



האגודה הישראלית למיקרוסקופיה  
THE ISRAEL SOCIETY FOR MICROSCOPY



האוניברסיטה העברית בירושלים  
THE HEBREW UNIVERSITY OF JERUSALEM



# ISM2023

The 56<sup>th</sup> Annual Meeting of the Israel Society for Microscopy  
May 23<sup>rd</sup>, 2023 | Binyanei Hauma - ICC, Jerusalem

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The Goodman Faculty of Life Sciences  
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**RBN!**

## Meeting Program - May 23<sup>rd</sup>

08:30 - 09:30 Registration & Light Refreshments / Vendors Exhibition & Posters Mounting

### OPENING SESSION - Hall A

**Session Chair:** Yaron Kauffmann, ISM Chairperson

09:30 - 10:00

- Opening remarks
- Presentation of the Lev Margulis & Yael Mutsafi Prizes

### PLENARY SESSION - Hall A

**Session Chairs:** Michael Elbaum, Weizmann Institute of Science  
Thomas Schultheis, Technion - Israel Institute of Technology

10:00 - 10:45 Plenary Lecture: **Colin Ophus**, NCEM, Lawrence Berkeley National Laboratory, Berkley, USA  
**CHARACTERIZING MATERIAL PROPERTIES FROM ATOMIC TO FUNCTIONAL LENGTH SCALES WITH COMPUTATIONAL IMAGING IN SCANNING TRANSMISSION ELECTRON MICROSCOPY**

10:45 - 11:15 ☕ **Coffee Break & Vendors Exhibition**

11:15 - 12:00 Plenary Lecture: **Lucy Collinson**, Francis Crick Institute, London, UK  
**EXPLORING LIFE ACROSS SCALES WITH VOLUME CORRELATIVE LIGHT AND ELECTRON MICROSCOPY**

### SOUND BITE SESSION - Hall A

**Session Chair:** Ifat Kaplan-Ashiri, Weizmann Institute of Science

12:00 - 12:30 Posters Sound Bites

### LUNCH SESSION

<p>12:30 - 13:10</p> <p>LIFE SCIENCES POSTERS MATERIALS SCIENCE POSTERS INSTRUMENTATION &amp; METHODOLOGY POSTERS VENDORS EXHIBITION MICROGRAPH COMPETITION</p>	<p><b>ISM GENERAL ASSEMBLY</b> (Nomination of new secretary and treasurer)</p>
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12:30 - 14:00 🍴 **Lunch & Vendors Exhibition**

### PARALLEL SESSIONS

14:00 - 15:35	Life Sciences SESSION	Materials Science SESSION	Instrumentation & Methodology SESSION
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15:35 - 16:00 ☕ **Coffee Break & Vendors Exhibition**

### PARALLEL SESSIONS

16:00 - 17:35	Life Sciences SESSION	Materials Science SESSION
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### CLOSING SESSION - Hall A

17:35 - 18:00 **Closing remarks + Best Poster & Best Micrograph nominations**

18:00 **Departure**

## Afternoon Parallel Sessions – May 23<sup>rd</sup>

	Life Sciences	Materials Science	Instrumentation & Methodology
Hall name	Hall B	Hall C	Hall A
Session chair	Natalie Elia, Ben Gurion University	Yuval Golan, Ben Gurion University	Amit Kohn, Tel Aviv University
14:00 - 14:25	<b>Invited</b>	<b>Invited</b>	<b>Invited</b>
	Gili Bisker, Tel-Aviv University, Israel <i>SINGLE-WALLED CARBON NANOTUBES FOR SENSING AND IMAGING IN THE NEAR-INFRARED</i>	Lucy Liberman Solomon, Technion, Israel <i>EXPOSING THE STRUCTURE OF METHYLCELLULOSE FIBRILLAR GELS WITH CRYO-TEM AND SAXS</i>	Alberto Bilenca, Ben-Gurion University, Israel <i>ALL-OPTICAL MECHANICAL IMAGING WITH STIMULATED BRILLOUIN MICROSCOPY</i>
14:25 – 14:40	<b>Mutsafi</b>	<b>Margulis</b>	
	Jenny Capua Shenkar, Weizmann Institute, Israel <i>EXAMINING ATHEROSCLEROTIC LESIONS IN THREE DIMENSIONS AT THE NANOMETER SCALE WITH CATHODOLUMINESCENCE, CRYO-SEM AND CRYO-FIB/SEM</i>	Avi Auslender, Tel Aviv University, Israel <i>THE MEAN INNER POTENTIAL OF HEMATITE <math>\alpha</math>-Fe<sub>2</sub>O<sub>3</sub> ACROSS THE MORIN TRANSITION</i>	Tal Fishman, Technion, Israel <i>A LOSSLESS ELECTRON BEAM MONOCHROMATOR USING THZ NEARFIELD RADIATION FOR HIGH-RESOLUTION ELECTRON MICROSCOPY</i>
14:40 - 14:55			
	Zvi Yaari, The Hebrew University of Jerusalem, Israel <i>AI-GUIDED OPTICAL SENSORS FOR THE EARLY DETECTION OF GYNECOLOGIC CANCERS</i>	Shachar Keren, Technion, Israel <i>THE EFFECT OF WATER UPTAKE ON THE MECHANICAL BEHAVIOR OF HYBRID THIN FILMS FABRICATED BY SEQUENTIAL INFILTRATION SYNTHESIS</i>	Shahar Seifer, Weizmann Institute, Israel <i>ELECTRON TOMOGRAPHY IN 4D-STEM</i>
14:55 - 15:10			
	Rachael Deis, Weizmann Institute, Israel <i>PLATE-LIKE GUANINE BIOCRYSTALS FORM VIA TEMPLATED NUCLEATION OF CRYSTAL LEAFLETS ON PREASSEMBLED SCAFFOLDS</i>	Melina Zysler, Bar-Ilan University, Israel <i>PT-BASED NANOCATALYST MATERIAL: THE RELATIONSHIP BETWEEN STRUCTURE, PERFORMANCE, AND STABILITY</i>	Adham Basha, Tel Aviv University, Israel <i>APPLICATION OF A DIRECT ELECTRON DETECTION CAMERA FOR SHORT-RANGE ORDER CHARACTERIZATION OF AMORPHOUS MATERIALS BY ELECTRON SCATTERING</i>
15:10 - 15:35	<b>Invited</b>	<b>Invited</b>	<b>Invited</b>
	Michal Shoshkes-Carmel, The Hebrew University of Jerusalem, Israel <i>THE USE OF 3D IMAGING TO ANALYZE CELLULAR NETWORKS</i>	Hanna Bishara, Tel Aviv University, Israel <i>LOCAL ELECTRICAL PROPERTIES OF MICROSTRUCTURAL DEFECTS ASSESSED IN SCANNING ELECTRON MICROSCOPY</i>	Lothar Houben, Weizmann Institute, Israel <i>EELS SPECTROMETER WITH IMPROVED OPTICS AND ULTRA-HIGH SENSITIVITY ELECTRON DETECTOR FOR SHOT-NOISE LIMITED ENERGY-LOSS IMAGING AND SPECTROSCOPY</i>

