Agent-Based Complex Systems

Monday October 12, 2009

8:00–8:50 *Check-In/Light Breakfast (Hosted by IPAM)*

8:50–9:00 *Welcome and Opening Remarks*

9:00–10:00 **Mark Alber** (University of Notre Dame)
Stochastic modeling of bacterial swarming

10:00–10:15 *Break*

10:15–11:15 **Bjorn Birnir** (Universidad Complutense de Madrid)
Changes in Migration Patterns of the Capelin as an Indicator of Temperature Changes in the Arctic Ocean

11:15–11:30 *Break*

11:30–12:30 **Charlotte Hemelrijk** (Rijksuniversiteit te Groningen)
Self-organised aerial displays of thousands of starlings: A Model

12:30–2:30 *Lunch (on your own)*

2:30–3:30 **Pierre Degond** (Centre National de la Recherche Scientifique (CNRS))
Continuum models for complex systems

3:30–4:00 *Break*

4:00–5:00 **Nina Fefferman** (Rutgers University)
Stability and Success of Emergent Social Structures in Dynamically Self-Organizing Populations

5:00–7:00 *Poster Session & Reception (Hosted by IPAM)*

Tuesday October 13, 2009

8:00–9:00 *Continental Breakfast*

9:00–10:00 **David Spivak** (University of Oregon)
Agents as nodes in a fuzzy simplicial set

10:00–10:15 *Break*

10:15–11:15 **Christopher Hillar** (Mathematical Sciences Research Institute)
Adaptive compressed sensing - a new class of self-organizing coding models for neuroscience

11:15–11:30 *Break*

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11:30–12:30 **Edward Ott** (University of Maryland)
Emergent Behavior in Systems of Many Coupled Phase Oscillators

12:30–2:30 *Lunch (on your own)*

2:30–3:30 **Markos Katsoulakis** (University of Massachusetts Amherst)
From individual interactions to hierarchical mesoscale models for agent-based, complex dynamics

3:30–4:00 *Break*

4:00–5:00 **Kristina Lerman** (University of Southern California (USC))
Stochastic Models of Social Web Sites

Wednesday October 14, 2009

8:00–9:00 *Continental Breakfast*

9:00–10:00 **P. Jeffrey Brantingham** (University of California, Los Angeles (UCLA))
Agent-based and continuum models of crime pattern formation

10:00–10:15 *Break*

10:15–11:15 **Sara Del Valle** (Los Alamos National Laboratory)
Modeling the Impact of H1N1 in the United States using a Massive Agent-Based Simulation

11:15–11:30 *Break*

11:30–12:30 **Andrea Bertozzi** (University of California, Los Angeles (UCLA))
Swarming by Nature and by Design

12:30–2:30 *Lunch (on your own)*

2:30–3:30 **Sanjeevi Krishnan** (United States Naval Research Laboratory)
Directed cohomology

3:30–4:00 *Break*

4:00–5:00 **Alethea Barbaro** (University of California, Los Angeles (UCLA))
Agent-based modeling for animal migration and gang behavior