



## Schulich symposium

### "Diamond: From fundamental properties to quantum technologies"

17-18 of Sep. 2017, Schulich Faculty of Chemistry, Technion – Israel Institute of Technology, Haifa, Israel. <http://diamond.net.technion.ac.il/>



We are pleased to invite you to attend a special Schulich symposium on "**Diamond: From fundamental properties to quantum technologies**", to be held at the Technion in Haifa, Israel, on the 17-18 of September 2017. The meeting will bring together both the research community that is focused on the production and characterization of diamond samples, as well as the ones who make use of diamonds for some electronic application, unique quantum sensing and quantum information processing technologies.

Relevant topics to be covered at the meetings are: production of unique diamond samples (isotopically enriched, thin samples, doping and implantation methods), characterization of diamonds and diamond surfaces, electronic properties of diamond surfaces, quantum sensing with defects in diamonds and quantum information processing with diamonds.



The program will span a full two days with about 20 talks altogether. About half of the talks will be related mostly to the physico-chemical properties of diamond surfaces, production and characterization of pure diamonds for quantum sensing and computing and about half to quantum sensing and QC applications with diamonds. Informal dinner is planned for the evening of the 16<sup>th</sup>, as well as one-day trip, during the 19<sup>th</sup>.

**The workshop is co-chaired and co-organized by Prof. A. Blank and Prof. A. Hoffman from the Schulich Faculty of Chemistry, at the Technion**

## Sponsors



**List of confirmed speakers (alphabetically), and tentative titles:**

- **Yaron Artzi (the group of Aharon Blank), Technion, Israel.**  
“Selective Addressing and Readout of Optically Detected Electron Spins”
- **Nir Bar-Gill, Hebrew University of Jerusalem, Israel.**  
“NV photo-dynamics and enhanced initialization of near-surface negatively-charged NV centers”
- **Maneesh Chandran, SRM University, Chennai, India**  
“Near surface nitrogen delta doping”
- **Christian Degen, ETH Zurich, Switzerland**
- **Amit Finkler (the group of Jörg Wrachtrup), Stuttgart, Germany**  
“Diamond spectroscopy of molecules - spin pair steps”
- **Lucio Frydman, Weizmann Institute of Science, Rehovot, Israel.**  
“<sup>13</sup>C NMR experiments on diamonds in bulk with enhanced sensitivity”
- **Wolfgang Harneit, Universität Osnabrück, Germany**  
“NV-center as a sensor for molecular qubits”
- **Alon Hoffman, Technion, Israel.**  
“The interaction of activated nitrogen, hydrogen and oxygen species with diamond surfaces studied by in-situ electron spectroscopies”
- **Yasuo Koide, National Institute for Materials Science (NIMS), Japan**  
“Development of normally-on/off diamond MOSFETs and logic circuits”
- **Paz London (the group of David Gershoni), Technion, Israel.**  
“Towards a quantum simulator based on isotopically enriched <sup>13</sup>C layers in diamond”
- **Sergei Masis (the group of Eyal Buks), Technion – Israel Institute of Technology, Israel**  
“Cryogenic magnetometry and thermometry with NV center ensembles”
- **Carlos Meriles, City College of New York, USA**  
“The interplay between carrier photo-generation, diffusion, and trapping in nitrogen-rich diamond”
- **Shaul Michaelson, ICDAT, Israel.**  
“Diamond thermal management for electronic applications”
- **Christoph Müller, NVision Imaging, Germany**  
“Hyperpolarization-enhanced sensing with shallow NV centres”
- **Alex Retzker, Hebrew University of Jerusalem, Israel.**  
“Limits on spectral resolution measurements by quantum probes”
- **Sergei Elfimchav (the group of Alon Hoffman), Technion, Israel.**  
“Photo enhanced thermionic emission from nitrogen doped and undoped diamond surfaces”
- **Meir Orenshtein, Technion, Israel**
- **Alexander Shames, Ben Gurion University, Beer Sheva, Israel**  
“Magnetism in nanodiamonds”
- **Matthias Schreck, Institut fuer Physik, Universitaet Augsburg, Germany**  
“Single crystal diamond wafers by heteroepitaxy: from synthesis to potential applications”
- **Alastair Stacey, Melbourne, Australia**  
“Nanoscale nuclear magnetic resonance with diamond defects”

- "Quantum sensing of nano-chemistry and defects at the diamond surface"
- **Moshe Tordjman (the group of Raphi Kalish), Technion, Israel.**  
"Surface transfer doping in diamond"
  - **Hong-Xing Wang, Xian Jiaotong University, China**  
"Three dimensional structure diamond UV photodetectors"

## Venue

The meeting will take place at the Schulich Faculty of Chemistry, in the Technion – Israel Institute of Technology, Haifa, Israel.

## Travel details

For those coming from out of town, it is advised to take the train to "Haifa Hof Hakarmel" station and then take a taxi to the Technion Nave Shaanan campus. Train schedule can be found here: <http://www1.rail.co.il/en/Pages/Homepage.aspx> If arriving on Saturday to the airport, it is advised to use "Amal" taxi service to Haifa, which can take you directly to you final destination (but with another 9 people), for a fee of ~ 30 Euros. <http://www.iaa.gov.il/en-us/airports/bengurion/transportation/pages/taxi.aspx>

## Conference fees

Conference registrant fee is 300 NIS. It covers two days of lectures, light breakfasts, coffee breaks, and lunch breaks, as well as Dinner on Sunday.