## Afternoon Parallel Sessions - May 23<sup>rd</sup> - cont.

	Life Sciences	Materials Science
Hall name	Hall B	Hall C
Session chair	Dganit Danino, Technion	Doron Naveh, Bar Ilan University
16:00 - 16:25	<p style="text-align: center;"><b>Invited</b></p> <p style="text-align: center;">Shai Berlin, Technion, Israel</p> <p style="text-align: center;"><i>A NOVEL POLYCYSTRONIC METHOD TAILORED FOR ENGINEERING SPLIT GECIS</i></p>	<p style="text-align: center;"><b>Invited</b></p> <p style="text-align: center;">Assaf Ben-Moshe, Bar-Ilan University, Israel</p> <p style="text-align: center;"><i>TELLING LEFT FROM RIGHT USING ELECTRON MICROSCOPES</i></p>
16:25 - 16:40	<p style="text-align: center;">Leor Ariel Rose, Ben-Gurion University, Israel</p> <p style="text-align: center;"><i>QUANTITATIVE EVALUATION OF HUMAN GLIOMA NANOBIOPSY</i></p>	<p style="text-align: center;">Amram Azulay, Technion, Israel</p> <p style="text-align: center;"><i>CORRELATION BETWEEN CHARGE TRANSPORT AND LATTICE DYNAMICS IN La- AND Y-doped Ca<sub>2</sub>MnO<sub>4</sub> PEROVSKITES</i></p>
16:40 - 16:55	<p style="text-align: center;">Nadav Scher, Weizmann Institute, Israel</p> <p style="text-align: center;"><i>DEVELOPMENT OF CORRELATIVE FIB-SEM TO STUDY MEMBRANE REMODELING</i></p>	<p style="text-align: center;">Avital Wagner, Ben-Gurion University, Israel</p> <p style="text-align: center;"><i>ELUCIDATING THE CONTROL MECHANISMS OF ORGANIC BIO-CRYSTALLIZATION</i></p>
16:55 - 17:10	<p style="text-align: center;">Levi A. Gheber, Ben-Gurion University, Israel</p> <p style="text-align: center;"><i>MACHINE-LEARNING AIDED QUANTIFICATION OF CELL CULTURES FROM PHASE-CONTRAST MICROSCOPY IMAGES</i></p>	<p style="text-align: center;">Daniel Khaykelson, Weizmann Institute, Israel</p> <p style="text-align: center;"><i>SCANNING ELECTRON NANOBEAM DIFFRACTION AT LOW DOSE FOR STRUCTURE MODELING OF NANO-OBJECTS</i></p>
17:10 - 17:35	<p style="text-align: center;"><b>Invited</b></p> <p style="text-align: center;">Gilad Haran, Weizmann Institute, Israel</p> <p style="text-align: center;"><i>SINGLE-MOLECULE OPTICAL MICROSCOPY: FROM PROTEIN DYNAMICS TO T-CELL MEMBRANES</i></p>	<p style="text-align: center;"><b>Invited</b></p> <p style="text-align: center;">Lioz Etgar, Hebrew university, Israel</p> <p style="text-align: center;"><i>DIMENSIONALITY IN PEROVSKITE - NANOSTRUCTURES AND SOLAR CELLS</i></p>