Penn Symposium on
Mathematical &
Computational Biology

Venue: Glandt Forum, Singh Center for Nanotechnology, University of Pennsylvania

Day 1 – Monday, May 23, 2016

8:00 – 8:50 Breakfast & Check-in
8:50 – 9:00 Yun S. Song
9:00 – 9:50 Steven Altschuler (UCSF)
9:50 – 10:40 Lani Wu (UCSF)

Breakfast & Check-in
Opening remarks
Reverse engineering wiring principles of the fly eye: how flies avoid double, double, double vision
Reverse engineering the neutrophil polarity network

10:40 – 11:10 Break
11:10 – 12:00 Leah Edelstein-Keshet (UBC)
11:10 – 12:00 Sebastian Schreiber (UC Davis)

Rho GTPases in cell polarization, shape, and motility
Species coexistence in stochastic environments: a mathematical perspective

12:00 – 2:00 Lunch
2:00 – 2:50 John Wakeley (Harvard)
2:50 – 3:40 Lior Pachter (UC Berkeley)

The effects of population pedigrees on gene genealogies
Distance models for phylogenetics

3:40 – 4:10 Break
4:10 – 5:00 Carina Curto (Penn State)

Emergent dynamics from network connectivity: a minimal model

Day 2 – Tuesday, May 24, 2016

8:30 – 9:00 Breakfast & Check-in
9:00 – 9:50 Charles Epstein (U Penn)
9:50 – 10:40 Caroline Uhler (MIT)

The amazing Kimura operator
Packing models of chromosomes and their expression

10:40 – 11:10 Break
11:10 – 12:00 Arjun Raj (U Penn)

Emergent dynamics from network connectivity: a minimal model
Probability and determinism in cancer biology

12:00 – 2:00 Lunch
2:00 – 2:50 Charles S. Peskin (NYU)

Optimization of stochastic docking and release of vesicles in synaptic transmission

2:50 – 3:40 Lior Pachter (UC Berkeley)

Distance models for phylogenetics