

PROGRAM POSTERS

- 1. Isak Beilis (TAU)** Ion Current & Plasma Density in a Cavity of a Vacuum Arc with a Black Body Electrode Configuration
- 2. Matteo Laterza (Tech)** Interfacing Fluid and Kinetic Electron Models in a Hall Thruster Plasma Simulation
- 3. Marko Cvejic (WIS)** Mitigation of current outflow to low-density plasma region of z-pinch with pre-embedded axial magnetic field
- 4. Meytal Siman Tov (Tech)** Generation of Space Charge Self-Oscillations in a diode by Over-Injection
- 5. Subir Biswas (WIS)** Determination of the electric field distribution near the anode surface of a self-magnetic-pinch diode
- 6. Dmitry Mikitschuk (WIS)** Effects of axial magnetic field on the current distribution in z-pinch implosion with pre-embedded axial magnetic field
- 7. Itai Gissis (Tech)** Laboratory Astrophysics - Cold Absorption
- 8. Maor Asher (WIS)** Vibrational Anharmonicity in Organic Semiconductors
- 9. Ido Azuri (WIS)** THz Spectroscopy of 2,4,6-trinitrotoluene Molecular Solids from First Principles
- 10. Nireekshan Reddy (BGU)** Comprehensive theory of frequency conversion from nanoparticles
- 11. Ora Simcha Bitton (WIS)** Vacuum Rabi splitting in a plasmonic cavity at the single quantum emitter limit
- 12. Adam Weissman (BIU)** Spatial Confinement of Light onto a Flat Metallic Surface using Hybridization between Two Cavities
- 13. Firdoz Shaik (Tech)** Plasmon-Enhanced Multi-Carrier Photocatalysis
- 14. Firdoz Shaik (Tech)** Plasmonic Graphitic Carbon-nitride Nanohybrids For Solar-to-Fuel Conversion
- 15. Mazal Carmiel (HUJI)** PtCo nanoporous foam as catalyst for selective hydrogenolysis reactions
- 16. Nimrod Gazit (Tech)** From hollowing of metal nanoparticles to "hollowing" of thin metal films
- 17. Itamar Benisti (Tech)** Measuring transient phenomena in photoexcited BiVO₄ by FTIR
- 18. Asya Svirinovsky Arbeli (WIS)** Towards DNP-NMR in conductive and semi-conductive materials: effects of conductivity on the DNP efficacy
- 19. Tamar Wolf (WIS)** Endogenous Dynamic Nuclear Polarization via Metal Ions in Lithium Titanate
- 20. Regev Ben-Zvi (WIS)** Crystallographic mapping of guided nanowires by second-harmonic generation polarimetry
- 21. Shahar Dery (HUJI)** Identifying site-dependent reactivity in oxidation reactions on single Pt particles
- 22. Hagai Cohen (WIS)** Double Triggering of the Zinc Oxysulfide Conductance
- 23. Tatyana Kravchuk (Tech)** Surface Science Laboratory of Technion – your address for surface samples characterization

- 24. Gyora Gal (BGU)** Alloying and manipulating the size of nanoparticles by laser irradiation of colloidal suspensions
- 25. Youngjin Jang (Tech)** SnTe-Based Core/Shell Nanocrystals with Enhanced Chemical Stability via the Kirkendall Effect
- 26. Michal Natan (BIU)** Fabrication of rechargeable N-halamine nanoparticles for antimicrobial applications
- 27. Amnon Rothman (WIS)** Kinetics of Surface-Guided Nanowire Growth
- 28. Dekel Nakar (WIS)** Few-Wall Carbon Nanotube Coils
- 29. Shiri Dishon (WIS)** Non-Epitaxial Surface-Guided Core-Shell Nanowires
- 30. Shimon Zelkind (NRCN)** The oxidation of TiNiSn (Half-Heusler) alloy by oxygen and water vapor
- 31. Tamir Forsht (WIS)** Guided Growth of Horizontal ZnS Nanowires on Flat and Faceted Sapphire Surfaces
- 32. Shay Tirosh (BIU)** Darkening Rate as a Qualitative, High-throughput Mapping Method for Screening Li-Ionic Conduction in Thin Solid Electrolytes
- 33. Alexander Axelevitch (HIT)** Investigation of optical and electrical properties of pure and Al-doped ZnO thin films grown by sputtering
- 34. David Keller (BIU)** Can (FTO) be more like ITO? Reducing F:SnO₂ surface roughness by introducing additional SnO₂ coating
- 35. Adi Kama (BIU)** The influence of B-site substitution on the halide perovskite material properties and stability towards lead free halide perovskite for solar cells
- 36. Yevgeny Rakita (WIS)** Low charge mobility in SOFT polar crystals is Fundamental: Case of halide perovskites
- 37. Anat Itzhak (BIU)** Doping TiO₂ Electron Transport Layers in Halide Perovskite PV cells by Combinatorial Material Science
- 38. Igal Levnie (WIS)** Can we use time-resolved measurements to get Steady-State Transport data for Halide perovskites?
- 39. Naga Prathibha Jasti (BIU)** Electron transport layer free perovskite solar cell with high open circuit voltage and dependence of scan rate on device performance
- 40. Mark Khenkin (BGU)** Effect of light cycling and electrical bias on perovskite solar cells stability
- 41. Shalom Avadyayev (BIU)** Combinatorial synthesis and PV activity of mixed A or X ABX₃ Halide Perovskites by spray pyrolysis for rapid & systematic parameter space mapping
- 42. Betina Tabah (BIU)** Solar-Energy-Driven Conversion of Biomass to Bioethanol: A Sustainable Approach
- 43. Tanmoy Sarker (Tech)** Self-segregated interlayers in organic field effect transistors
- 44. Ella Sanders (WIS)** Charge Transport in Surface-Guided CsPbBr₃ Nanowires
- 45. Hagit Barda (Tech)** Controlling the dewetting mechanism and kinetics of Ni thin films by small amount of additives
- 46. Olga Korchev (BGU)** Exploring electronic properties of SnS cubic phase
- 47. Esti Toledo (BGU)** Multifunctional nanodevices for the regulation of cytotoxic activity of natural killer cells

