

## **Programme**

### **Statistical modelling for biological and environmental systems SMBES2011**

**Monday Sept. 12th to Friday Sept. 16th, 2011 in Venice**

#### Monday

10:30 - 10:45 Coffee and Welcome  
10:45 - 12:15 Lecture 1 M Girolami  
12:15 - 14:00 Lunch at Trattoria  
14:00 - 15:30 Lecture 2 M Girolami  
15:30 - 16:00 Break  
16:00 - 17:30 Talks session 1 (3 talks)  
Dinner contribution

#### Tuesday

9:00 - 10:30 Lecture 1 M Opper  
10:30 - 11:00 Coffee  
11:00 - 12:30 Lecture 2 M Opper  
12:30 - 13:30 Talks session 2 (2 talks)  
13:30 - 15:30 Lunch at Trattoria  
15:30 - 16:30 Talks session 3 (2 talks)  
16:30 - 17:00 Break  
17:00 - 17:30 Talks session 4 (1 talk)

#### Wednesday

9:00 - 10:30 Lecture B Finkenstadt  
10:30 - 11:00 Coffee  
11:00 - 12:30 Lecture 1 B Sanso  
12:30 - 13:30 Lecture M Kimmel  
13:30 - 15:30 Lunch at Trattoria  
15:30 - 17:30 Poster Session

#### Thursday

9:00 - 10:30 Lecture 1 L Held  
10:30 - 11:00 Coffee  
11:00 - 12:30 Lecture 2 B Sanso  
12:30 - 13:30 Talks session 5 (2 talks)  
13:30 - 15:30 Lunch at Trattoria  
15:30 - 16:30 Talks session 6 (2 talks)  
16:30 - 17:00 Break  
17:00 - 17:30 Talks session 7 (1 talk)

#### Friday

9:30 - 11:00 Lecture 2 L Held  
11:00 - 11:30 Coffee  
11:30 - 13:00 Lecture F Rigat  
13:00 Closing and final discussions.  
13:30 Lunch in Trattoria

**Lectures:**

*Mark Girolami:* Statistical inference for nonlinear dynamic models of biological systems

*Manfred Opper:* Introduction to continuous-time Markov processes and variational approximations with applications to transcriptional dynamics

*Bruno Sanso:* A statistical approach to space-time modeling of environmental variables

*Leonard Held:* Statistical models for the temporal and spatial evolution of stochastic processes

*Marek Kimmel:* Heterogeneity of proliferating cell populations: Old models and new data

*Barbel Finkenstadt:* Inference for stochastic population dynamics

*Fabio Rigat:* Semi-parametric multivariate time series modeling with applications to neural dynamics

**Contributed Talks:***Session 1*

*Sandro Azaele:* Temporal and spatial models for species-rich ecosystems

*Guy Freeman:* Inferring influenza infection from antibody titers using Bayesian mixture modelling

*Olawale Awe:* On Some Statistical Models for Analyzing Some Environmental Determinants of Health in Africa.

*Session 2*

*Maria Costa:* Estimating periodicity of oscillatory time series through resampling techniques.

*Susa Niiranen:* Challenges and unknowns in environmental change studies - a food web model sensitivity analysis

*Session 3*

*Florian Stimberg:* Markov chain Monte Carlo sampler for switching and change-point models

*Dafyd Jenkins:* A multiple switch point model for analyzing time series gene expression data

*Session 4*

*Mohammad Ohid Ullah :* Integrative analysis of PPARalpha dependent pathways in mouse liver and small intestine

*Session 5*

*Dan Woodcock:* A Bayesian hierarchical diffusion model for estimating kinetic parameters and cell-to-cell variability

*Christiane Dargatz:* Diffusion Modelling and Bayesian Parameter Estimation for FRAP

*Session 6*

*Laura Azzimonti:* Blood-flow velocity estimation via spatial spline models with PDE penalization

*Federica Giardina:* A Bayesian geostatistical formulation of seasonal malaria transmission models

*Session 7*

*Jian Qing Shi:* Penalized Gaussian Process Regression and Classification for High-Dimensional Data

**Posters:**

*Yiannis Andrianakis:* On the application of emulators to sub-grid scale dynamics of oceanic models

*Ricardo Alvarado Barrantes:* Statistical models in Biogeography

*Lilia Carolina Carneiro da Costa:* Spatio-temporal Bayesian modeling of social networks

*Jürgen Dippon:* Modelling Biological Time Series with Multidimensional Ornstein-Uhlenbeck-Processes

*Sabine Hug:* Bayesian inference of latent causes within a mixture model describing gene regulatory dynamics

*Ivan Kondofersky:* Estimating hidden components in kinetic systems using functional data analysis

*Aronrag Cooper Meeyai:* The causes of influenza seasonality: a time series analysis with mechanistic models.

*Linda Maria Panero:* A statistical approach to modelling the indoor radon concentration.

*Andrea Riebler :* Bayesian multiple changepoint models with dependence within segments for detecting epigenetic patterns

*Monica Rivas Casado:* Nonstationarity in rivers and implications for geostatistical analysis

*Ali Sabbagh:* Statistical properties of spiral waves spatio-temporal chaos and its elimination

*Dusan Sovilj:* Multistart Strategy using Delta Test for Variable Selection