THE HEBREW UNIVERSITY OF JERUSALEM
THE INSTITUTE FOR ADVANCED STUDIES

Research Workshop on

STICK-SLIP DYNAMICS, FROM NANO TO GEOPHYSICAL SCALES

May 2-5, 2011

All lectures will take place at the Feldman Building on the Givat Ram Campus

Organizers: Jay Fineberg (The Hebrew University)
Michael Urbakh (Tel Aviv University)

PRELIMINARY PROGRAM

Monday, May 2

18:30 Welcome Party

Tuesday, May 3

8:30 Registration

9:00-9:10 Opening Remarks

9:10-9:50 Ernst Meyer (University of Basel, Switzerland)
Dissipation on Superconductors and Quantum Dots

9:50-10:30 Adam Foster (Helsinki University of Technology, Finland)
Atomic Scale Energy Dissipation and Nanomanipulation Mechanisms
10:30-11:00  Coffee break

11:00-11:40  Andre Schirmeisen (University of Muenster, Germany)
             Scaling Laws of Superlubric Sliding

11:40-12:20  Erio Tosatti (SISSA/ICTP, Trieste, Italy)
             Simulating Nanofriction in Extreme or Unusual Conditions

12:20-14:00  Lunch

14:00-14:40  Martin Dienwiebel (Fraunhofer Institute for Mechanics of
             Materials, Freiburg, Germany)
             Microtribology on Ultra-thin Layers

14:40-15:20  Heather Savage (Columbia University, USA)
             Shaking up Faults: Insights from the lab and nature on how
             oscillating stresses trigger earthquakes

15:20-15:50  Coffee break

15:50-16:30  Michael Urbakh (Tel Aviv University, Israel)
             Stabilizing Stick-Slip Friction

16:30-17:10  Eran Bouchbinder (Weizmann Institute, Israel)
             Cracklike Dynamics at the Onset of Frictional Sliding

17:10-18:30  Poster Session

**Wednesday, May 4**

9:00-9:40   James R. Rice (Harvard University, USA)
             Frictional Shear in Fluid-Saturated (and Thermally Decomposing)
             Fault Gouge

9:40-10:20  Ze'ev Reches (Oklahoma University)
             Friction, wear and energy dissipation during high velocity slip along
             rock surfaces

10:20-10:50  Coffee break

10:50-11:30  Yehuda Ben-Zion (University of Southern CA, Los Angeles)
             Episodic Tremor and slip on a Frictional Interface with Critical Zero
             Weakening in Elastic Solid
11:30-12:10  Valentin Popov (Technical University, Berlin, Germany)
Rate and State Dependent Friction Laws and Prediction of Earthquakes

12:10-14:00  Lunch

Excursion

Conference Dinner

**Thursday, May 5**

9:00-9:40  Rob W. Carpick (Pennsylvania State University, USA)
Aspects of Stick-Slip Friction, from Atomic to Tectonic Scales

9:40-10:20  Roland Bennewitz (INM-Leibniz Institute for New Materials, Saarbrucken, Germany)
Atomic Friction under Electrochemical Control

10:20-10:50  Coffee break

10:50-11:30  Ruben Perez (Universidad Autonoma de Madrid, Spain)
Adhesion hysteresis in molecular systems

11:30-12:10  Marek Szymonski (Jagiellonian University, Krakow, Poland)
Probing Atomic-scale Friction on Reconstructed Surfaces of Single Crystal Semiconductors

12:10-14:00  Lunch

14:00-14:40  Elie Wanderman (ENS Paris, France)
Friction at Patterned Interfaces

14:40-15:20  Einat Aharonov (Institute of Earth Sciences, The Hebrew University, Jerusalem, Israel)
Understanding Friction of Fluid-filled Granular Media: Implications to Faults, Landslides and Soils

15:20-15:50  Coffee break
15:50-16:30  Jay Fineberg (The Hebrew University, Jerusalem, Israel)

Tuning the Onset of Frictional Motion: Is the static friction coefficient really static?

16:30-17:00  Informal Gathering