- 48. Guillaume Le Saux (BGU)** Spatial and Chemical Surface Guidance of NK Cell Cytotoxic Activity
- 49. Jeccy Sun (Tech)** Time-resolved decoupling of multiple stimuli using flexible fabric sensor with unique self-recovery
- 50. Jerry Fereiro (WIS)** Chemical Modulation of Contacts Control Energy level alignment in Gold-Azurin-Gold Junctions
- 51. Natanel Bar Hanin (BGU)** Surface Functionalization of Semiconductor Nanowires for Biological Applications
- 52. Kavita Garg (WIS)** Electrode-Protein Coupling Controls Electron Transport via Bacteriorhodopsin
- 53. Ofir Shein Lumbroso (WIS)** Electronic noise due to temperature difference across single molecule conductors: beyond standard thermal and shot noises
- 54. Fredy R Zypman (USA)** Measuring nanoparticle charge in electrolytes with scanning probe microscopy
- 55. Lital Mordechay (BGU)** Bio-Nano Devices for Ultra-High Resolution Study of Mechanical Forces in Immune Cells
- 56. Yifeng Cao (WIS)** Boundary lubricants prepared from mixtures of saturated and unsaturated phosphatidylcholine lipids: Lubrication and self healing
- 57. Nicole Edelstein-Pardo (TAU)** Fabricating Active Microfibers from Enzyme Responsive Block Copolymers
- 58. Ashish Pandey (BGU)** Controlling cytotoxic activity of natural killer (NK) cells by nanolithographic molecular-scale devices
- 59. Annabel-Louise Butcher (WIS)** Deformation and fraction of soft materials for cartilage tissue engineering
- 60. Anbumozhi Angayarkanni (WIS)** Normal and Frictional Interactions by Liposome-Bearing PEO layers under water and under physiological salt concentration
- 61. Shiran Sharabani (TAU)** Thermally induced shape-shifting of micrometer scale polymeric fibers and meshes
- 62. Edward Bormashenko (Ariel)** Magnetic Displacement of Floating Diamagnetic Bodies: The Moses Effect Drives Diamagnetic Bodies
- 63. Yulia Sokolov (TAU)** Collective dynamics of objects in viscous sheets and their effect on flow
- 64. Viraj Bhingardive (BGU)** Nano Lithographically Templated Assembly of 1D Nanostructures
- 65. Yitzchak Rosen (HUJI)** Thin Copper Flakes for Conductive Inks Prepared by Decomposition of Copper Formate and Ultrafine Wet Milling
- 66. Sivan Tzadka (BGU)** Thermal nanoimprint and resolution limits of hybrid H-PDMS/PDMS mold
- 67. Nurit Atar (NRCS)** Polyimide based ink for polyjet 3D printing technology
- 68. Natalia Ostrovsky (BGU)** Nanolithographic Fabrication on Curved Substrates
- 69. Tamar Rosental (HUJI)** Additive manufacturing of dense barium titanate ceramics
- 70. Dor Yehuda (BGU)** Direct Soft Imprint of Chalcogenide Glasses



