CONFERENCE PROGRAM

Saturday, May 6

12:00 pm –	5:00 pm	*Arrival and Registration*

Sunday, May 7

7:00 am –	6:00 pm	*Chichen Itza Trip*
12:00 pm –	5:00 pm	*Arrival and Registration*
7:00 pm		*Welcome Reception*

Monday Morning Session, May 8
8:55 am – 12:15 pm
Nanoscale Forces and Interfacial Phenomena in Soft Materials

Chair: Professor Tonya Kuhl; co-Chair: Professor Matthew Tirrell

7:30 am		*Breakfast*
8:55 am		*Introduction*
9:00 am		Hard and Soft Nano-Junctions. **Uzi Landman**
9:25 am		Structural Forces at Aqueous Interfaces. **Manfred Heuberger**
9:50 am		Selective Coalescence of Bubbles in Simple Electrolytes. **Stjepan Marcelja**
10:15 am –	10:30 am	*Coffee Break*
10:30 am		Surfactant Interactions with Polyelectrolytes: Microscopic Binding and Macroscopic Gel Particles. **Eric Kaler**
10:55 am		Direct Measurement of Adhesion between Identical Polyelectrolyte Brush Layers in the Presence of Multivalent Counterions. **Matthew Tirrell**
11:20 am		Behavior of End-Grafted Charged Polymers. **Suzanne Giasson**
11:45 am		*Panel Discussion*
12:10 pm –	12:15 pm	*Final Remarks and Session Closing*

12:30 pm		*Lunch Break*
12:30 pm –	5:00 pm	*Jungle Tour (Lunch box will be provided to participants)*
5:00 pm		*Dinner*

Monday Evening Session, May 8
6:25 pm – 9:00 pm
Frontiers in Intermolecular Forces and Interfacial Phenomena (Part I)

Chair: Professor Jacob Israelachvili; co-Chair: Professor Philip Pincus

6:25 pm		*Introduction*
6:30 pm		Extending the Range and Scope of Surface Force Measuring Techniques. **Jacob Israelachvili**
6:55 pm		Shedding Light on the Dark Side of Surface Forces. **William Ducker**
7:20 pm		Using Intermolecular Forces and Interfacial Phenomena to Help Humanity. **Norma Alcantar**
7:45 pm		A Three Component Force Transducer for Atomic Force Microscopy. **Kai Kristiansen**
8:10 pm		*Panel Discussion*
8:35 pm –	8:40 pm	*Final Remarks*

Tuesday Morning Session, May 9
8:55 am – 12:15 pm
Distances and Time Regimes of Intermolecular Forces and their Impact in Materials Behavior (Part I)

Chair: Professor Norma Alcantar; co-Chair: Professor Tomas Viveros

7:30 am		*Breakfast*
8:55 am		*Introduction*
9:00 am		Decoupling of Hydrodynamic and Conservative Forces in Colloid Dynamics. **Magdaleno Medina-Noyola**
9:25 am		Dynamic Adhesion and Cracking Properties of Surfaces and Films on Micro and Nano Scales. **Boxin Zhao**
9:50 am		Friction and Lubrication in Thin Hydrogel Layers. **Eugenia Kumacheva**
10:15 am –	10:30 am	*Coffee Break*
10:30 am		Nanowires, Nanorods and between them: Surfactant Mediated Synthesis and Assembly of Nanostructures. **Yuval Golan**
10:55 am		Dynamics in Confining Nanoparticle Systems. **Mustafa Akbulut**
11:20 am		Unorthodox Properties of Large Critical Clusters. **Alberto Robledo**
11:45 am		*Panel Discussion*
12:10 pm –	12:15 pm	*Final Remarks and Session Closing*

12:30 pm		*Lunch Break*

Tuesday Afternoon Session, May 9
2:55 pm – 5:00 pm
Distances and Time Regimes of Intermolecular Forces and their Impact in Materials Behavior (Part II)

Chair: Professor Norma Alcantar; co-Chair: Professor Tomas Viveros

3:25 pm		*Introduction*
3:30 pm		Rheology of Complex Fluids. **Octavio Manero**
3:50 pm		Interfacial Water on a Nanoscale. **Alenka Luzar**
4:10 pm		Interactions and Conformations of DNA and Cationic Surfactants at Hydrophilic and Hydrophobic Surfaces. **José Campos-Terán**
4:30 pm		The Effect of Fiber-matrix Interfacial Optimization on the Mechanical Properties of Green Composites. **Pedro J. Herrera-Franco**
4:50 pm –	5:00 pm	*Final Remarks and Session Closing*

5:00 pm		*Dinner*

Tuesday Evening Session, May 9
6:30 pm – 8:30 pm
Bridging Nanoscale Forces and Interfacial Phenomena with the Macroscopic World

