

28th IVS Annual Conference and Technical Workshop Program
Thursday, October 15, 2009 Air Force House, Herzliya
<http://www.science.co.il/ivs/conferences/2009/>

- 8:00-12:00** **Registration**
- 8:30** **Opening of Commercial Exhibition**
- 9:00-10:20** **Plenary Session - Auditorium - 1 Floor**
Chairperson: Sidney Cohen, Weizmann Institute of Science
- 9:00-9:05** **Greetings:**
A. Hoffman, IVS President
- 9:05-9:30** **IVS Prize Award Ceremony:**
- The Edwards Vacuum Ltd. prize for excellence in scientific research
- The ODEM Ltd. prize for excellence in technical support
- 9:30-10:10** **Plenary lecture: Novel Biosensors Based on Force Discrimination**
Rich Colton, Director of Institute of Nanoscience and Superintendent of Chemistry Division, Naval Research Laboratory, Wash. DC, USA
- 10:10-10:40** **Coffee Break, Commercial Exhibition and Posters**
- 10:40-12:40** **Parallel Morning Sessions**

Session IA-1 – Invited session – Industry-Academy – Auditorium – 1 Floor

Chairperson: S. Rotter, Applied Diamonds, Rehovot, Israel

- 10:40-11:00** **IA1-01** **Academia – Industry Interrelations. Present Status and What Needs to be Fixed.**
Moshe Oron, Chairperson of the academy-industry relationship committee of the national R&D counsel
- 11:00-11:20** **IA1-02** **The Ministry of National Infrastructure Policy for Energy**
Shlomo Wald, Chief Scientist
- 11:00-11:40** **IA1-03** **The Life Cycle of Inventions**
Paul Fenster, Ehrlich & Fenster, Patent Lawyers
- 11:40-12:00** **IA1-04** **IR Detectors in Israel: From the Lab to the Fab**
Eliezer Weiss
SCD – SemiConductor Devices, P.O. Box 2250/99, Haifa 31021, Israel
- 12:00-12:20** **IA1-05** **IonScan 800 – Ultra-Precise Film Thickness Trimming for Semiconductor Technology**
Matthias Nestler*, Marian Hanf, Dr. Michael Zeuner
Roth & Rau AG, MicroSystems Division, Germany
- 12:20-12:40** **IA1-06** **Vacuum Solutions for Production of Solar Thermal Receiver**
Anke Teeuwesen, Pfeiffer Vacuum GmbH

Session SU – Surfaces – “Tayesset” Hall, - 1 Floor

Chairperson: I. Gouzman, Soreq Nuclear Research Center

- 10:40-11:10 (invited) SU-01 Low-energy Electron (0-20 eV) Induced Degradation of 11-Mercapto-undecanoic Acid SAMs**
Roger Azria, Orsay France
- 11:10-11:25 SU-02 ³He Spin Echo Spectroscopy, Supplying an Empirical View Point of Atomic Scale Interactions and Energy Exchange Processes on Surfaces**
G. Alexandrowicz, Technion
- 11:25-11:40 SU-03 Cross-Section Scanning Tunneling Microscopy of InAs/GaSb Superlattice Interfaces**
C. Saguy, Technion
- 11:40-11:55 SU-04 The Dielectric Constant and Polarizability of Organic Thin Films: a Microscopic Picture**
A. Natan, Weizmann Institute of Science
- 11:55-12:10 SU-05 Ethene Adsorption & Decomposition on the Cu(410) Surface Studied by Thermal Desorption, Photoemission & Vibrational Spectroscopies & Supersonic Molecular Beam**
T. Kravchuk, Technion
- 12:10-12:40 (invited) SU-06 Inhibition of Hydrogen Adsorption on Uranium Surfaces by Traces of Water Vapor**
Noah Shamir, Nuclear Research Center of the Negev

Session SE – Sensors – Hall No. 1, 1st floor

Chairperson: L. A. Gheber, Ben Gurion Univ.

- 10:40-11:10 (invited) SE-01 Molecular Boundaries in Neuroelectronic Hybrids**
Shlomo Yitzchaik, Hebrew University of Jerusalem
- 11:10-11:25 SE-02 Carbon Nanotube Buckypapers as Strain Sensors**
M. Rein, Weizmann Institute of Science and Rafael
- 11:25-11:40 SE-03 Electrical Transport and Physical Properties of Novel Hybrid Organic-Inorganic Semiconductor Devices**
O. Yaffe, Weizmann Institute of Science
- 11:40-11:55 SE-04 MEMS Polysilicon Cantilever Sensor with Nanostructured Porous Layer for Enhanced Triglycerides Biosensing**
S. Stolyarova, Technion
- 11:55-12:10 SE-05 Formation of Ultrasoother and Highly Stable Copper Surfaces Through Annealing and Self-Assembly of Organic Monolayers**
I. Platzman, Technion
- 12:10-12:40 (invited) SE-06 Carbon Nanotube Based Neuro-Sensors**
Yael Hanein, Tel Aviv University
- 12:40-15:00 * Lunch**
- * Poster Session**
- * Commercial Exhibition**
- 13:30-14:45 * Vacuum Measurement Mini-workshop**