IVS / IPSTA 2018 36th Annual Conference

Leonardo City Tower Convention Center, Ramat Gan

September 6th, 2018



IVS
Science, Technology & Applications
www.ivs.org.il

PROGRAM

- 08:00-08:45** Registration and Gathering
- 08:45-09:00** Welcome, Prof. Igor Rahinov (OUI), IVS president
- 09:00-10:00** Plenary Session 1 – Prof. Erik Bakkers (TU Eindhoven) - Bottom-up grown nanowire quantum devices
- 10:00-10:30** Coffee Break
- 10:30-12:30** Morning Parallel Sessions
- 12:30-14:30** Lunch | Poster Presentations | Commercial exhibition
- 14:30-16:30** Afternoon Parallel Sessions
- 16:30-17:00** Coffee Break

Plenary Session II by IVS Research Excellence Awardees

- 17:00-17:30** Plenary Lecture - Prof. Yair Ein-Eli (Technion) - Challenges and Prospect of Metal-Air Batteries
- 17:30-18:00** Plenary Lecture - Prof. Leor Kronik (WIS) - Predicting the Properties of Materials from First Principles

18:00-18:30 Award Ceremony

The IVS-Edwards Excellence Award for Research-Early Career - **Prof. Menny Shalom** (BGU)

IPSTA Greenbaum Prize for Young Researcher

The IVS Excellence Award for Surface Science Expertise - **Dr. Anatoli Bekkerman** (Technion)

The IVS-Intel Female Scientist Award- **Michal Natan** (BIU)

Poster Prizes and The Ofra Kalisky Foundation Poster Awards

18:30-20:00 IVS General Assembly



Morning Parallel Sessions

Start: 10:30 End: 12:30

Hall A - Plasma science, technology, & applications I

Yakov Krasik, Chair | Technion

10:30	Mikhail Shneider (invited)	USA	Combined laser-microwave diagnostics of gas and weakly ionized plasma
11:00	Alexander Rososhek	Tech	On phase transitions in different metals
11:15	Christine Stollberg	WIS	Direct observation of the current evolution in a small-scale self-compressing plasma column
11:30	Amir Abramovich	Ariel	Interaction of MMW radiation with the glow intensity of plasma in neon lamps and applications
11:45	Joshua Baraban	BGU	Probing High Temperature Chemistry with Spectroscopy
12:00	Tal Queller	WIS	Radial Current Distribution of a Cylindrically Imploding Plasma Close to Stagnation
12:15	Lev Nagli	Ariel	Non-linear optical effects in Laser-Induced Plasma

Hall B - Surface Spectroscopy

Elad Gross, Chair | HUJI

10:30	Angel Yanguas-Gil (invited)	USA	Structure and properties of Sub-nm Oxides Synthesized by Atomic Layer Deposition: From Isolated Cations to the Emergence of Crystallinity
11:00	Tatyana Bendikov	WIS	XPS Characterization of Copper and Silver Nanostructures
11:20	Roey Sagi	HUJI	The Transport, Charging, and Binding of Low-Energy Electrons Interacting with Amorphous Solid Water and Ammonia Films: The Roles of Morphology and Temperature
11:40	Adam Weismann	BIU	Dipole aligned Plasmon-molecular surfaces
12:00	Omer Yaffe (invited)	WIS	Anharmonic lattice displacements and their effect on electronic properties of halide perovskites

Hall C - Renewable Energy

Michal Leskes, Chair | WIS

10:30	Doron Aurbach (invited)	BIU	Advanced materials science for energy storage & conversion
11:00	Ofir Friedman	BGU	Chemical, Structural and Photovoltaic Properties of Graded CdS _x Se _{1-x} Thin Films Grown by Chemical Bath Deposition on GaAs(100)
11:20	Hannah-Noa Barad	BIU	Improving contacts to halide perovskite based solar cells using combinatorial materials science
11:40	Davide Raffaele Ceratti	WIS	Photo-damage and self-healing processes in Halide Perovskites: threshold, kinetics and mechanisms
12:00	Gitti Frey (invited)	Tech	Correlating structure and performance of organic solar cells using 3D imaging

Hall D - Functional Surfaces & Sensors

Muhammad Bashouti, Chair | BGU

10:30	Jiří Červenka (invited)	Czech	Electronic detection of DNA on graphene
11:00	Dima Cheskis	Ariel	Microampere Hall Sensing
11:20	Haim Weissman	WIS	Water purification and CNT hybrids through Self-Assembly of Perylene Diimides in Aqueous Media
11:40	Daniel Nessim	BIU	High Yield, Bottom-Up Synthesis of Layered Metal Sulfides and Phosphides Using Thermal Annealing and Top-Down Exfoliation of Monolayers
12:00	J. Marcelo J. Lopes (invited)	Berlin	Van der Waals epitaxy of hexagonal boron nitride on graphene