Chair: Professor Suzanne Giasson; co-Chair: Professor Norma Alcantar

6:30 pm –	8:30 pm	*Poster Session and Social Event*

Wednesday Morning Session, May 10
8:55 am – 12:15 pm
Intermolecular Forces between Biomolecules and Their Role in Interfacial Phenomena of Biological Systems

Chair: Professor Joyce Wong; co-Chair: Professor Deborah Leckband

7:30 am		*Breakfast*
8:55 am		*Introduction*
9:00 am		Chemistry of Biological adhesion. **Deborah Leckband**
9:25 am		Membrane Adhesion: The Role of Spacers and Ligand-Receptor Bond Strength. **Tonya Kuhl**
9:50 am		Bridging Receptor-tethered Ligand Interactions to the Macroscopic World. **Joyce Wong**
10:15 am –	10:30 am	*Coffee Break*
10:30 am		Spontaneous and Reversible Switch from Amphiphilic to Oil-Like Structures. **Eric Perez**
10:55 am		Charge, hydration, and friction under water: a paradigm for biolubrication. **Jacob Klein**
11:20 am		Charge Quantization Effects on the Interactions Between Highly Charged Surfaces. **Philip Pincus**
11:45 am		*Panel Discussion*
12:10 pm –	12:15 pm	*Final Remarks and Session Closing*

12:30 pm		*Lunch Break*
12:30 pm –	6:00 pm	*Tulum and Xel-ha Tour (Lunch box will be provided to participants)*

Wednesday Evening Event, May 10
7:00 pm

7:00 pm		*Banquet Dinner*
7:30 pm		The Force be with JNI. Len Fisher (Key Note Speaker)

Thursday Morning Session, May 11
8:55 am – 12:15 pm
Adhesion and Tribological Properties of Films and their Impact in Macroscopic Performance

Professor Suzanne Giasson; co-Chair: Professor Octavio Manero Brito

7:30 am		*Breakfast*
8:55 am		*Introduction*
9:00 am		The Different Faces of Boundary Lubrication: What Nanotribology Can Learn from Rheophysics. **Carlos Drummond**
9:25 am		Contact, Adhesion and Friction between Rough Surfaces. **Mark Robbins**
9:50 am		JKR Contact Mechanics of Layered and Dissimilar Surfaces. **Patricia McGuiggan**
10:15 am –	10:30 am	*Coffee Break*
10:30 am		The Behavior of Lubricated Rough Surfaces under Compression and Shear. **Kenny Rosenberg**
10:55 am		Friction in Contacts of Different Adhesive Strength. **Marina Ruths**
11:20 am		Molecular Layering and Tribology of Poly(dimethylsiloxane) Melt in Confinement. **Shinji Yamada**
11:45 am		*Panel Discussion*
12:10 pm –	12:15 pm	*Final Remarks and Session Closing*

12:30 pm		*Lunch Break*
12:30 pm –	5:00 pm	*Free Time*
5:00 pm		*Dinner*

Thursday Evening Session, May 11
6:25 pm – 9:00 pm
Frontiers in Intermolecular Forces and Interfacial Phenomena (Part II)

Chair: Professor Jacob Israelachvili; co-Chair: Professor Philip Pincus

6:25 pm		*Introduction*
6:30 pm		Extension of SFA Techniques to Investigations of Fluid Interfaces. **Roger Horn**
6:55 pm		Theoretical Analysis of Dynamic Force Measurements Involving Deformable Drops and Interfaces. **Derek Chan**
7:20 pm		Nanohydrodynamics: Investigating Boundary Flows with Surface Force Experiments. **Élisabeth Charlaix**
7:45 pm		Microrheology from Rotational Diffusion of Colloids. **Jose Luis Arauz Lara**
8:10 pm –		*Panel Discussion*
8:35 pm	8:40 pm	*Final Remarks and Session Closing*

Friday Morning Session, May 12
8:55 am – 12:15 pm
Intermolecular Forces and Interfacial Phenomena affecting Structure and Properties of Thin Liquid Films

Chair: Professor Roger Horn; co-Chair: Professor Dan Schwartz

7:30 am		*Breakfast*
8:55 am		*Introduction*
9:00 am		Adsorption from Binary Fluids - The Transition from Critical to van der Waals Wetting**. Hugo Christenson**
9:25 am		Film Drainage at Deformable Interfaces - An Exotic Cocktail of Surface Forces and Hydrodynamics. **Michelle Gee**
9:50 am		The Role and Measurement of Disjoining Pressure in Lubricant Nano-Films. **Lee White**
10:15 am –	10:30 am	*Coffee Break*
10:30 am		Using Colloidal Suspensions to Model Atomic Scale Plasticity and Lubrication Phenomena. **Itai Cohen**
10:55 am		Hydrophobic Interactions at Long and Short Range. **Emily Meyer**
11:20 am		Bound Water in AOT Reverse Micelles and DPPC Vesicles. **Michel Picquart**
11:45 am		*Panel Discussion*
12:10 pm –	12:15 pm	*Final Remarks and Meeting Adjourns*