Mini-Workshop – Vacuum Measurement Tayesset Hall, - 1 Floor

Presenter: Geoff Lempert, Soreq Nuclear Research Center

- 13:30-14:00 MW-1 Vacuum Measurement**
14:00-14:15 Exhibition Hall Coffee
14:15-14:45 MW-2 Residual Gas Measurement
15:00-17:00 Parallel Afternoon Sessions

Session IA-2 – Invited Session – Industry -Academy - Auditorium, - 1 Floor

Chairperson: I. Yair, Applied Materials, Rehovot, Israel

- 15:00-15:20 IA2-01 Alternative Energy Activities at Israel Aircraft Industries (IAI)**
Lea Boehm, Chief Scientist, IAI
- 15:20-15:40 IA2-02 Innovation and R&D in Orbotech**
Avi Gross, Executive VP and CTO, Orbotech LTD, Yavne, Israel
- 15:40-16:00 IA2-03 Metrology and Inspection Challenges for Semiconductor Devices of 2x nm Design Rules and Below**
Benzion Sender, PDC Applied Materials Rehovot, Israel
- 16:00-16:20 IA2-04 Downstream Oxygen Plasma Ashing Hydrocarbon Contamination**
Vincent L. Carlino, Ibss Group, Inc. San Francisco, CA
- 16:20-16:40 IA2-05 Bridging Across Scales: from the Nano-scale to the Wafer-scale**
Roie Yerushalmi, Hebrew University of Jerusalem

Session E – Energy– Hall No. 1, 1st floor

Chairperson: A. Zaban, Bar Ilan Univ.

- 15:00-15:30 ES-01 Vertical Junction Photovoltaic Cells**
(invited) Y. Rosenwaks, Tel Aviv University
- 15:30-15:45 ES-02 Recent Advances in Quantum Dot Sensitized Solar Cells**
S. Ruhle
- 15:45-16:00 ES-03 A new Look at Si Inversion-Layer Solar Cells, Meeting Ground for Inorganic, Molecular and Organic Electronics**
R. Har-Lavan, Weizmann Institute of Science
- 16:00-16:15 ES-04 Hydrogen Peroxide as an Electrochemical Probe**
H. Dotan, Technion
- 16:15-16:30 ES-05 Li- Batteries: Part of the Solution to the Green Revolution**
D. S. Jacob Bar Ilan University
- 16:30-17:00 ES-06 Study and Development of Silicon Air Batteries**
(invited) Yair Ein-Eli, Technion

Session NM – Nanomaterials –“Tayesset” Hall, - 1 floor

Chairperson: Y. Paltiel, Hebrew Univ.

- 15:00-15:30** NM-01 **Nanoscale Measurement and Fabrication of Nanostructures Using Atomic Force Microscope and Electron Beam Lithography**
(invited) Haiwon Lee, Hanyang Univ., Seoul Korea
- 15:30-15:45** NM-02 **Morphology and Catalytic Reactivity of Bi-Metallic Pd-Au clusters**
E. Gross, Hebrew University of Jerusalem
- 15:45-16:00** NM-03 **Tensile Properties of CNT Reinforced PMMA Electrospun Fibers**
X.-M. Sui, Weizmann Institute of Science
- 16:00-16:15** NM-04 **Nano-Scale Active Dopant Distribution in Silicon Nanowires Measured by Kelvin Probe Force Microscopy**
E. Koren, Tel Aviv University
- 16:15-16:30** NM-05 **Site-Directed Doping: C60 in Protein Molecular Layers**
H. Cohen, Weizmann Institute of Science
- 16:30-17:00** NM-06 **Organic-Inorganic Interfaces, a Source for Surprising Electronic Properties - The Cooperative Molecular field Effect**
(invited) Ron Naaman, Weizmann Institute of Science
- 17:00-17:20** **Coffee Break**

Plenary Session - Auditorium, -1 Floor

Chairperson: Y. Rosenwaks, Tel Aviv Univ.

- 17:20-18:00** **From Basic Research to Operational Systems – MOEMS Development Test Case**
Gabby Sarusi, VP and Division Head, El–Op Industries, Nes Ziona, Israel
- 18:00-18:10** **Prize Award Ceremony :**
Student Poster Prizes Sponsored by:
- IET-Israel
- Esterman and Roth Funds
- 18:10** **Departure**