IVS-IPSTA 2020 - 38th Annual Conference - ONLINE December 13, 2020

Please click on the hyperlink to each session (underlined in blue) to be directed to the respective Zoom sessions

9:15	**Opening Remarks – Gilbert Daniel Nessim** (BIU), IVS President
	Plenary Session I: IVS Research Excellence Awardees: *Hossam Haick* and *Ernesto Joselevich* (joint winners)
9:30	**Hossam Haick** (Technion) *A multifunctional electronic skin with advanced self-healing capabilities*
9:50	**Ernesto Joselevich** (Weizmann Institute of Science) *Kinetics and mechanism of guided nanowire growth*
10:10	**Break**

10:20 Parallel Sessions I — Morning Program

	Plasma Science I	Energy and Catalysis	Nanomaterials, Thin films, and Surface Science I	Nanoelectronics and Spintronics
	*Chair: **Yoav Hadas (Rafael)***	*Chair: **Malachi Noked (BIU)***	*Chair: **David Zitoun (BIU)***	*Chair: **Elad Koren (Technion)***
10:20	**Yakov Krasik** (Technion) *Keynote* *Research of underwater electrical explosion of wires and strong shock waves generation*	**Wolfgang Zeier** (Muenster) *Keynote* *Inductive effects or not; do they exist in solid ionic conductors?*	**Luis M. Liz-Marzán** (CIC biom) *Keynote* *Nanomaterials with Plasmonic Chirality*	**Shahal Ilani** (WIS) *Keynote* *Visualizing the Quantum Phases of Strongly Interacting Electrons*
	Yitzhak Maron (WIS) *Invited*	**Alex Schechter** (Ariel U.) *Invited*	**Nicola Pinna** (Berlin) *Invited*	**Eilam Yalon** (Technion) *Invited*
10:40	*Experimental determination of the thermal and turbulent ion motion in a stagnating plasma*	*Dimethyl Ether (DME) Oxidation in a Promising New Fuel Cell Technology*	*Gas sensing of NiO-CNTs core-shell heterostructures: optimization by radial modulation of the hole-accumulation layer*	*Phase change materials and their applications*
10:55	**Dan Lev** (RAFAEL) *Invited* *From Plasma Science to Space Electric Propulsion*	**Michal Leskes** (WIS) *Invited* *Sensitivity enhanced NMR spectroscopy for probing bulk and interfacial properties of energy storage materials*	**Mark Schwartzman** (BGU) *Invited* *Directly nanoimprinted sub-wavelength antireflective structures*	**Beena Kalisky** (BIU) *Invited* *Imaging phase transitions with scanning SQUID*
11:10	**Galia Faingold** (Technion) *Contributed* *A Numerical Investigation of NH3/O2/He Ignition Limits in Non-Thermal Plasma*	**David Eisenberg** (Technion) *Contributed* *Hydrazine Oxidation Electrocatalysis on Multi-Doped Carbons: Who Does What?*	**Alla Zak** (HIT) *Contributed* *Synthetic Route Towards Pure Phase of WS2 & MoS2 Inorganic Nanotubes and their Unusual Properties*	**Itai Epstein** (TAU) *Contributed* *Nanometer-Scale Cavities for Mid-infrared Light Based on Graphene Plasmons*
11:20	**Amnon Fruchtman** (HIT) *Contributed* *Mass Separation by Oscillating Electromagnetic Fields*	**Shahar Dery** (HUJI) *Contributed* *Intra-Particle Hydrogen Spillover from the Oxide-Metal Interface Triggers Site-Independent Hydrogenation Reactions within Single Particles*	**Igor Rahinov** (OUI) *Contributed* *Following the microscopic pathways to energy dissipation and adsorption in molecule-metal surface encounter*	**Subhrajit Mukherjee** (Technion) *Contributed* *Monolithic Integration of Coplanar Ferroelectric-Semiconductor Heterojunction Phototransistor on Two-Dimensional In_2Se_3*
11:30	**John G. Leopold** (Technion) *Contributed* *A split-cathode as a novel type of virtual electron source for relativistic magnetrons*	**Hannah-Noa Barad** (Max Plank Inst.) *Contributed* *Composition and nanostructure variation in a multinary materials library: effect on electrocatalytic properties of oxygen evolution*	**Yonatan Calahorra** (UC) *Contributed* *Enhanced Piezoelectricity and Electromechanical Efficiency in Nanoporous GaN*	**Sudipto Chakrabarti** (WIS) *Contributed* *Magnetic control over the fundamental structure of atomic wires*
	Marko Cvejić (WIS) Contributed *Effects of plasma rotation in an experiment of magnetic flux compression by an imploding plasma*			

