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

TENTATIVE Program

18th Sede Boqer Symposium on Solar Electricity Production

February 17-18, 2013

George Evens Family Auditorium
Jacob Blaustein Institutes for Desert Research
Sede Boqer Campus

Sponsored by:

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

GREEN CAMPUS
Ben-Gurion University of the Negev an excellent environment

Program

Sunday, February 17, 2013

9:00 – 10:30 Arrival at the Evens Auditorium, Midreshet Ben-Gurion, **Registration & Reception**

10:30-11:00 **Opening Greetings**
(Chair: Prof. David Faiman, BGU Blaustein Institutes, Sede Boqer)
Professor **Steve Rosen**, Assistant Rector, Ben-Gurion University
Prof. **Pedro Berliner**, Director, BGU Blaustein Institutes for Desert Research
Dr. **Yoel Cohen**, Ministry of Energy and Water
Dr. **Ella Strauss,** Ministry of Science and Technology

11:00-12:00 **Session 1: Invited Keynote Lecture and Discussion**
Chair: TBA

Multijunction solar cells: Where we are, how we got here and where we could go
Andreas W. Bett, Deputy Director and Director,
Division Materials - Solar Cells and Technology
Fraunhofer-Institut für Solare Energiesysteme, ISE, Germany

12:00-13:30 **Lunch –** Dining room, High School for Environmental Studies

13:30-15:00 **Session 2:**
(Chair: TBA

1. *Light trapping in P3HT:PCBM solar cells: Towards Improved Spectrum Utilization*
   Ma'yan Rumbak[1, 3], Rafi Shikler[2, 3], Iris Visoly-Fisher[1,3]
   [1]Dept. of Chemistry, [2]Dept. of Electrical and Computer Engineering and [3]Ilse Katz Institute for Nanoscale Science and Technology, Ben-Gurion University
2. *Detailed Modeling of Photon Enhanced Thermionic Emission for Solar Energy Conversion*
   Gideon Segev, Yossi Rosenwaks and Abraham Kribus
   Faculty of Engineering, Tel-Aviv University
3. *Entropy driven multi-photon upconversion*
   Assaf Manor, Nimrod Kruger and Carmel Rotschild
   Excitonics lab, Mechanical Engineering, The Technion
4. *Multiple-bandgap vertical-junction architectures for ultra-efficient concentrator solar cells and thermal applications*
   Avi Braun[1]**,** Alexis Vossier[1], Eugene A. Katz[1], Nicholas J. Ekins-Daukes[2] and Jeffrey M. Gordon
   1Department of Solar Energy and Environmental Physics, Blaustein Institutes for Desert Research, Ben-Gurion University; [2]Dept. of Physics, Imperial College London
5. *Vertical Multi-Junction (VMJ) Silicon solar Cells with Radial Junctions*
   Rona Sarfaty[1], Eran Zeierman[2], Gideon Segev[2], Abraham Kribus[2] and Yossi Rosenwaks[2]

[1]Dept. of Electrical & Electronic Engineering, ORT Braude College; [2]Faculty of Engineering, Tel Aviv University

15:00-15:30 Coffee break

15:30-17:00 Session 3:
(Chair:

1. *Electronic Properties of Grain Boundaries in Thin Film CU(In,Ga)Se_2 Solar Cells*
   Doron Azulay, Isaac Balberg and Oded Millo
   Racah Institute of Physics, The Hebrew University of Jerusalem
2. *Combinatorial Material Science for the Development of All-Oxide Photovoltaics*
   Sven Rühle, Assaf Y. Anderson, Hannah-Noa Barad, Yaniv Bouhadana, Adam Ginsburg, David, Keller, Benjamin Kupfer, Koushik Majhi, Eli Rosh-Hodesh, Klimentiy Shimanovich, Arie Zaban
   Institute for Nanotechnology & Advanced Materials, Dept. of Chemistry, Bar Ilan University
3. *Si Solar Cells of Small Area for Low Irradiance Working Conditions*
   Chen Klein, Ygal Eisenberg, Lev Kreinin, Ninel Bordin and Naftali Eisenberg
   Jerusalem College of Technology (JCT)
4. *n-Si Based Solar Cells Fabricated using B Ion Implantation*
   Ygal Eisenberg[1], Lev Kreinin[1], Ninel Bordin[1], Chen Klein[1], Naftali Eisenberg[1], S. Hava[2], G. Grigorieva[3], M. Kagan[3] and K. Zviagina[3]
   [1] Jerusalem College of Technology (JCT); [2]Dept. of Electrical and Electronic Engineering, Ben-Gurion University; [3]OJSC RPE "KVANT"
5. *Recent Developments in Photovoltaic Dye Cells at 3GSolar*
   Jonathan Goldstein, Nir Stein, Barry Breen, Michael Schwartz, Izhak Barzilai and Ron Paz
   3GSolar Photovoltaics Ltd.
6. *Israel's Feed-in Tariff: Some lessons learnt*
   Honi Kabalo
   Public Utilities Authority - Electricity

17:00-18:30 Free time (final registration, room check-in)

18:30-20:00 Dinner - *Dining room, High School for Environmental Studies*

20:30 A Kibbutz Cultural Event (at Kibbutz Sde Boqer)
A short lecture (in Hebrew) by composer, Prof. Michael Wolpe, on "Music in Cinema" followed by a screening of the entire movie "Richard the Third" (not Shakespeare's!)

Monday, February 18, 2013

9:00-10:30 **Session 4:**

(Chair: TBA

1. *Concentrated Sunlight for Accelerated Assessment of Operational Stability of Organic Photovoltaics*
   Celine Bounioux,[1] Assaf Mescheloff,[1] Avi Braun,[1] Maor Gabai,[2] Iris Visoly-Fisher, [2] L. Zeiri,[3] Yulia Galagan[4] and Eugene A. Katz[1]
   [1]Dept. of Solar Energy and Environmental Physics, J. Blaustein Inst. for Desert Research, Ben-Gurion University of the Negev,; [2]Dept. of Chemistry, Ben-Gurion University of the Negev, Beer-Sheva; [3]Ilse Katz Institute for Nanoscale Science and Technology, Ben-Gurion University of the Negev, Beersheva; [4]Holst Centre, Eindhoven, the Netherlands
2. *Measuring External Quantum Efficiency of Organic Solar Cells in as-produced and Degraded States*
   Assaf Mescheloff[1],[2] Yulia Galagan[3] and Eugene A. Katz[2]
   [1]Albert Katz School for Desert Studies; [2]Dept. of Solar Energy and Environmental Physics, Blaustein Institutes for Desert Research, Ben-Gurion University; [3]Host Centre, Eindhoven, The Netherlands
3. *Modeling the Soitec/Concentrix CPV System*: Which are the Big Effects?
   Ehud Strobach[1, 2] and David Faiman[2]
   [1]Albert Katz School for Desert Studies, [2]Department of Solar Energy and Environmental Physics, Blaustein Institutes for Desert Research, Ben-Gurion University
4. *Modeling Impurity Transport in a Vanadium Redox (VRB) Battery*
   Moshe Averbukh[1] and David Faiman[1], Kfir Batat[1, 2]
   [1]Dept. of Solar Energy and Environmental Physics, Blaustein Institutes for Desert Research, Ben-Gurion University, [2]Energy Engineering Department
5. *Charging Li-Ion Battery from PV Panels: Power Electronics Interface Modeling and Operation Modes*
   M. Sitbon, G. Gadelovits and Alon Kuperman
   Dept. of Electrical Engineering and Electronics, Ariel University Center

10:30-11:00 Coffee Break

11:00-12:00 **Session 5: Invited Keynote Lecture and Discussion**

(Chair: TBA

"*PV and CPV qualification and standards testing*"

