אוניברסיטת בן-גוריון בנגב
Ben-Gurion University of the Negev

Tentative Program

24th Sede Boqer Symposium on Solar Electricity Production

September 9-10, 2024
George Evens Family Auditorium
Jacob Blaustein Institutes for Desert Research
Sede Boqer Campus

Symposium chairs: Eugene A. Katz and Iris Visoly-Fisher, the Ben-Gurion National Solar Energy Center

Acknowledged generous support from:

BIDR The Swiss Institute for Dryland Environmental & Energy Research (SIDEER)

The Jacob Blaustein Center for Scientific Cooperation
The Jacob Blaustein Institutes for Desert Research
Ben-Gurion University of the Negev

Center for Energy & Sustainability
Ben-Gurion University of the Negev

בית הספר לקיימות ושינויי אקלים ע"ש גולדמן זוננפלד
אוניברסיטת בן-גוריון בנגב
The Goldman Sonnenfeldt School of Sustainability and Climate Change
Ben-Gurion University of the Negev

Please note that the program includes only the name of the presenters of both lectures and posters. Names of co-authors can be seen in the abstracts themselves.

Tentative Program - Wednesday, June 26, 2024

The 24th Sede Boker Symposium – tentative program

Monday Sep. 9, 2024

9:00 – 10:00 Arrival and Registration, coffee

10:00- 10:30

- **Opening Greetings**
- **Daniel Chamovitz**, President, BGU
- **Noam Weisbrod**, Director, Jacob Blaustein Institutes for Desert Research, BGU
- **Shimon Rachmilevitch**, The Goldman Sonnenfeldt School of Sustainability and Climate Change
- **Elad Kalfon**, Head of Energy Innovation, Office of the Chief Scientist, Ministry of Energy and Infrastructure

10:30 - 12:30 Session 1.1: **Photo/ electro-catalysis for solar energy harvesting and storage**

Chair: Daniel Grave (BGU)

- **Ronen Gottesman** (HUJI) (invited): *Controlling Anisotropies in α-SnWO4 Photoanodes for Solar Water Oxidation*
- **Idan Hod** (BGU) (invited) *Molecular Manipulation of Heterogeneous Electrocatalysis Using Metal-Organic Frameworks*
- **Avner Rothschild** (Technion) (invited). *Electrochemical and chemical cycle for membraneless water electrolysis .*
- **Hannah-Noa Barad** (BIU) (invited) *High-throughput rational design of catalysts for sustainable energy*

12:30-14:30 Lunch and Poster session

14:30-15:30 Session 1.2: **Keynote I**

Chair: Uri Banin (HUJI)

Doron Aurbach, Bar-Ilan University Israel

Optimal electrochemical power sources for electromobility and large energy storage.

15:30-16:00 Coffee break

16:00-18:00 Session 1.3: **Viable Applications**

Chair:

- **Yuval Zohar** (Electricity Authority + Chair of Solar Energy Ad. – ASHALIM) (invited): *ASHALIM Solar Projects: Status and insights after 5 years of commercial operation.*
- **Ervin Tal-Gutelmacher** (Hydrolite) (invited) *Prospects for Alkaline Exchange Membrane (AEM) Electrolysis*
- **Yaron Tidhar** (Apollo power) (invited) *Turning an idea into a company: 10 years at SolarPaint/Apollo Power*
- **Amnon Schur** (ICL) (invited) *The effect of salt-plain albedo on the performance of bifacial modules: Case study at the Sedom region*

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18:00-19:00 Room check-in

19:00-21:00 Festive Dinner

Tuesday, September 10, 2024

(room check out before 10:00)

10:00-12:15 Session 2.1: **Bioenergy and AgroPV**

chair: Gideon Segev (TAU)

- **Yaniv Shlosberg** (BGU) (invited) *Bioelectricity production from cells, organisms, and waste*
- **Elena Vitoshkin** (Volcani) (invited): *Solar Energy in Agriculture: how to share sunlight?*
- **Nina Kamennaya** (BGU) (invited) *Sharing sunlight between photosynthesis and photovoltaics*
- **Oren Hoffman** (Arava Inst.) *Effects of PV shading on crop environment and sweet potato yield in the Arava*
- **Haim D. Rabinowitch** (HUJI) (invited) *Re-defining Agri-Solar Coexistence*

12:15-13:00 *lunch*

13:00-14:45 Session 2.2: **Novel aspects of solar energy harvesting**

Chair:

- **Alon Kuperman** (BGU) (invited) *Panel-Level Photovoltaic Energy Conversion: Efficiency Booster or an Opening for Cyber Threats*
- **Tirza Routtenberg** (BGU) (invited) *Advancing Smart Grid Security and Stability through Graph Signal Processing*
- **Gil Shalev** (BGU) (invited). *Surface arrays of subwavelength light funnels for broadband absorption of the solar spectrum*
- **Yaron Amouyal** (Technion) *Calcium-manganate oxides for thermoelectric energy harvesting at elevated temperatures*

14:45-15:15 Coffee break

15:15-15:16 Session 2.3: **Keynote II**

Chair: Oded Millo (HUJI)

Prof. Antoine Kahn, Princeton University, USA

Surfaces, interfaces and doping of metal halide perovskites: fundamental issues and opportunities

16:15-18:00 Session 2.4: **Photovoltaic Materials and Devices**

chair: Eran Edri (BGU)

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Igal Levine (HUJI) (invited) *Time-Resolved Surface Photovoltage of Energy Materials*

Yvgeny Rakita (BGU) (invited). *The key roles of Polyhalides in metal halide perovskite photovoltaics*

Pavel Troshin (Zhengzhou Research Institute of HIT and FRC PCP MC RAS) (invited). Exploring the potential of perovskite and organic solar cells for space applications.