11:40	**Discussion**
12:00	**Break + IPSTA Member Meeting**
12:20	**Intel Tutorial** **A bird's view on problem-solving in microchip manufacturing** ***Anatoly Agulyansky* (Intel)** ***Followed by a discussion with Yuli Chakk (Intel)***
13:20	**Break**

13:30 Parallel Sessions II — Afternoon Program

	Plasma Science II	Soft and Biological Matter	Nanomaterials, Thin films and Surface Science II	Materials Assembly & Sensors
	*Chair: **Ido Barth (HUJI)***	*Chair: **Ulyana Shimanovich (WIS)***	*Chair: **Maya Bar-Sadan (BGU)***	*Chair: **Amit Sitt (TAU)***
13:30	**Nat Fisch** (Princeton) *Keynote* *Energy Transformations in Plasma*	**Fritz Volrath** (University of Oxford) *Keynote* *Spider's droplet silk, a most intriguing class of materials*	**Sarah Haigh** (U. Manchester) *Keynote* *Enabling 2D heterostructure development with atomic resolution imaging: studies of twist reconstruction and degradation*	**John Hart** (MIT) *Keynote* *Ultrathin Flexography and Digital Transfer Printing Using Engineered Carbon Nanotube Surfaces*
13:50	**Eli Sarid** (BGU, CERN) *Invited* *The quest for precision measurements of antihydrogen atoms*	**Filipe Natalio** (WIS) *Invited* *Semi-synthetic biological fabrication of cellulose fibers with tailored properties*	**Adi Salomon** (BIU) *Invited* *Cathodoluminescence Nanoscopy of Plasmonic Structures*	**Gili Bisker** (TAU) *Invited* *Fluorescent single-walled carbon nanotubes for sensing and imaging in the near-infrared*
14:05	**Yechiel Frank** (LLNL) *Invited* *Fluorescent single-walled carbon nanotubes for sensing and imaging in the near-infrared*	**Raya Sorkin** (TAU) *Invited* *The soft side of extra-cellular vesicles*	**Ido Kaminer** (Technion) *Invited* *Extreme Light-Matter Interactions in the Ultrafast Transmission Electron Microscope*	**Roie Yerushalmi** (HUJI) *Invited* *Water-Compatible Electronic Tunneling Spectroscopy Detectors enabled by Nano-Floret Hybrid Nanosystems*
14:20	**Omri Hamo** (Technion) *Contributed* *2D Particle-in-Cell Simulation of the Narrow Channel Hall Thruster Plume*	**Ronit Bitton** (BGU) *Invited* *Macroscopic sacs and membranes of hierarchically assembled biopolymers and peptides*	**Sidney Cohen** (WIS) *Contributed* *Nano-Mechanical/Spectroscopic Characterization of Organic Micro-Inclusions in Flint*	**Rakefet Ofek Almog** (Azrieli College of Engineering) *Contributed* *Decorating ZnO Nanowalls with AuNP for Bio-Sensing Applications*
14:30	**Meytal Siman Tov** (Technion) *Contributed* *Generation of Periodic Bunches Produced by a Squeezed Electron Beam in a Resonant Cavity*	**Irit Rosenhek-Goldian** (WIS) *Contributed* *Mechanical properties of fibrillar materials: the role of H-bond formation in amyloid peptides*	**Asmita Dutta** (Ariel Univ.) *Contributed* *Surface modifications of carbon nanodots reveal the chemical source of their bright fluorescence*	**Ehud Greenberg** (BIU) *Contributed* *3D Material Deposition by a Laser Induced Photo-Thermal Reaction*
14:40	**Tal Queller** (WIS) *Contributed* *Radial current distribution of a gas-puff self imploding plasma close to stagnation*	**Chiara Daraio** (CalTech) *Keynote* *Organic temperature and IR sensors*	**Ashish Prajabati** (BGU) *Contributed* *Omnidirectional Absorption with Submicrometer-Scaled Compound Parabolic Light Concentrator Arrays*	**Thomas Gilmore** (Impedans Ltd) *Contributed* *On modern fault detection methods for industrial plasmas using intelligent sensors*
	Tal miller (HUJI) Contributed *Rate Equations Model of Multiple Mirror Systems*			

14:50	**Discussion**
15:10	**Break**
15:30	**Plenary Session II:** **Paul S. Weiss (UCLA)** *Atomically Precise Chemical, Physical, Electronic, and Spin Contacts* Chair: **David Cahen (WIS, BIU)**
16:10	**IVS Awards and Closing Remarks**
16:30	**IVS General Assembly**