

2010 Affiliates Annual Meeting

Some Changes at SAMSI

- Directorate
 - Richard Smith will take over as Director of SAMSI in July
 - Pierre Gremaud became full-time Deputy Director on January 1, 2010, with primary roles of
 - overseeing the arrangements with NCSU;
 - managing the education and outreach program;
 - handling day-to-day program operations.
 - A directorate liaison will be added from each core local department that does not have a directorate member,
 - to help manage the relationship with the department;
 - to help with program development and operation.
- Staff
 - Hired a new Operations Director, Gordon Campbell.
 - Hired a new Workshop Specialist, Karem Jackson
- A new website is on its way!

2009-10 SAMSI Highlights

- Three research programs
 - Space-time Analysis in Environmental Mapping, Epidemiology and Climate Change
 - Stochastic Dynamics
 - Summer: Semiparametric Bayesian Inference, with Applications in Pharmacokinetics and Pharmacodynamics (July 12-23, 2010)
 - 12 scientific workshops
 - 4 courses
 - Long-term participants: total (**affiliates**)

	Postdocs	Postdoc Associates	Graduate Visitors	Graduate Locals	Visitors	Faculty Fellows	Totals
Year-Long	14 (4)	4 (4)	2 (1)	11 (11)	6 (1)	11 (11)	48 (32)
Fall	1		6 (2)		16 (6)		23 (8)
Spring			2		14 (7)		16 (7)

- 8 education and outreach workshops
- 1000+ workshop participants
- 150+ remote working group participants (14 working groups)

SAMSI Renewal

- Third year review: May 26-27, 2010
- Solicitation for the next institutes competition will be out shortly
- Proposals will be due in February, 2011
- Site visit in Fall, 2011
- Informal decisions by December, 2011
- The recent NSF institute competition
 - All old institutes renewed
 - One new institute

Future Programs

- **2010-11**
 - Analysis of Object Data
 - Complex Networks
 - Summer program: TBD
- **2011-12 (renewal year)**
 - Uncertainty Quantification, with subthemes of
 - Climate Change
 - Sustainability/Renewable Energy
 - Geosciences

Analysis of Object Data

2010-2011

Program Leaders: Ian Dryden (South Carolina);
Co-chairs: Hans Müller and Jane-Ling Wang,
(UCDavis); Jim Ramsey (McGill)

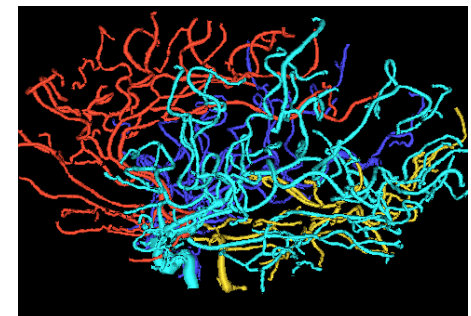
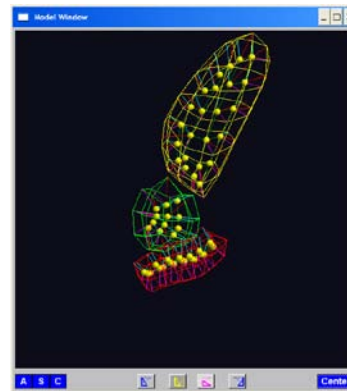
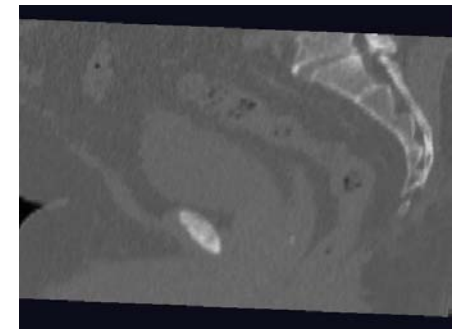
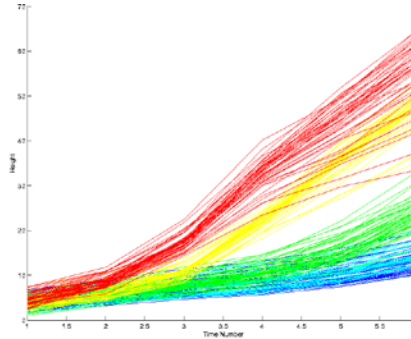
Local Scientific Coordinator: J. S. Marron (UNC)

Directorate Liaison: Nell Sedransk (NISS)

NAC Liaison: Jianqing Fan (Princeton)

Some Example Data Object Types

- Curves (FDA)
- Images
- Shapes
- Trees and graphs
- Time dynamics data



Complex Networks

2010-2011

Program Leaders: Eric Kolaczyk (Boston U), Alessandro Vespignani (Indiana U)

Scientific Advisory Committee: Pierre Degond (Toulouse), Stephen Fienberg (CMU), Martina Morris (U Washington)

Local Scientific Coordinators: Alun Lloyd (NCSU), Peter Mucha (UNC)

Directorate Liaison: Pierre Gremaud (NCSU)

National Advisory Committee Liaison: Bin Yu (Berkeley)

Tentative Research Themes

- Network modeling and inference
- Flows on networks
- Network models for disease transmission
- Dynamics of networks
- Themes of interest to the Affiliates
Networks Cluster

Uncertainty Quantification (2011-12)

- **Motivations:**
 - Exploding interest, as indicated by possible formation and collaboration of a SIAM interest group in the area and an ASA section in the area
 - Natural domain of SAMSI
 - Naturally ties in with Climate Change and Sustainability themes
- **Possible methodological themes**
 - Model calibration and inverse problems
 - Data assimilation
 - Propagation of uncertainty and sensitivity analysis
 - Emulation of computer models and dimension reduction
 - Validation of computer models

Application Areas

- Climate change
 - Atmosphere and ocean models and their interface
 - Interface of global and regional models
 - Effects of global warming on climatic extremes, health, agriculture, ...
- Sustainability and renewable energy
 - Smart power grids
 - Risk (financial and environmental)
 - Solar energy
- Geoscience modeling
 - Floods, hurricanes, volcanos, tsunamis

Education, Outreach, and Diversity

- K-12 SAMSI/Kenan Fellows Program
- Undergraduate
 - 1-week summer workshop: May 16-20, 2010
 - 2-day outreach workshops at SAMSI
 - October 29-30, 2010
 - February 25-26, 2011
- Graduate
 - Graduate Student Probability Workshop: 4/30/10-5/2/10
 - Mathematics and Statistics Modeling Workshop: July 19-27, 2010.