Hall E - Bio & Soft Interfaces

Haim Diamant, Chair | TAU

10:30	Ben Maoz	TAU	Organs-On-a-Chip: A New Tool for the Study of Human Physiology
10:45	Evgenia Vaganova	HUJI	Oscillatory Discharging Behavior of a Pyridine-based Polymer Blend Gel Mimics Charge Transfer in Neuronal Axons
11:00	Roey Amir	TAU	Designing enzymatically degradable polymeric nanocarriers with high molecular precision
11:15	Liraz Chai (invited)	HUJI	A bottom-up view at the formation of bacterial functional amyloid fibers
11:45	Shani Hazan	BIU	Molecular Properties of Fortifying Mineral Constituents in Stiff and Flexible Bones
12:00	Ayelet Lesman (invited)	TAU	Mechanical aspects of fibrous networks embedded with contractile cells

Afternoon Parallel Sessions

Start: 14:30 End: 16:30

Hall A - Plasma science, technology, & applications II

Reuven Boxman, Chair | TAU

14:30	Michael Gedalin (invited)	BGU	Gyrophase dependent ion dynamics and ion distributions in magnetized collisionless shocks
15:00	Amnon Fruchtman	HIT	Electrodeless plasma thrusters for electric propulsion in space
15:15	Asher Yahalom	Ariel	Metage Symmetry Group of Non Barotropic Magnetohydrodynamics and the Conservation of Cross Helicity
15:30	Ido Barth	HUJI	Spectral manipulation and plasma wave seed for Raman amplifiers
15:45	Ilan Be'ery	Tech	Mirror-confined plasma stabilization, transport and heating by rotating magnetic field
16:00	Yang Cao	Tech	Self-guiding of microwave beam through pre-formed plasma
16:15	Yoav Shoshani	TAU	Fire-column-like dusty-plasma ejected from basalt by localized microwaves

Hall B - Plasmonics & Nano-materials

Adi Salomon, Chair | BIU

14:30	Christoph Lienau (invited)	Germany	Ultrafast multidimensional spectroscopy of charge-transfer processes in light-harvesting systems
15:00	Yonatan Sivan	BGU	Non-Equilibrium theory of hot electron generation in plasmonic nanostructures under illumination for catalysis thermal vs. non-thermal effects
15:20	Ana Hirsch	WIS	Calculating the Structure of Isoxanthopterin Nano Crystals, Efficient Reflectors in the Crustacean Eyes
15:40	Elad Segal	BIU	Pesticide Sensing by Plasmonic Nano Cavities at the Submicron Scale
16:00	Yaakov Tischler (invited)	BIU	Applications of Low Frequency Raman Scattering for Characterizing Nanostructures

Hall C - Catalysis for Renewable Fuels

Yaron Paz, Chair | Technion

14:30	Brian Rosen (invited)	TAU	Solid-Phase Crystallization and Co-deflagration for the Preparation of Tunable Energy Conversion Nanocatalysts
15:00	Yifat Nakibli	Tech	Design Principles of Nanoscale Photocatalysts
15:20	Danielle Schweke	BGU	H ₂ O Activation on Ce _{1-x} U _x O _{2+δ} Oxides - Effect of U content on the Energetics and Thermodynamics of H ₂ O Adsorption
15:40	Yagel Peleg	WIS	The Role of Charge in Electrofreezing of Supercooled Water on Amorphous Surfaces
16:00	Eran Edri (invited)	BGU	Charge Transport Through Conjugated Molecules Embedded in Ultra-Thin Insulating Oxide Layer and Its Applications In Artificial Photosynthesis

Hall D - Functional Scanning Probe Microscopy

Baran Eren, Chair | WIS

14:30	Volker Rose (invited)	USA	Combining scanning probe microscopy and synchrotron x-rays at the XTIP beamline
15:00	Doron Azulay	WIS	The manifestation of in-gap state in perovskite thin films on the photo-transport properties of the film
15:20	Yonatan Calahorra	UK	Non-destructive piezoresponse force microscopy (PFM) for nanoscale materials characterization
15:40	Irit Goldian	WIS	Using AFM for Investigating Red Blood Cells mechanics
16:00	Uri Sivan (invited)	Tech	The Last Nanometer – Hydration Structure of DNA and Solid Surfaces Probed by Ultra-High Resolution AFM

Hall E - Printing & Soft Deposition

Charles Diesendruck, Chair | Technion

14:30	Shlomo Magdassi (invited)	HUJI	From Gutenberg Bible to 4D printing
15:00	Orlando Marin	BIU	Polymerization of liquid oil polyhedra
15:20	Mohammad Abo Jabal	Tech	Evaporative Self Assembly Pattern Deposition of Polymers from Volatile Solutions in Confined Geometry
15:40	Rafael Tadmor	BGU	Normal Adhesion
16:00	Mark Schwartzman (invited)	BGU	Nanoimprint lithography – novel applications approaches for direct 3D nanostructuring and controlled nanoscale assembly