

*27th IVS Annual Conference and Technical Workshop
Thursday, October 30, 2008*

Program

- 8:10-9:10** **Registration**
- 8:30** **Opening of Commercial Exhibition**
- 9:10-10:30** **Plenary Session - Auditorium -1 Floor**
Chairperson: I. Balberg, HUU
- 9:10-9:20** **Greetings:** A. Zaban, IVS President
- 9:20-9:40** **IVS prize award ceremony:**
- The Edwards Vacuum Ltd. prize for excellence in scientific research

- The ODEM Ltd. prize for excellence in technical support
- 9:40-10:30** **Plenary lecture:**
**Nanostructuring Silicon : The Journey from Optoelectronics to Medical
Therapy to Nutrition and Consumer Care Products**
L. Canham, Intrinsic Materials Ltd, UK
- 10:30-10:50** **Coffee Break**
- 10:50-12:50** **Parallel Morning Sessions**
- Session ED- Electronic and Optoelectronic Devices- Auditorium -1 Floor**
Chairperson: Z. Zalevsky, BIU
- 10:50-11:15** **ED-01** **Coupling of Neurons to Transistors – Challenges, Problems and
(Invited)** **Solutions**
J. Shappir, Hebrew University of Jerusalem
- 11:15-11:30** **ED-02** **Surface Decomposition under Intermediate Stages of Dielectric
Breakdown in Thin Silica Layers**
H. Cohen, Weizmann Institute of Science
- 11:30-11:55** **ED-03** **Radially Symmetric Nonlinear Photonic Crystals**
(Invited) A. Arie, Tel Aviv University
- 11:55-12:10** **ED-04** **A Tunable Micro Ring Resonator Driven by Electrowetting**
R. Shamaï, The Hebrew University of Jerusalem
- 12:10-12:35** **ED-05** **Interaction of light with light in Semiconductor Structures**
(Invited) S. Ruschin, Tel Aviv University
- 12:35-12:50** **ED-06** **A Novel Microfluidic Whole Cell Biosensor Based on Electrochemical
Detection For Water Toxicity Analysis**
H. Ben-Yoav, Tel Aviv University

Session CG – Cristal Growth and Thin Films–“Tayesset” Hall, -1 floor

Chairperson: R. Tenne, WIS

- 10:50-11:30** CG-01 **Layer-by-Layer Assembled Films: Toward Soft Matter Devices**
(invited) G. Decher, CNRS Inst. Charles Sadron
- 11:30-11:55** CG-02 **Growth and Properties of Ferromagnetic Semiconductor (Ga,Mn)Sb Crystals**
K. Ganesan, Weizmann Institute of Science
- 11:55-12:20** CG-03 **Synchrotron Radiation (SR) Induced Crystallization of Amorphous Barium Titanate**
Y. Feldman, Weizmann Institute of Science
- 12:20-12:50** CG-04 **Structural and Optical Properties of Evaporated Gold Island Films**
(invited) I. Rubinstein, Weizmann Institute of Science

Session VT – Vacuum and Plasma Technology– Hall No. 2, 1st floor

Chairperson: M. Weinstock, INTEL

- 10:50-11:30** VT-01 **The Modeling of Large and Distributed Vacuum System**
(invited) A. Chew, Edwards Vacuum Ltd.
- 11:30-11:50** VT-02 **New Lithium Getters with Huge Sorption Capacity**
I. Sapir, A.G.I Ltd.
- 11:50-12:10** VT-03 **Very High Sensitivity Helium Leak Detection**
G. Lempert, Soreq NRC
- 12:10-12:30** VT-04 **Vacuum and ECD Coating, Complementary or Competitive Technologies**
A. Israeli, Medionics International Ltd.
- 12:30-12:50** VT-05 **Influence of Technological Parameters on Amorphous-Carbon Properties.**
S. Haimson, Numonyx

Session ME – Molecular Electronics– Hall No. 1, 1st floor

Chairperson: Y. Selzer, TAU

- 10:50-11:15 ME-01 Electronic Transport Through Vibrating Molecular Networks**
(Invited) U. Peskin, Technion
- 11:15-11:30 ME-02 Variable Density Effect of Self-Assembled Polarizable Monolayers on the Electronic Properties of Silicon**
N. Peor, The Hebrew University of Jerusalem
- 11:30-11:45 ME-03 Controlling Electrical Properties of SiO_x/Si by Intermolecular Interactions between Parallel Self-Assembled Molecular Dipoles**
Y. Paska, Technion
- 11:45-12:00 ME-04 Bio-Field Effect Transistors: How Do They Actually Work?**
O. Shaya, Tel Aviv University
- 12:00-12:25 ME-05 Vertical Molecular Transistors**
(Invited) S. Richter, Tel Aviv University
- 12:25-12:50 ME-06 Towards Molecular Modulation of Solar Cells**
(Invited) D. Cahen, Weizmann Institute of Science
- 12:50-15:00 * Lunch**
*** Poster Session**
*** Commercial Exhibition**
- 15:00-17:00 Parallel Afternoon Sessions**

