



JUNE 18 - 19, 2018 | TEL-AVIV UNIVERSITY

PROGRAM

Organizing Committee

- Amit Kohn (Tel Aviv University)
- Zahava Barkay (Tel Aviv University)
- Ben Britton (Imperial College)

Scientific Committee

- Amit Kohn (Materials Science, Tel Aviv University)
- Zahava Barkay (Materials Science, Tel Aviv University)
- Yaron Kauffmann (Materials Science, Technion)
- Assaf Gal (Life Sciences, Weizmann Institute)





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Monday, June 18, 2018

09:00 – 9:30

Registration and Coffee

Plenary I

Session Chair:

Zahava Barkay

9:30-10:00

Welcome and Opening Remarks

10:00-10:40

Introduction to Crystallography

Semen Gorfman (TAU)

10:40-11:20

Electron Channeling Contrast Imaging (Electron Microscopy of Thick Crystals)

Angus J. Wilkinson (Oxford)

11:20-11:40

Coffee Break

11:40-12:20

Introduction to Electron Backscattered Diffraction

Ben Britton (Imperial)

12:20-13:00

Probing Local Crystal Structure in Liquids and Gases

Sarah Haigh (Manchester)

13:00-14:00

Lunch Break and Poster Mounting

Parallel Sessions

14:00-15:40

Life Sciences Session

Materials Science Session

15:40-16:10

Coffee Break

Coffee Break

Companies Parallel Sessions

16:10 – 17:00

Life Techno-Bite Session

Materials Techno-Bite Session



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Parallel Session - Materials Science Track (June 18, 2018)

	Tutorial on TEM Diffraction	
Session Chair:	Amit Kohn	
14:00-14:20	Electron Diffraction in the TEM and Related Imaging Modes - a Brief Introduction and Overview	Yaron Kauffmann (Technion)
14:20-15:00	Crystallography in the TEM - Precession Electron Diffraction	Alexander Eggeman (Manchester)
15:00-15:40	Electron Crystallography as a Tool for Structure Solution of Nanosized Materials	Louisa Meshi (BGU)
15:40-16:10	Coffee Break	
	Company Session on Advances in TEM and SEM Diffraction	
Session Chair:	Louisa Meshi	
16:10-16:25	Precession Electron Diffraction and Orientation Imaging /Phase Mapping at nm Scale in TEM Material Science Applications	Stavros Nicolopoulos (NanoMegas)
16:25-16:40	Innovative and Non-Conventional STEM Diffractive Imaging Using Patented Integrated Differential Phase Contrast (iDPC) and New Generation of Hybrid Pixelated Detectors	Dominique Delille (ThermoFisher)
16:40-16:55	Introduction of CMOS Technology in EBSD – Super Speed and Sensitivity in a Single EBSD Detector	Keith Dicks (Oxford Instruments)



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Parallel Session - Life Sciences Track (June 18, 2018)

Structure Determination with TEM		
Session Chair:	Emil Zolotoyabko	
14:00-14:40	Structural Studies by Cryo-Electron Microscopy: Achievements, Prospects, and Challenges	Elena Orlova (BBK)
14:40-15:10	The Single Particle Cryo-EM Workflow for Structural Studies of Biological Macromolecules	Nadav Elad (WIS)
15:10-15:40	Cryo-STEM Analysis of Protein-Bound Metals	Michael Elbaum (WIS)
15:40-16:10	Coffee Break	
Company Session on Advances in TEM and SEM Diffraction		
Session Chair:	Nadav Elad	
16:10-16:25	EBSD Analysis of Beam Sensitive Bio Materials; Calcite and Aragonite in Mollusc Shell	Keith Dicks (Oxford)
16:25-16:40	Micro-Electron Diffraction (MED) – A Complementary Structural Biology Technique	Bart Buijsse (ThermoFisher)
16:40-16:55	3D Precession Diffraction Tomography at nm Scale in TEM: Solving Structures of Pharmaceutical Compounds with New Generation Direct Detection Pixelated Detectors	Stavros Nicolopoulos (NanoMegas)



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Tuesday, June 19, 2018

09:00 – 9:30 Registration and Coffee

Parallel Sessions

9:30-10:50	Life Sciences Session	Materials Science Session
10:50-11:10	Coffee Break	
11:10-12:50	Life Sciences Session	Materials Science Session
12:50-13:50	Lunch Break	Lunch Break
13:50-14:30	Poster Presentations	

Plenary II

<u>Session Chair:</u>	Amit Kohn	
14:30-15:10	Organic Nano-crystals in Organisms: Biogenic Scatterers, Mirrors, Multilayer Reflectors and Photonic Crystals	Lia Addadi (WIS)
15:10-15:30	Closing Remarks and Poster Prize Winner	
15:30-16:00	Coffee Break and Good Bye	
16:00-17:00	Break after Workshop – Optional Close Collaboration Forums	
17:00	Visit at the Diaspora Museum	



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Parallel Session - Materials Science Track (June 19, 2018)

	SEM Diffraction and Related Methods	
Session Chair:	Inna Popov	
9:30-9:50	High Angular Resolution EBSD	Ben Britton (Imperial)
9:50-10:10	Multivariate Statistical Analysis of EBSD Data	Angus J. Wilkinson (Oxford)
10:10-10:30	Transmission Kikuchi Diffraction (TKD)	Zahava Barkay (TAU)
10:30-10:50	Tracking Deformation in Small Volumes by In-situ Microbeam Laue Diffraction	Finn Giuliani (Imperial)
10:50-11:10	Coffee Break	
	TEM Diffraction and Related Methods	
Session Chair:	Yaron Kauffmann	
11:10-11:30	Nano-Scale Characterization of Short-Range-Order in Amorphous Materials by Electron Scattering	Amit Kohn (TAU)
11:30-11:50	Strain and Deformation in 2D Materials	Sarah Haigh (Manchester)
11:50-12:10	2D Diffraction by Low and High Energy Electrons for Studying Surface Crystallography and Defects	Ilan Goldfarb (TAU)
12:10-12:30	Application of Diffraction to Measurement of Crystal Size in Nano-Materials	Inna Popov (HUJI)
12:30-12:50	Exploring the Underlying Structure in TEM Diffraction Data	Alexander Eggeman (Manchester)



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Parallel Session - Life Sciences Track (June 19, 2018)

	X-Ray Scattering in Biophysical Studies	
Session Chair:	Raz Zarivach	
9:30-10:00	Dynamic Self-assembly of Biomolecules	Uri Raviv (HUJI)
10:00-10:25	X-Ray Scattering – Resolving Order and Disorder in Nano-Scale Biological Complexes	Roy Beck - Barkai (TAU)
10:25-10:50	Small Angle X-Ray Diffraction Revealing Structural Adaptations for Seed Crawling	Rivka Elbaum (HUJI)
10:50-11:10	Coffee Break	
	X-Ray Crystallography	
Session Chair:	Roy Beck – Barkai	
11:10-11:35	X-Ray Crystallography, 100 Years Old, and Still a “Bright” Future	Haim Rozenberg (WIS)
11:35-12:00	Structural Studies of Magnetosome-Associated Proteins	Raz Zarivach (BGU)
12:00-12:25	Enantioselective Recognition at the Air-Water Interface Using GIXD.	Amir Berman (BGU)
12:25-12:50	Nano-Structure of Natural Biominerals Visualized by Advanced X-Ray Diffraction, X-Ray Tomography, and Electron Microscopy Techniques	Emil Zolotoyabko (Technion)