Program
21st Sede Boqer Symposium on Solar Electricity Production
March 7-8, 2018

Wednesday, March 7, 2018

9:00 – 9:30 Arrival and Registration at the George Evens Family Auditorium, Blaustein Institutes for Desert Research, Ben-Gurion University of the Negev (Midreshet Ben-Gurion)

9:30-10:00 Opening Greetings – 21st Sede Boqer Symposium

Chair: Prof. Eugene Katz, Blaustein Institutes, BGU
Prof. Rivka Carmi, President, Ben-Gurion University
Prof. Boris Zaltzman, Director, Blaustein Institutes, BGU
Israel’s Ministry of Energy

Sponsors:

The Jacob Blaustein Center for Scientific Cooperation
The Jacob Blaustein Institutes for Desert Research
Ben-Gurion University of the Negev
10:00-11:30  **Session 1.1: Basic processes in photovoltaic conversion**  
Session chair: David Cahen (Weizmann Institute of Science)

10:00-10:30  Invited talk: **Natalie Stingelin** (Georgia Tech)  
*Solution-Processed Photovoltaics: Challenges and Opportunities through Materials and Interface Engineering*

10:30-11:00  Invited talk: **Carlos Silva** (Georgia Tech)  
*Stable Biexcitons in Two-Dimensional Lead-halide Perovskites with Strong Dynamic Lattice Disorder*

11:00-11:30  Invited talk: **Anna Köhler** (Bayreuth University)  
*The Impact of Coherence Effects on Charge Separation in Organic Solar Cells*

11:30-11:45  **Coffee break**

11:45-12:30  **Session 1.2: Keynote**  
Session chair: Avner Rothschild (Technion)

**Michael Grätzel**  
Ecole Polytechnique Federale de Lausanne  
“*Metal Halide Perovskites as Powerful Light Harvesters for the Generation of Electricity and Fuels from Sunlight*”

12:30-13:45  **Lunch**

13:45-14:45  **Poster session I in lobby of Evens Auditorium**

14:45-16:30  **Session 1.3: Perovskite-based Photovoltaic Materials and Devices**  
Session chair: Lioz Etgar (Hebrew University of Jerusalem)

14:45-15:15  Invited talk: **Shengzahong (Frank) Liu** (Shaanxi Normal University)  
*Perovskite – a Wonder for Photovoltaic & Optoelectronic Applications*

15:15-15:45  Invited talk: **Pavel Troshin** (Institute for Problems of Chemical Physics, Russian Academy of Sciences)  
*Bulk and Interface-induced Degradation Effects Governing the Operation Stability of Perovskite Solar Cells*

15:45-16:00  **Mark Khenkin** (Ben-Gurion University)  
*Dynamics of Photoinduced Degradation of Perovskite Photovoltaics: From Reversible to Irreversible Processes*

16:00-16:15  **Eva L. Unger** (Helmholtz-Zentrum Berlin, Lund University)  
*Ionic (In)homogeneity in Metal-halide Perovskites*

16:15-16:30  **Eva Majkova** (Institute of Physics, Bratislava)  
*Time-resolved GIWAXS Studies of Organometallic Perovskite Layer Structure Annealed at Various Temperatures*

16:30-16:45  **Coffee break**
16:45-17:30  **Session 1.4: Keynote**  
Session chair: Arik Yochelis (Blaustein Institutes, BGU)

**Katharina Krischer**  
Technische Universität München  
“Solar Fuel Generation with Plasmonic Photoelectrochemistry”

17:30-19:00  **Session 1.5: New Approaches for Solar Energy Conversion**  
Session chair: Carmel Rothschild (Technion)

- 17:30-18:00 Invited talk: Alexis Vossier (Centre National de la Recherche Scientifique)  
  *Performance Bounds for Hybrid Solar PV/Thermal Electricity Generation Strategies*

- 18:00-18:30 Invited talk: Efthymios Klampaftis (Karlsruhe Institute of Technology (KIT))  
  *Adding Functionalities to PV Modules: Colour, Shape and Anti-soiling*

- 18:30-18:45 Nimrod Kruger (Technion – Israel Institute of Technology)  
  *Thermal Photo-Luminescence Photovoltaics as High Efficiency Conversion Devices*

