -11:00 **Bologna RU:** Penalized complexity priors for precision parameters in P-spline models (M. Ventrucci, H. Rue)

11:00 11:30 Discussion

11:30 11:45 **COFFEE BREAK**

11:45-13:00 **Session 2 :** chair Richard Martin

11:45 - 12:15 **Bergamo RU:** An analysis of temporal and spatial patterns in Italian hospitalization rates for multiple diagnosis (M. Cameletti, F. Finazzi)

12:15 - 12:45 **Bologna RU:** Joint stochastic modeling for downscaling temperature and precipitation maps (L. Paci, C. Trivisano, D. Cocchi)

12:45 - 13:15 Discussion

13:15 - 14:30 **LUNCH**

14:30 -16:00 **Session 3 : chair Raj Bhansali**

14:30 - 15:00 **Pescara RU:** Generalized Spatial Dynamic Structural Equation Modeling with application in air pollution and health statistics (D. Gamerman, L. Ippoliti, P. Valentini)

15:00 - 15:30 **Pescara RU:** ML Estimation and Modelling with Spatial Gaussian Processes (L. Fontanella, L. Ippoliti, L. Romagnoli)

15:30 16:00 Discussion

15:40 16:00 **COFFEE BREAK**

16:00-17:00 **Firb RUs:** Hospitalization data set: discussion

20:30 **Social dinner**

Friday 25 September

Spatial, temporal and spatial-temporal modeling: past and emerging topics

09:30 09:45 **Welcome from the Department of Economics** (Michele Rea, head of department)

09:45-10:45 **John Kent** A fresh look at Stein's half-spectral spatial-temporal model (**Chair:** L. Ippoliti)

10:45 11:15 **COFFEE BREAK**

11: 15 12:15 **Raj Bhansali** A dual parameter long-memory model (**Chair:** E. Nissi)

12:15-13:15 **Richard Martin** From time series to spatial processes and back again (Chair: L. Romagnoli)

13:15 15:00 **LUNCH**

15:00-16:00 **Daniela Cocchi** How Geography helps in finite population inference (**Chair:** R. Benedetti)

16:00 16:30 **COFFEE BREAK**

16:30-18:30 **Incontro dibattito:** Metodi e tecniche per l'analisi dei dati spaziali e spazio temporali: uno sguardo al passato, al presente e al futuro (moderatore: M. Coli). Interventi programmati: G. Girone, D. Cocchi, T. Sclocco, T. Di Battista, V. Di Giacinto

18:30 18:45 **Closing session**