

IVS-IPSTA 2023

40th Annual Conference

March 2nd • Nanocenter, Bar-Ilan University

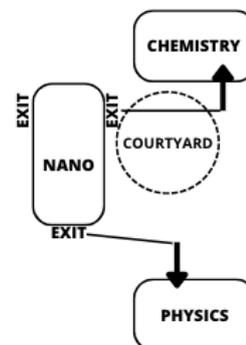
PROGRAM

9:00-9:30	Registration & Gathering
9:30-9:50	Introduction & Welcome: Arie Zaban, BIU President & Gilbert Daniel Nessim (BIU), IVS President
9:50-10:25	Plenary session I: Avi Domb (HUJI, Israel Chief Scientist) <i>"Innovation, Science and Technology in Israel"</i>
10:25-10:50	Coffee Break
10:50-13:00	Morning Parallel Sessions
13:00-14:50	Lunch with Poster Presentations
14:50-17:00	Afternoon Parallel Sessions
17:00-17:20	Coffee Break
17:20-17:55	Plenary session II: Zeev Zalevsky (BIU) IVS Research Excellence Award
17:55-18:15	Conclusions & Prizes
18:15-18:30	IVS General Assembly
18:30	Speakers lab visit & Dinner (by invitation only)

Visit our website for more **information and abstracts**:
www.ivs.org.il or scan the QR Code



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Need a quiet place for a work call or email? Feel free to use our **"relax room"** at your convenience:
ROOM: 562 | BUILDING: 206 NANO | FLOOR: 5

