

Program for *Materials and the Imagination*

Monday the 3rd

5:00 – 7:00 Registration at the Aspen Center for Physics

Dinner on your own

Tuesday the 4th

Morning (Chair: Leo Radzihovsky)

8:30 - 9:20 Michael Brenner, "The Mechanism of a Splash"

9:20 - 10:10 William Irvine, "Colloidal crystals on curved surfaces: Pleats and fractionalization"

10:25 - 11:15 Erwin Frey, "Minimal premises for the evolution of stable cooperation in structured populations"

Lunch on your own

Afternoon (Chair: Vincenzo Vitelli)

4:30 - 5:20 Anatoli Polkovnikov, "Universal dynamics in thermally isolated driven systems"

5:20 - 5:50 Thomas Butler, "Suppression of long range inhibitory connections in the visual cortex stabilizes normal visual cortex function"

6:10 - 6:40 Anna Melbinger, "Evolutionary Dynamics in Growing Populations"

6:40 - 7:10 Guangnan Meng, "Phase transitions (of colloidal particles) on curved surfaces"

Dinner on your own

Wednesday the 5th

Morning (Chair: Jonathan Selinger)

8:00 - 8:50 Greg Grason, "Geometric Non-linearities in Filamentous Assemblies: Twist, Frustration and Topological Defects"

8:50 - 9:40 Kate Stebe, "Oriented assembly of microparticles by capillarity"

10:00 - 10:30 Rebecca Christianson, "Bees and Biofilms: interdisciplinary research with undergraduates"

10:30 - 11:20 Paul Chaikin, "Self-Replication without Life"

Lunch on your own

1:30 - 3:45 Poster Session in Smart Hall

4:30 Meet the Physicists Session (Brenner and Liu) at WHEELER OPERA HOUSE

5:30 Public Lecture, David Nelson, "Gene Surfing and Survival of the Luckiest" at WHEELER OPERA HOUSE (Introduction by Andrea Liu, General Member of ACP)

Dinner on your own

Thursday the 6th

Morning (Chair: Eleni Katifori)

8:00 - 8:50 Andrea Liu, "The physics of motility in cells: a tale of two tails"

8:50 - 9:40 Cristina Marchetti, "Active Fluids: from Microscopics to Hydrodynamics"

10:00 - 10:30 Jorn Dunkel, "Noise limits the hydrodynamic horizon of bacteria"

10:30 - 11:00 Kai Sun, "Emerging conformal symmetry and zero-energy edge modes in isostatic lattices"

Lunch on your own

Afternoon (Chair: Subir Sachdev)

4:30 - 5:20 Eduardo Fradkin, "Electronic Liquid Crystal Phases in Strongly Correlated Systems"

5:40 - 6:30 Vladimir Hinkov, "Superconductivity and competing order in correlated-electron materials"

6:30 - 7:20 Nicolas Doiron-Leyraud, "Broken rotational symmetry in high-T_c superconductors"

Conference Banquet

Friday the 7th

Morning (Chair: Thomas Halsey)

8:00 - 8:50 Eun-Ah Kim, "Electronic nematic and smectic phenomena in high T_c superconductors"

8:50 - 9:40 Mehran Kardar, "Entropic force of a polymer attached to a conical tip"

10:00 - 10:30 Doron Gazit, "The structure of Graphene: statistical mechanics of an electronic crystalline membrane"

10:30 - 11:20 David Weitz, "Active Diffusion and Non-linearities in Cells: Molecular Motors Mix it Up"

Lunch on your own

Afternoon (Chair: Randy Kamien)

5:00 - 5:50 Sharon Glotzer, "Some Assembly Required"

5:50 - 6:20 Xiaoming Mao, "Criticality and isostaticity in fiber networks"

6:40 - 7:30 L Mahadevan, "Simple aspects of growth and form"

Dinner on your own

Saturday the 8th (all day session)

8:40 - 9:30 Françoise Brochard

9:30 - 10:20 Curtis Callan

10:40 - 11:30 Bertrand Halperin

11:30 - 12:20 Stanislas Leibler

Lunch at the Center

2:00 - 2:50 Tom Lubensky

2:50 - 3:40 Robert Meyer

4:00 - 4:50 Wim van Saarloos

4:50 - 5:40 Paul Steinhardt

6:30 *Birthday Reception and Banquet*