



מכון ויצמן למדע  
WEIZMANN INSTITUTE OF SCIENCE

## STATISTICAL MECHANICS DAY

June 24, 2008

09:30 to 17:10

Weizmann Institute of Science

Physics Building, Weissman Auditorium

- 09:30 – 09:40      Opening Remarks – David Mukamel
- 09:40 – 10:00      Itamar Procaccia – Weizmann Institute  
Unveiling the mysteries of the glass-transition
- 10:00 – 10:20      Ron Lifshitz – Tel Aviv University  
Synchronization and collective effects in arrays of nonlinear oscillators
- 10:20 – 10:40      Ehud Meron - Ben-Gurion University  
Regular vs. Scale-Free Patterns: Resolving the Dichotomy of Dryland Vegetation
- 10:40 – 11:00      Yossi Avron - Technion  
Micro-swimming: An introduction to Gauge theory.
- Coffee Break*
- 11:30 – 11:50      Haim Sompolinsky - Hebrew University  
Trading Space for Time
- 11:50 – 12:10      Kenneth Dawson - University College Dublin.  
Statistical Mechanics Questions Posed by Perturbation of Biological Systems
- 12:10 – 12:30      Kinneret Keren - Technion  
Mechanism of shape determination in motile cells
- 12:30 – 12:50      Oleg Krichevsky - Ben-Gurion University  
DNA as an exemplary polymer

*Lunch Break*

- 14:00 – 14:20 Yariv Kafri - Technion  
Steady-State Chemotaxis in E. Coli
- 14:20 – 14:40 Eli Barkai – Bar-Ilan University  
Weak Ergodicity Breaking
- 14:40 – 15:00 Eldad Bettelheim - Hebrew University  
Stochastic Loewner Evolution and models with  $c > 1$
- 15:00 – 15:20 Itzhak Fouxon - Tel-Aviv University  
Universal upper bounds on entropy from the second  
Law of thermodynamics
- Coffee Break*
- 15:50 – 16:10 Gunter Schuetz - Weizmann/Juelich, Germany  
Instability of condensation in the zero-range process with  
random interaction
- 16:10 – 16:30 Shlomo Havlin - Bar-Ilan University  
Novel percolation approaches in complex networks
- 16:30 – 16:50 Yacov Kantor - Tel-Aviv University  
Anomalous Diffusion with Controlled Exponent
- 16:50 – 17:10 Eytan Domany - Weizmann Institute  
The problem of multiple comparisons : bounding the False  
Discovering Rate