

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

September 7-9, 2016

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

Address: Viale Pindaro, 42 – Pescara, Italy

The workshop is open and free but limited to 25 participants maximum. For attending please send an e-mail to [pasquale.valentini@unich.it](mailto:pasquale.valentini@unich.it) before September 2. The workshop will be held at the Torre del Cerrano, S.S.16 Adriatica, Km 431 Pineto-Silvi (<http://www.torredelcerrano.it/>)

## PROGRAM

### Wednesday 7 September

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

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16:00-20:00 **Welcome and meeting FIRB research groups**

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### Thursday 8 September

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

10.00 10:30 **Daniela Cocchi: Introduction in memory of Francesca Bruno**

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10:30-11:00 **COFFEE BREAK**

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11:00-13:30 **Session 1: Flexible modeling of complex data**

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11:00-11:40: **Kent J.** Modelling strategies for spatial temporal data, with a special focus on shape change

11:40-11:50 **Discussion**

11:50-12:30: Greco F., **Ventrucci M.** "Geodesic P-spline for modelling spatial data on a sphere"

12:30-12:40 **Discussion**

12:40-13:20: **Franco-Villoria M.**, Ignaccolo R., Scott M. "Quantile regression for functional data"

13:20-13:30 **Discussion**

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13:30 - 15:00 **LUNCH**

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15:00 -17:30 **Session 2 : Air Pollution and Health**

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15:00-15:40: Bruno F., **Cameletti M.**,Franco-Villoria M., Greco F., Ignaccolo R., Ippoliti L., Valentini V., Ventrucci M. "A survey on ecological regression for health hazard associated with air pollution"

15:40-15:50: **Discussion**

15:50-16:30: **Lee D.** "Adjusting for spatial autocorrelation and confounding in air pollution and health studies"

16:30-16:40: **Discussion**

16:40-17:20: Ippoliti L., Valentini P., **Gamerman D.** "A generalized spatio-temporal structural equation model to estimate the short-term health effects of air pollution on human health"

17:20-17:30 **Discussion**

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17:30-18:00 **DISCUSSION and COFFEE BREAK**

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20:00 **Social dinner**

# Friday 9 September

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

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9:30-13:00 **Session 3: inference on conditional spatial and spatio-temporal process**

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09:30-10:10 **Håvard Rue** "Some new developments in the R-INLA project"

10:10-10:20 **Discussion**

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10:20-10:45 **COFFEE BREAK**

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10:45-11:25 **Ippoliti L.**, Martin R.J., Romagnoli L. "A note on likelihood computations for multivariate Gaussian Markov random fields"

11:25-11:35 **Discussion**

11:35-12:15 **Greco F.**, Trivisano C. "On prior specification in latent gaussian models"

12:15-12:25 **Discussion**

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12:25-13:00 **Round tables**

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13:00-14:30 **LUNCH**

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14:30-16:10 **Session 4: Specialized problems in environmental research**

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14:30-15:10 Altieri L., Cocchi D., **Roli G.** "The use of spatial information in entropy measures"

15:10-15:20 **Discussion**

15:20-16:00 **Subba Rao** "Statistical analysis of spatio-temporal data: frequency domain method of analysis"

16:00-16:10 **Discussion**

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16:10 17:30 **COFFEE BREAK with DISCUSSION**

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17.30 18:00 **Closing session**

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