MORNING SESSIONS

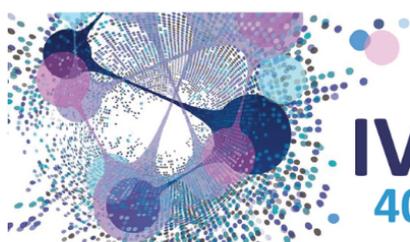
Keynote | Invited | Contributed

	Bio Applied Surfaces and Materials Chair: Christopher Arnusch (BGU)	ROOM: 901 BUILDING: 206 NANO FLOOR: 9
10:50	Han Zuilhof (Wageningen U.) The light way to polymer brushes	
11:15	Axel Rosenhahn (Ruhr-U. Bochum) Amphiphilic coatings for marine antifouling applications	
11:40	Meital Reches (HUJI) Biodegradable and environmentally-friendly peptide-based functional coatings	
12:00	Zvi Yaari (HUJI) AI-Guided optical sensors for the early detection of gynecologic cancers	
12:20	Camilah Powell (BGU) Laser-induced graphene capacitive killing of bacteria	
12:33	Aneena Lal (Ariel University) Laser-processed direct coating of graphene-based films on plastic substrates with anti-bacterial properties	
12:46	Adi Hender-Neumark (TAU) Near-infrared fluorescent single-walled carbon nanotubes for In vivo imaging within C. elegans nematodes	
	Energy and Sustainability: Materials, Methods, and Breakthroughs Chair: Hannah Noa Barad (BIU)	ROOM: AUDITORIUM BUILDING: 206 NANO FLOOR: GROUND
10:50	Peter Strasser (TUB) Electrocatalytic materials, interfaces, and devices for the production of e-fuels and e-chemical	
11:15	Iris Visoly-Fisher (BGU) Surface science for sustainability: Pb leaching from halide perovskites	
11:40	Idan Hod (BGU) Molecular manipulation of heterogeneous electrocatalytic CO ₂ reduction using metal-organic frameworks	
12:00	Michal Leskes (WIS) Elucidating the structure and function of the electrode-electrolyte interface by new solid state NMR approaches	
12:20	Maya Bar-Sadan (BGU) Complex bimetallic and monometallic phosphides as catalysts	
12:33	Gideon Segev (TAU) Operando characterization of charge extraction and recombination profiles in solar cells with nanoscale resolution	
12:46	Ortal Lidor-Shalev (BIU) Molecular layer deposition of alucone thin film on LiCoO ₂ to enable high voltage operation	
	Nanomaterials Chair: Ronen Gottesman (HUJI)	ROOM: 112 BUILDING: 211 CHEMISTRY FLOOR: 1
10:50	Uri Banin (HUJI) Coupled colloidal quantum dot molecules	
11:15	Daniel Mandler (HUJI) From nano to nano: A different approach for the formation of thin films of nanomaterials	
11:40	Menny Shalom (BGU) Photo- and electrocatalyst development for catalytic oxidation of organic molecules to value-added chemicals	
12:00	Gil Markovich (TAU) Anisotropic optical activity in chiral tellurium nanocrystals	
12:20	Arie Borenstein (Ariel U.) Recent progress in laser processing of carbon nanomaterials	
12:33	Rotem Azoulay (Technion) Spatially controlled atomic layer deposition within polymer templates for multi-material nanorods and nanowires fabrication	
12:46	Iris Berg (HUJI) Selective deposition of N-Heterocyclic carbene monolayers on designated Au microelectrodes within an electrode array	
	Nanoscience for Future Quantum Technologies: Novel Materials, Devices, and Characterizations Chair: Assaf Ben-Moshe (BIU)	ROOM: 563 BUILDING: NANO FLOOR: 5
10:50	Efrat Lifshitz (Technion) Magnetic-electronic coupling in semiconductor nanostructures	
11:15	Amos Sharoni (BIU) Emergent phenomena in quantum materials with insulator-metal transitions	
11:40	Eran Maniv (BGU) Antiferromagnetic switching driven by the collective dynamics of a coexisting spin glass	
12:00	Tal Schwartz (TAU) Entangling light and matter for future electro-optics	
12:20	Salma Khaldi (HUJI) Vapor phase deposition of chiral thin films by atomic and molecular layer deposition showing spin selective transport	
12:33	Ora Bitton (Weizmann) Plasmonic cavities and individual quantum emitters in the strong coupling limit	
12:46	Gili Scharf (TAU) Pressure tuning of Berry curvature in CrGeTe ₃	
	Plasma Chair: Prof. Yosef Pinchasi (Ariel U.)	ROOM: 301 BUILDING: 202 PHYSICS FLOOR: 3
10:50	Aharon Friedman (Ariel U.) First observation of superradiant terahertz radiation at the Israeli free electron laser	
11:20	H. Strauss (HRS Fusion, Jerusalem, Israel) Disruptions in the ITER Tokamak	
11:40	A.S. Kesar (Soreq NRC) Fast solid-state switches at Soreq NRC	
12:00	D. Maler, (Technion) Supersonic water jets as point-like sources of extremely high pressure	
12:20	Yosef Golovachev (Jerusalem College of Technology) The propagation of ultra-wideband modulated pulses in plasma media	
12:40	T. Miller (Rafael Advanced Defense Systems) RF plugging of multi-mirror machines	