Session NM – Nano Materials- Auditorium, -1 Floor

Chairperson: O. Millo, HUJ

- 15:00-15:30 NM-01 Single-and Multi-Excitons in Semiconductor Nanocrystal Quantum Dots**
(invited) E. Lifshitz, Technion
- 15:30-15:50 NM-02 Protein Motifs as Materials for Electronics Applications**
N. Ashkenasy, Ben-Gurion University
- 15:50-16:10 NM-03 Quantum Confinement in Organic Self Assembled Peptide Nanotubes**
N. Amdursky, Tel-Aviv University
- 16:10-16:30 NM-04 Chemical Equilibrium Involving a Small Number of Molecules: A Statistical-Mechanics Prediction of a Distinct Confinement Effect**
L. Rubinovich, Ben-Gurion University
- 16:30-17:00 NM-05 Surface Chemistry of Nanostructures: Deployment, Assembly, and Doping**
(invited) R. Yerushalmi, The Hebrew University of Jerusalem

Session ES – Energy Storage and Conversion–“Tayasset” Hall, -1 floor

Chairperson: G. Grader, Technion

- 15:00-15:30 ES-01** **New Approach to Synthetic Fuel Production using Solar Energy**
(invited) J. Karni, Weizmann Institute of Science
- 15:30-15:45 ES-02** **Low Cost Spectral Splitting for 3rd Generation Photovoltaics**
S. Rühle, Bar-Ilan University
- 15:45-16:00 ES-03** **Can up & down Conversion and Multi-exciton Generation Improve Photovoltaics?**
H. Shpaisman, Weizmann Institute of Science
- 16:00-16:15 ES-04** **Wet-chemical Synthesized Extremely Thin Absorber (ETA) Solar Cells with CdS and Cu_{2-x}S Absorbers**
O. Niitsoo, Weizmann Institute of Science
- 16:15-16:30 ES-05** **Deposition of Sol-Gel Derived Al-doped ZnO TCO Films for Photovoltaic Cells**
I. Winer, Technion
- 16:30-16:45 ES-06** **Waveguide based Photovoltaic System**
S. Greenwald, Bar-Ilan University
- 16:45-17:00 ES-07** **The Improvement of Stability and Efficiency of CdS-QDs Solar Cell Using an Amorphous TiO₂ Coating**
M. Shalom, Bar Ilan University

Session MC – Micro & Nano Characterization– Hall No. 1, 1st floor

Chairperson: Y. Golan, BGU

- 15:00-15:30 MC-01** **Structural Characterisation of Spin-Electronic Devices using Transmission Electron Microscopy**
(invited) A. Kohn, Univ. of Oxford, UK.
- 15:30-15:45 MC-02** **Electronic Level Structure and Self-assembly of Semiconductor Nanocrystals in 2D Arrays**
D. Steiner, The Hebrew University of Jerusalem
- 15:45-16:00 MC-03** **Two- and Three- Dimensional Composite Photonic Crystals of Macro Porous Silicon and Lead Sulfide Semiconductor Nanostructures**
N. Gutman, The Hebrew University of Jerusalem
- 16:00-16:15 MC-04** ***In-situ* Wettability Study of Surfaces in the ESEM**
Z. Barkay, Tel-Aviv University
- 16:15-16:30 MC-05** **AFM Investigation of Mechanical Properties of Dentin**
S.R. Cohen, Weizmann Institute of Science
- 16:30-17:00 MC-06** **Ordering, and Size- and Shape-Selection of Epitaxial Silicide Nanoislands**
(invited) I. Goldfarb, Tel-Aviv University

17:00-17:20 **Coffee Break**

17:20-18:30 **Plenary Session - Auditorium, -1 Floor**
Chairperson: I. Balberg, HUJ

17:20-18:10 **Plenary lecture:**
Interface Formation at the Atomic Scale
C. Palmstrøm, Univ. of Minnesota, USA

18:10-18:30 **Prize Award Ceremony to Winning Students' Posters. Prizes are**
Sponsored by :
 Israel IEEE-Electron Device Society
 Esterman and Roth Funds
 Israel Association for Crystal Growth

18:30 **Departure**