

Cells and Materials Tutorials

Tuesday March 14, 2006

- 8:00–8:45 *Check-In/Light Breakfast (Hosted by IPAM)*
- 8:45–9:00 *Welcome and Opening Remarks*
- 9:00–10:00 **Toshikazu Hamasaki (UCLA)**
What is a Cell? - Basic cell types, cells and tissues, polarization, ultrastructure, organelles
- 10:00–10:30 *Break*
- 10:30–11:30 **Toshikazu Hamasaki (UCLA)**
The Biological Membrane - Organization, structure, synthesis, transport, membrane proteins, function
- 11:30–1:00 *Lunch (on your own)*
- 1:00–2:00 **John Lowengrub (University of California, Irvine)**
Continuum Methods I
- 2:00–2:30 *Break*
- 2:30–3:30 **John Lowengrub (University of California, Irvine)**
Continuum Methods II
- 3:30–5:00 *Wine/Cheese Reception (Hosted by IPAM)*

Wednesday March 15, 2006

- 8:00–8:30 *Continental Breakfast*
- 8:30–9:30 **Patricia Zuk-Deslippe (UCLA)**
Receptor-ligand interactions - cell signaling, adhesion, motility, cell migration
- 9:30–10:00 *Break*
- 10:00–11:00 **Patricia Zuk-Deslippe (UCLA)**
Cell differentiation and apoptosis
- 11:00–12:00 *Lunch (on your own)*
- 12:00–1:00 **Elliot Landaw (UCLA)**
Reaction Networks and Identifiability I
- 1:00–2:00 **Elliot Landaw (UCLA)**
Reaction Networks and Identifiability II



Thursday March 16, 2006

- 8:00–9:00 *Continental Breakfast*
- 9:00–10:00 **Toshikazu Hamasaki** (UCLA)
Protein Biochemistry 1 - Protein structure, function (binding, enzyme), regulation
- 10:00–10:30 *Break*
- 10:30–11:30 **Toshikazu Hamasaki** (UCLA)
Protein Biochemistry 2 - Genes to proteins: Protein synthesis, transport, targeting, and degradation
- 11:30–1:00 *Lunch (on your own)*
- 1:00–2:00 **James Glazier** (Indiana University)
Cell level modeling of developmental biology, Part I
- 2:00–2:30 *Break*
- 2:30–3:30 **James Glazier** (Indiana University)
Cell level modeling of developmental biology, Part II

Friday March 17, 2006

- 8:00–9:00 *Continental Breakfast*
- 9:00–10:00 **David Needham** (Duke University)
Lipid Bilayer Membranes: Materials Science and Materials Engineering
- 10:00–10:30 *Break*
- 10:30–11:30 **John Lowengrub** (University of California, Irvine)
Continuum Methods III
- 11:30–1:00 *Lunch (on your own)*
- 1:00–2:00 **Philip Pincus** (UC Santa Barbara)
Electrostatics of Charged Surfaces
- 2:00–2:30 *Break*
- 2:30–3:30 **Philip Pincus** (UC Santa Barbara)
Fluctuating Membrane Physics