Liang Ji,

Chairman, International PV Qualifications and Standards Committee at Underwriters Laboratories, Inc., USA

12:00-13:30 **Lunch –** Dining room, High School for Environmental Studies

13:30-15:00 **Session 6:**

1. *Employing PV Panel Modeling to Predict Boundary Operating conditions of Power Electronics Interfaces*
   Alon Kuperman[1], Simon Lineykin[2], M. Sitbon[1], S. Gadelovits[1] and Moshe Averbukh[3]
   [1]Dept. of Electrical Engineering and Electronics, Ariel University Center; [2]Dept. of Mechanical Engineering and Mechatronics, Ariel University Center; [3]Dept. of Solar Energy and Environmental Physics, Blaustein Institutes for Desert Research, Ben-Gurion University

2. *Extracting the Parameters of Amorphous Solar Panels based on I-V Characteristics*
   Simon Lineykin[1], Moshe Averbukh[2], and Alon Kuperman[3]
   [1]Dept. of Mechanical Engineering and Mechatronics, Ariel University Center; [2]Dept. of Solar Energy and Environmental Physics, Blaustein Institutes for Desert Research, Ben-Gurion University; [3]Dept. of Electrical Engineering and Electronics, Ariel University Center
3. *Monitoring of the output of PV Modules under a Variety of Meteorological conditions*
   Pavel Pokrass and Sergey Biryukov
   Dept. of Solar Energy and Environmental Physics, Blaustein Institutes for Desert Research, Ben-Gurion University
4. *A Survey of PV Module Parameters VS PV Technology*
   Reuven Godali and Ido Cohen
   Energy Systems Branch, The Standards Institute of Israel
5. *Platform MYRTE - coupling PV plant and hydrogen chain - First one year of experiments*
   Philippe Poggi, C. Thibault, D. Darras and I. Luciani
   Laboratory Science for Environment, University of Corsica

15:00-15:30 Coffee break

15:30-17:00 **Session 7:**
(Chair: TBA

1. *First Direct Measurement of the Spatial Coherence of Sunlight*
   Heylal Mashal, Alex Goldstein, Daniel Feuermann, Jeffrey M. Gordon
   Dept. of Solar Energy and Environmental Physics, Blaustein Institutes for Desert Research, Ben-Gurion University
2. *Spectral Emissivity of sol-gel Prepared Selective Coatings at Elevated Temperatures*
   Oleg Shkolnik[1], Daniel Feuermann[1], Eran Maimon[2], Yuri Flitsanov[2], Avi Kribus[2], Camille Zwicker[3], Daniel Mandler[3] and Shlomo Magdassi[3]
   [1]Dept. of Solar Energy and Environmental Physics, Blaustein Institutes for Desert Research, Ben-Gurion University; [2]Faculty of Engineering, Tel Aviv University; [3]Institute of Chemistry, Hebrew University of Jerusalem
3. *Combined Solar-Gas Power Plants for Ensuring Uninterrupted Electricity Dispatch while also Extending the Life Span of Gas Wells*
   Aharon Roy
   Dept. of Chemical Engineering, Ben-Gurion University
4. *Application of Hydrogen Low Resolution NMR for investigation of the problem of solar Collector Soiling*
   Leonid Yarmolinskiy[1], Sergey Biryukov[1] and Paulina Berman[2]
   [1] Dept. of Solar Energy and Environmental Physics, Blaustein Institutes for Desert Research, Ben-Gurion University; [2]Phyto-lipid Laboratory, Biotechnology Dept, Ben-Gurion University
5. *The Global Problem: How Could China Help?*
   David Faiman
   Dept. of Solar Energy and Environmental Physics, Blaustein Institutes for Desert Research, Ben-Gurion University

17:00-17:30 CLOSING REMARKS
Coffee + refreshments