Dynamics and Control of Systems: Theory and Applications to Biomedicine

Wednesday 12 December AM COLT 122

9.50–10.40 **Keynote:** James Sneyd
Calcium and Ducks

11.00–11.25 Helmut Maurer
Optimal Multi-Drug Control of the Innate Immune Response with Time Delays

11.25–11.50 Urszula Ledzewicz
Optimal and Suboptimal Protocols for a Class of Mathematical Models of Tumor Growth under Angiogenic Inhibitors

11.50–12.15 Scott Graybill
TGF - A Renal Feedback Mechanism

Thursday 13 December AM COLT 122

9.50–10.15 Phil Wilson
The Lipid Bilayer at the Mesoscale: a Physical Continuum Model

10.15–10.40 Emily Harvey
Complex Oscillations in Mathematical Models of Calcium Dynamics

11.00–11.25 Carlo Laing
Bumps and Rings in a Two-Dimensional Neural Field: Splitting and Rotational Instabilities

11.25–11.50 Dann Mallet
A Hybrid CA-PDE Model of Chlamydia Trachomatis Infection in the Female Genital Tract

11.50–12.15 Andrzej Swierniak
Evolution of Repeats in Microsatellite DNA and Emergency of Genetic Disorders

Thursday 13 December Evening COLT 122

18.15–18.40 Michael Plank
Lévy Random Walks in Ecology: Fact or Fiction?

18.40–19.05 Annette Molinaro
Piecewise Constant Estimation Algorithms for Predicting Clinical Outcomes: Applications in Genomic Data

19.05-19.30 Michal Swierniak
SVD based Analysis of DNA Microarray Data

Friday 14 December AM COLT 122

9.50–10.15 Graeme Wake
Modelling of Cancer Treatment

10.15–10.40 Wen Duan
Mathematical Modeling of GnRH Neurons in the Rat Brain

11.00–11.25 Inga Wang
A Mathematical Model of Airway and Pulmonary Arteriole Smooth Muscle

11.25–11.50 Peter Hinow
A Mathematical Model Quantifies Proliferation and Motility Effects of TGF-b on Cancer Cells

11.50–12.15 L.G. de Pillis
A Mathematical Model of B Cell Chronic Lymphocytic Leukemia

12.15–12.50 Krzysztof Fujarewicz
Optimal Sampling for Identification of Models of Cell Signaling Pathways

Friday 14 December PM COLT 122

14.50–15.15 Heinz Schättler
Minimizing the Tumor Size in Mathematical Models for Novel Cancer Treatments

15.15–15.40 Alona Ben-Tal
Modelling Cheyne-Stokes Respiration and Other Aspects of the Control of Respiration

16.00–16.25 Ami Radunskaya
A Delayed-Differential Model of the Immune Response: Optimization and Analysis

16.25–16.50 Matthias Kawski
Chronological Calculus and Nonlinear Feedback Loops

16.50–17.15 Robert Donnelly
Cellular Automata Model of Radiation Therapy in Cervical Cancer