



Timeline and Scientific Program

Wednesday, January 3

3:00 pm – 7:00 pm **Arrival and check-in**

7:00 pm – 8:00 pm **Cocktails**

8:00 pm – 9:30 pm **Dinner**

Thursday, January 4

7:00 am – 8:15 am **Breakfast**

8:15 am – 8:30 am **Welcome** **Rolando Castillo, Mathias Lösche**

8:30 am – 10:30 am **Session A** **DNA Compaction and Regulation**
Mathias Lösche, Carnegie Mellon University

8:30 am – 9:15 am **A-01** **Jonathan Widom, Northwestern University**
A genomic code for nucleosome positioning

9:15 am – 9:45 am **A-02** **Jaime Ruiz-Garcia, UASLP**
Trapping and condensing DNA at the air/water interface

9:45 am – 10:30 am **A-03** **Joel Stavans, Weizmann Institute of Science**
Sex and sensitivity: The fidelity of RecA-assisted homologous recombination

10:30 am – 10:45 am **Coffee Break**

- 10:45 am – 2:00 pm **Session B** **Membranes**
Jaime Ruiz-Garcia, UASLP
- 10:45 am – 11:15 am **B-01** **Ka-Yee C. Lee, University of Chicago**
Cholesterol/phospholipid interactions: Evidence of ordering and displacement of cholesterol by alcohol
- 11:15 am – 11:45 am **B-02** **José Campos-Terán, UAM Cuajimalpa**
with Ramos, Mas-Oliva, Castillo
Interactions of adsorbed α -helices on hydrophilic substrates
- 11:45 am – 12:15 pm **B-03** **Kris N. Dahl, Carnegie Mellon University**
Nuclear structure changes in Hutchinson-Gilford progeria syndrome
- 12:15 pm – 12:30 pm **Coffee Break**
- 12:30 pm – 1:00 pm **B-04** **Volker Kiessling, University of Virginia**
Transbilayer organization of complex fluid lipid membranes
- 1:00 pm – 1:30 pm **B-05** **Leonardo Dagdug, UAM Iztapalapa**
Diffusion and active sites
- 1:30 pm – 2:00 pm **B-06** **Duncan McGillivray, Australian National University**
with Heinrich, Valincius, Ignatiev, Vanderah, Kasianowicz, Lösche
Toxin interactions with tethered bilayers
- 2:00 pm – 3:30 pm **Lunch**
- 3:30 am – 5:00 pm **Poster Session**
Jardón-Valadez, Heinrich, Reyes-Grajeda, Mendoza-Espinoza, Holowka, Redfern, Kooijman, Diaz-Vergara, Freites
- 5:00 pm – 8:00 pm **Session C** **Theory and Modeling of Biosystems**
Robijn Bruinsma, UCLA
- 5:00 pm – 5:30 pm **C-01** **Markus Deserno, MPI for Polymer Research**
Curvature-mediated interactions between membrane proteins lead to aggregation and vesiculation
- 5:30 pm – 6:00 pm **C-02** **Arturo Rojo-Domínguez, UAM Cuajimalpa**
Molecular modeling of ligand docking in proteins

- 6:00 pm – 6:30 pm **C-03** **Maria G. Kurnikova, Carnegie Mellon University**
Theoretical/computational analysis of interactions in biological nano-pores
- 6:30 pm – 7:00 pm **C-04** **Michael E. Paulaitis, Ohio State University**
with Asthagiri, Pratt
Role of fluctuations in a snug-fit mechanism of the Kcs K⁺ channel selectivity
- 7:00 pm – 7:45 pm **C-05** **Douglas Tobias, University of California, Irvine**
with Freites, Robinson, Schow, Cheng, White

Buried charges in membranes: Structural and functional implications for voltage-sensitive transmembrane ion transport
- 8:00 pm – 9:30 pm **Dinner**

Friday, January 5

- 7:00 am – 8:30 am **Breakfast**
- 8:30 am – 11:45 am **Session D** **Signaling and the Membrane Surface**
Joel Stavans, Weizmann
- 8:30 am – 9:15 am **D-01** **Armando Gómez-Poyou, UNAM**
Cross-talk between the subunits in the homodimeric enzyme, triose-phosphate isomerase
- 9:15 am – 9:45 am **D-02** **Sarah Veatch, Cornell University**
with Soubias, Leung, Keller, Thewalt, Gawrisch
Complex phase behavior in simple membranes: Phase separation and critical phenomena in membranes of DOPC, DPPC, and cholesterol
- 9:45 am – 10:15 am **D-03** **Arne Gericke, Kent State University**
with R. Redfern, D. Redfern, Ross
Effect of phosphoinositide identity and lateral organization on PTEN binding and structure
- 10:15 am – 10:30 am **Coffee Break**