Doron Azoulay (HUJI) *Studying photo-electrical properties of solar-cell absorbers using photoconductivity measurements*

Closing remarks (Eugene Katz)

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ABSTRACTS FOR THE POSTER SESSION
(In Alphabetical Order by Presenter)

Ternary compounds of NiSe and CoSe as efficient electrochemical & photothermal catalysts for water-splitting reactions, **Shir Abromovich**, Ben-Gurion University of the Negev

Enhancing Distribution Line Voltage Stability through Reactive Power Application in PV, **Moshe Averbukh**, Ariel University

Energy Saving Smart Windows Combining Liquid Crystal and Thermochromic VO2, **Sofiia Barinova**, Ben-Gurion University of the Negev

Rational Design of Oxygen Vacancy-containing Metal Oxide Electrocatalysts for Selective CO2 Conversion, **Johannes Bartl**, Bar-Ilan University

Determination of the Diffusion Coefficients of Silver in Thermoelectric Lead Telluride Compounds, **Muhamed-Khalid Dawod**, The Technion Institute of Technology

High Entropy Oxides for Electrocatalytic Reactions: Advantages and Disadvantages, **Asmita Dutta**, Hebrew University of Jerusalem

The Critical Point model as a tool for correlating organic solar cells' active layer morphology and performance, **Tal Elbaz**, Ben-Gurion University of the Negev

Operational stability of 2D/3D perovskite solar cells, **Kenza El Idrissi**, Ben-Gurion University of the Negev

Comparison analysis of different encapsulation materials used in Perovskites Solar Cells, **Miriam Eshed**, Ben-Gurion University of the Negev

Epitaxial ilmenite-type Ni(2-x)TixO3 thin film photoanodes for green hydrogen production, **Ronen Fishov**, Ben-Gurion University of the Negev

In-gap States and Carrier Recombination in Quasi-2D Perovskite Films, **Shahar Gold**, Hebrew University of Jerusalem

Electronic and Thermal Transport in Silver-Antimony-Telluride Based Compounds for Energy Conversion Applications, **Sergei Grazhdannikov**, The Technion Institute of Technology

Seasonal dependence of outdoor performance of perovskite solar cells, **Ritesh Gupta**, Ben-Gurion University of the Negev

Surface energetics at chemically functionalized p-type Si (111) interfaces: an Optoelectronic study, **Sherina Harilal**, Ben-Gurion University of the Negev

Stabilizing LaNiO3 as an Acid Stable Electrocatalyst for Oxygen Evolution Reaction, **Adi Kama**, Bar Ilan University

Amino Acid and Peptide Additives for Improved Photostability of Perovskite Solar Cells, **Said Kassou**, Ben-Gurion University of the Negev

Near-field optical microscopy for unravelling light trapping mechanism in light funnel arrays decorated with deep subwavelength features, **Ankit Kumar**, Ben-Gurion University of the Negev

Stability of Perovskite Solar Cells with Copper Thiocyanate as Hole-Transport Material, **Kishore Kumar Devarepally**, Ben-Gurion University of the Negev

Ratchet based ion pumps for fine tuning of electrochemical reactions, **Dafna Meltser**, Tel Aviv University

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Spatial collection efficiency and photogeneration yield spectrum of $ZnFe_2O_4$ photoanode thin films, **Miriyala Kumaraswamy**, Ben-Gurion University of the Negev

High Entropy Oxides for Photoelectrocatalytic Applications, **Shlomit Rozenbaum**, Hebrew University of Jerusalem

Design of a Novel Substrate Integrated Waveguide (SIW) Sensor for Time Resolved Microwave Conductivity (TRMC) Measurements of Photoabsorbers, **Rohit Kumar Saini**, Ben-Gurion University of the Negev

Enhanced photon up conversion for solar hydrogen production by PEC water splitting, **Vinoth Selvaraj**, Ben-Gurion University of the Negev

Probing Transport Losses in Hematite Homojunction Photoanodes using Spatial Collection Efficiency Analysis, **Sa'ar Shor Peled**, Ben-Gurion University of the Negev

Impact of magnetic ordering on photoelectrochemical properties of hematite, **Yarden Shriqui**, Ben-Gurion University of the Negev

Integration chemistry of $Ti_3C_2T_x$ MXenes with Halide Perovskite precursors, **Kirill Sobelev**, Ben-Gurion University of the Negev

Mesoscopic fully printable indium tin oxide perovskite solar cells in bifacial configuration, **Maayan Sohmer-Tal**, Hebrew University of Jerusalem

Development of High Efficiency Nano-Structured Ratchets for Selective Ion Pumps, **Keren Shushan-Alshochat**, Tel Aviv University

Influence of operating temperature on photoelectrochemical properties of metal-oxide semiconductor photoanodes, **Gal Toraty**, Ben-Gurion University of the Negev

Broadband absorption and omnidirectional anti-reflection in Polysilicon thin films decorated with light trapping arrays for solar applications, **Nipun Vashistha**, Ben-Gurion University of the Negev

Defect tolerance of grain boundaries in antimony triselenide, **Anchal Vashishtha**, Ben-Gurion University of the Negev

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