



Russell Berrie Nanotechnology Institute  
Technion - Israel Institute of Technology



RFs Reinhard Frank-Stiftung



Deutsche Technion-Gesellschaft e.V.

## 2nd Annual Symposium on Quantum Science and Quantum Engineering at Technion, May 7-8, 2018

### Monday 07.05.18:

- 08:50-09:00**    **Opening Remarks - Prof. Gadi Eisenstein, Prof. Sven Hoefling.**
- 09:00-09:10**    **Prof. Peretz Lavie, *President of the Technion***
- 09:15-09:30**    **Prof. Uri Sivan, *Head of the National Initiative on Quantum Science and Engineering***

#### Session I    Chairperson: Prof. Uri Sivan

- 9:35-10:05**    **Prof. Joseph Avron, Technion *"Geometry of 1,2 and n qubits"***
- 10:10-10:40**    **Distinguished Prof. Mordechai Segev, Technion, *"Topological Insulator Lasers"***
- 10:45-11:15**    **Prof. Dieter Meschede, University of Bonn, *"Exploring Quantum Processes with Few Atom Systems: A Route Towards Quantum Technology?"***
- 11:20-11:35**    **Coffee Break**

#### Session II    Chairperson: Prof. David Gershoni

- 11:35-12:05**    **Prof. Charles M. Marcus, University of Copenhagen, *"Using Topology to Build a Better Qubi"*.**
- 12:10-12:40**    **Prof. Nadav Katz, The Hebrew University of Jerusalem, *"Engineering of Highly Coherent Vacancy Spins in Silicon Carbide"***
- 12:45-13:15**    **Prof. Bert Hecht, Wuerzburg University, *"High-End Nano-Optics: From Strong Light-Matter Coupling at Ambient Conditions to Spin-Optical Nano Devices"***

- 13:20-14:00**    **Lunch Break**

#### Session III    Chairperson: Prof. Gadi Eisenstein

- 14:00-14:30**    **Prof. Yasuhiko Arakawa, Tokyo University, *"Advances in Nanowire Quantum Dots for Lasers and Single Photon Sources"***
- 14:35-15:05**    **Prof. Johann Peter Reithmaier, Kassel University, *"Telecom Wavelength Nanophotonic Elements for Quantum Communication"***
- 15:10-15:40**    **Prof. Maurice Skolnik, Sheffield University, *"Quantum Optics in On-Chip III-V Nano-Photonic Systems"***



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**15:45-16:00** Coffee Break

**Session IV** **Chairperson: Prof. Meir Orenstein**

**16:00-16:30** **Prof. Yaron Silberberg, Weizmann Institute of Science, "Quantum Microscopy"**

**16:35-17:05** **Prof. Ido Kaminer, Technion, "Ultrafast light-Matter Interactions with 2D Polaritons".**

**17:10-17:40** **Prof. Vladimir Dyakonov, Wuerzburg University, "Engineering of Highly Coherent Vacancy Spins in Silicon Carbide"**



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### Tuesday 08.05.18:

#### Session V Chairperson: Distinguished Prof. Mordechai Segev

- 9:00-09:30 Prof. Immanuel Bloch, Ludwig Maximilian University, Munich, "Large Scale Quantum Simulations Using Ultracold Atoms in Optical Lattices"
- 09:35-10:05 Prof. Demetrios Christodoulides, Central Florida University, "Parity-Time and Other Symmetries in Optics and Photonics"
- 10:10-10:40 Prof. Yoshihisa Yamamoto, National Institute of Informatics, Japan, "Physics of Quantum-to-Classical Crossover and Coherent Ising Machines"
- 10:45-11:00 Coffee Break

#### Session VI Chairperson: Prof. Gadi Eisenstein

- 11:00-11:30 Prof. Michael Berry, University of Bristol, UK, "Faster Than Fourier(pre)visited: Vorticulture and Escaping Superoscillations"
- 11:35-12:05 Prof. Alex Hayat, Technion, "Semiconductor-Superconductor Optoelectronic Devices".
- 12:10-12:40 Prof. Shay Hacoheh, Technion, "Exploring the Uncertainty Principle with a Simultaneous Measurement of Non-Commuting Observables"
- 12:40-13:20 Lunch Break
- 13:20-14:15 Poster Session

#### Session VII Chairperson: Prof. Sven Hoefling

- 14:15-14:45 Prof. Ralph Claessen, Wuerzburg University, "Bismuthene on a SiC Substrate: A Potential High-Temperature Quantum Spin Hall Insulator"
- 14:50-15:20 Prof. Yoav Sagi, Technion, "High Sensitivity RF Spectroscopy of a Strongly-Interacting Fermi Gas"
- 15:25-15:55 Prof. Ronny Thomale, Wuerzburg University, "Topoelectrical circuits"
- 16:00 Closing Remarks- Prof. Gadi Eisenstein, Prof. Sven Hoefling.