- 10:30 am – 11:00 am **D-04** **Jaime Mas-Oliva, UNAM**
with Moreno, Castillo
Disorder-to-order peptide conformational switches for receptor recognition and lipid transfer
- 11:00 am – 11:45 am **D-05** **Barbara Baird, Cornell University**
with Holowka
Dynamic membrane interactions during IgE receptor signaling
- 11:45 am – 12:00 pm **Coffee Break**
- 12:00 pm – 2:00 pm **Session E** **Local Interactions and Energetics of Biomolecules**
Tommy Nylander, Lund
- 12:00 pm – 12:30 pm **E-01** **Igor V. Kurnikov, University of Pittsburgh**
Modeling of hemi-gramicidine S-nitroxide conjugates in lipid membranes: Correlation between chemical structure, peptide conformations and biological activity
- 12:30 pm – 1:00 pm **E-02** **Alicia Ortega, UNAM**
Structural energetics of membrane proteins isolated from cardiac and skeletal muscle
- 1:00 pm – 1:30 pm **E-03** **Daniel Zuckerman, University of Pittsburgh**
Secret lives of proteins: High and low (dimensionality)
- 1:30 pm – 2:00 pm **E-04** **Miguel Costas, UNAM**
with Gómez-Puyou, Pérez-Monfort
ITC as an aide for drug design: Searching for an effective inhibitor of triosephosphate isomerase
- 2:00 pm – 3:30 pm **Lunch**
- 3:30 am – 5:00 pm **Poster Poster Session**
Simakov, Sol Maria, Grason, Gopal, Grayson, Vega-Acosta, Comas-Garcia, Beltrán, Delgado, Garza

- 5:00 pm – 7:15 pm **Session F** **Nanotech in Biological Research**
Ka-Yee C. Lee, Chicago
- 5:00 pm – 5:30 pm **F-01** **Mohammad F. Islam, Carnegie Mellon University**
Viscoelasticity of reversible gels of associating rigid rods and their time-dependent gelation
- 5:30 pm – 6:00 pm **F-02** **Mark Chan, Stanford University**
DNA-mediated interactions of tethered vesicles
- 6:00 pm – 6:30 pm **F-03** **Péter Galajda, Princeton University**
with Keymer, Muldoon, Park, Austin
Adaptation on a chip
- 6:30 pm – 7:15 pm **F-04** **David Grainger, University of Utah**
Interfacial characterization of nucleic acid diagnostic assays and microarrays
- 8:00 pm – 9:30 pm **Dinner**

Saturday, January 6

- 7:00 am – 8:30 am **Breakfast**
- 8:30 am – 10:00 am **Session G** **Cell Mechanics and Motility**
Barbara Baird, Cornell
- 8:30 am – 9:00 am **G-01** **Helim Aranda-Espinoza, University of Maryland**
Leukocyte adhesion and motility
- 9:00 am – 9:30 am **G-02** **Ajay Gopinathan, University of California, Merced**
Actin polymerization, force production and membrane dynamics during cell motion
- 9:30 am – 10:00 am **G-03** **Dolores Bozovic, University of California, Los Angeles**
Amplification and spontaneous oscillations in inner ear hair cells
- 10:00 am – 10:15 am **Coffee Break**

- 10:15 am – 12:00 pm **Session H** **Nucleic Acid Biophysics**
Rolando Castillo, UNAM
- 10:15 am – 10:45 am **H-01** **Charles M. Knobler, UC Los Angeles**
The extraordinary effect of pH on the elasticity of viral capsids
- 10:45 am – 11:15 am **H-02** **Tommy Nylander, Lund University**
with Cardenas, Örberg, Schillén, Lindman
DNA compaction at interfaces and control of DNA compaction
- 11:15 am – 12:00 pm **H-03** **Robijn Bruinsma, UC Los Angeles**
Physics and the structure of retroviruses
- 12:00 pm – 12:10 pm **Closing** **Rolando Castillo**
- 2:00 pm – 3:30 pm **Lunch**
- Departure**

Sunday, January 7

Breakfast will be available for those staying overnight.