

## StEPhI Project Workshop

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

March 12, 2015

Seminar room – Dept. of Economics – University of Bologna

Address: Piazza Scaravilli, 2 – Bologna, Italy

The workshop is open and free but limited to 40 participants maximum. For attending please send an e-mail at francesca.bruno@unibo.it before March 7.

### PROGRAM

Discussions will be headed by Prof. Alan Gelfand (Duke University) and Prof. Sujit Sahu (University of Southampton)

09:50 10:00 **Stephi introduction**

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10:00-11:20 **Spatial models for functional data and ecological analysis (WP3)**

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10:00 10:20 Torino RU: Bootstrap for uncertainty bands for predictions in functional kriging

10:20 10:40 Discussion

10:40 11:00 Pescara RU: Sparse Bayesian Latent Spatial Factor Models for poisson lognormal data

11:00 11:20 Discussion

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11:20 11:40 **COFFEE BREAK**

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11:40-13:00 **Markovian models for lattice data (WP4)**

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11:40 12:00 Pescara RU: Fast Inference for Univariate and Bivariate GMRFs on Regular Rectangular Lattices with General Boundary Conditions

12:00 12:20 Discussion

12:20 12:40 Bergamo RU: General Practice Prescribing Data: a disease mapping analysis.

12:40 13:00 Discussion

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13:00 14:20 **LUNCH**

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14:20-15:40 **Bayesian methods for spatial models (WP2-WP4)**

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14:20 14:40 Bologna RU: Prior specification in latent gaussian models

14:40 15:00 Discussion

15:00 15:20 Bologna RU: The effect of gridding data in modelling spatial point patterns

15:20 15:40 Discussion

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

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16:00-17:20 **Spatial and spatiotemporal models for health data (WP2-WP4)**

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16:00 16:20 Bergamo RU: Multicause trend and cluster analysis of Italian hospitalizations.

16:20 16:40 Discussion

16:40 17:00 Torino-Bergamo RUs: Interaction between air pollution and health: cardio-respiratory hospital admission risk in Torino province

17:00 17:20 Discussion

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17:20 17:40 Closing session