- 18:45-19:00 Yifat Piekner (Technion – Israel Institute of Technology)  
  *Tandem Photovoltaic-Photoelectrochemical Cells for Solar Water Splitting*

19:30  **Festive dinner**

21:00  **Bus returns to Beer-Sheva at the end of the evening**
Thursday, March 8, 2018

9:00 – 9:30  Arrival at the George Evens Family Auditorium, Blaustein Institutes for Desert Research, Ben-Gurion University of the Negev (Midreshet Ben-Gurion) (and checking out of rooms)

9:30-11:00  Session 2.1: Solar Fuels
Session chair: Katharina Krischer (Technische Universität München)

9:30-10:00  Invited talk: Noam Adir (Technion – Israel Institute of Technology)
Utilizing Photosynthetic Complexes for Solar Energy Conversion: Building a Bio-generator

10:00-10:15  Yotam Avital (Ben-Gurion University)
H₂O₂ Photo-oxidation on Hematite Electrodes: A Tale of Two Sites

10:15-10:30  Maytal Caspary Toroker (Technion – Israel Institute of Technology)
Recent Advances in ab-initio Modeling Iron Oxide Water Splitting

10:30-10:45  Yuval Ben-Shahar (Hebrew University of Jerusalem)
Semiconductor-Metal Hybrid Nanorods as Photocatalysts

10:45-11:00  Oren Meiron (Ben-Gurion University)
Designing Nano-catalysts for the Hydrogen Evolution Reaction

11:00-11:15  Coffee break

11:15-12:00  Session 2.2: Keynote
Session Chair: Muhammad Bashouti (Blaustein Institutes, BGU)

Silke Christiansen
Helmholtz-Zentrum Berlin für Materialien und Energie (HZB)

12:00-13:15  Lunch

13:15-14:15  Poster session II in lobby of Evens Auditorium

14:15-15:30  Session 2.3: Broader Perspectives for Solar Energy Conversion
Session chair: David Faiman (Blaustein Institutes, BGU)

14:15-14:30  Avi Niv (Ben-Gurion University)
Optical Rectification and Second Harmonic Generation from Nano-scaled Metallic Heterodimer

14:30-14:45  Muhammad Bashouti (Ben-Gurion University)
Molecular Surface Approach for Efficient Solar Cells

14:45-15:00  A.A. Solomon (Lappeenranta University of Technology)
Solar Driven Net Zero Emission Electricity Supply with Negligible Carbon Cost: Israel as a Case Study for Sun Belt Countries

15:00-15:15  Doron Azulay (Hebrew University of Jerusalem)
Investigating Thin Film Absorbers by Combined Scanning Tunneling Spectroscopy and Photo-transport Measurements
15:15-15:30  **Adam Ginsburg** (Bar-Ilan University)
*Solid State ITO|Au-NPs|TiO2 Plasmonic Based Solar Cells*

15:30-16:00  Coffee break

16:00-17:00  **Session 2.4: Organic Photovoltaics**
Session chair: Iris Visoly-Fisher (Blaustein Institutes, BGU)

16:00-16:30  Invited talk: **Garry Rumbles** (National Renewable Energy Laboratory)
*A Perspective on the Learnings of OPV*

16:30-17:00  Invited talk: **Gitti Frey** (Technion)
*Molecular Mobility in Organic Solar Cells – a Mixed Blessing*

17:00-17:15  **Giovanni Matrone** (Imperial College London)
*Not all Roads Lead to Phase Separation — A Polymer Science Approach to Predict and Manipulate the Morphology of Bulk Heterojunctions Solar Cells*

17:15-17:30  **Jeffrey Kettle** (Bangor University)
*Characteristics of Organic and Perovskite Photovoltaic Modules Monitored Outdoors*

17:30-17:45  **Closing remarks Daniel Feuermann** (Blaustein Institutes, BGU)

18:00  Bus returns to Beer-Sheva

To see the full program, registration and other information, see [http://in.Ben-Gurion University.ac.il/en/solar/Pages/Symposium.aspx](http://in.Ben-Gurion University.ac.il/en/solar/Pages/Symposium.aspx), or write to [sbsolarsymposium@bgu.ac.il](mailto:sbsolarsymposium@bgu.ac.il).