AFTERNOON SESSIONS

Keynote | Invited | Contributed

	Surface Science Chair: Ilan Goldfarb (TAU)	ROOM: AUDITORIUM BUILDING: 206 NANO FLOOR: GROUND
14:50	Edward Bormashenko (Ariel University) Quantification of ordering in 2D patterns	
15:15	Moshe Ben Shalom (TAU) Ladder ferroelectrics by vdW sliding	
15:40	Beena Kalisky (BIU) Imaging quantum materials with scanning SQUID microscopy	
16:00	Igor Rahinov (Open U) Steric hindrance of NH ₃ diffusion on Pt(111) by co-adsorbed O-atoms	
16:20	Adva Ben-Yaacov (WIS) On the interaction of hydrogen with ceria in ambient conditions: hydride formation vs. hydroxylation of the surface	
16:33	Alexandr Leontev (Technion) Analyzing and modeling of microrheological and adhesive properties of soft hydrated surfaces by AFM and flow cell tests	
16:46	Tatyana Bendikov (WIS) Charge transport across biomolecular electronic junctions. Ultraviolet and X-ray photoemission spectroscopy studies	
	Frontiers in Nanophotonics Chair: Nir Shitrit (BGU)	ROOM: 112 BUILDING: 211 CHEMISTRY FLOOR: 1
14:50	Marco Sampietro (Politecnico di Milano) Electronics–photonics co-design for the control of programmable silicon photonic circuits	
15:15	Nir Davidson (WIS) , Solving computational problems with coupled lasers	
15:40	Boubacar Kante (UC Berkeley) The Berkeley surface emitting laser (BerkSEL): A scale-invariant laser?	
16:00	Ofer Kfir (TAU) Electron–photon coupling: From fundamentals to quantum correlated nanoscopy	
16:20	Adi Salomon (BIU) Smart surfaces enable near-field detection by simple far-field optic	
16:33	Raghendra P. Chaudhary (BGU) Observation of the orbit–orbit interaction of light in plasmonics	
16:46	Sivan Tzadka (BGU) Antireflective structures directly imprinted on chalcogenide glasses	
	Smart and Multifunctional Materials and Devices: Transducers, Sensors, and Actuators Chair: Yonatan Calahorra (Technion)	ROOM: 901 BUILDING: NANO FLOOR: 9
14:50	Esti Segal (Technion) Self-Reporting porous silicon arrays as a playground for microorganisms	
15:15	Elisabetta Comini (U. Brescia) Metal oxide nanostructures as building blocks for energy and environmental applications	
15:40	Roie Yerushalmi (HUJI) Novel device concepts using nano-florets metal-SC hybrid nanosystems	
16:00	Alla Zak (HIT) WS ₂ & MoS ₂ from 3D to 1D structures: Curvature and chirality induced properties of nanotubes	
16:20	Ronen Verker (Soreq) Infrared irradiated reversible shape memory polymers - mechanisms and applications	
16:33	Shiran Ziv Sharabani (TAU) Messy or ordered? Multi-scale mechanics dictates shape-morphing of hierarchical 2D fiber-networks	
16:46	Daniel Kaufmann (BGU) Novel bioelectronic interface based on mucin-modified electrodes	
	Computational Modeling and Data Science for New Materials Chair: Ilya Grinberg (BIU)	ROOM: 563 BUILDING: NANO FLOOR: 5
14:50	Leeor Kronik (WIS) Defects, defect tolerance, and self-healing in lead halide perovskites: a first principles perspective	
15:15	Dan Major (BIU) Computational studies of structure, composition, and electrochemical behavior of Li-ion battery components	
15:40	Oswaldo Dieguez (TAU) Trends of the mean inner potential of solids from computations using density-functional theory	
16:00	Eli Kraisler (HUJI) Potentials in density functional theory (DFT): exact properties and advanced approximations	
16:20	Long Nguyen (BGU) Structural prediction of group IV monochalcogenides and their phase transitions mechanism: Evolutionary algorithm and ab-initio calculations	
16:33	Hillel Kugler (BIU) Network-Based Biocomputation Circuits	
16:46	María Camarasa-Gómez (WIS) Transferability of screened range-separated hybrid functionals for layered materials	
	Plasma Chair: Yosef Pinchasi (Ariel U.)	ROOM: 301 BUILDING: 202 PHYSICS FLOOR: 3
14:50	Samuel A. Cohen (Princeton) Physics of Field-reversed configuration (FRC) fusion reactors	
15:20	TBD	
15:40	Eli Gudinetzky (HUJI & Nuclear Research Center) Autoresonant ash removal in magnetic mirrors	
16:00	Anat Itzhak (BIU) Reactive sputtering of nickel nitride passivation layers Improves halide perovskite P-I-N solar cells	
16:20	Yossi Rabinovich (Ariel U.) Diamond characterization via microwave spectroscopy	
16:40	Asher Yahalom (Ariel U.) The rate of dissipation of generalized cross helicity and magnetic helicity in non-ideal magnetohydrodynamics – a comparative study	



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Sponsors:

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