

October 26, 2008



15th Sede Boqer Symposium
on Solar Electricity Production
October 27 – 29, 2008
AND
ISES ISRAEL ANNUAL MEETING

Sponsored by:

Ben-Gurion University of the Negev.
Blaustein International Center for Scientific Cooperation.
Israel Sustainable Energy Society
Israel Ministry of National Infrastructures
Newport - New Technology, Solar Simulators & PV Laser Scribing systems
Solel Solar Systems Ltd.

Program



Program

Monday, October 27, 2008

9:45 – 10:30 Arrival at the Ben-Gurion National Solar Energy Center, Midreshet Ben-Gurion,
Registration

10:30-11:00 **Opening Greetings**
(Chair: Prof. David Faiman, BGU Blaustein Institutes, Sede Boqer)
Prof. **Avigad Vonshak** (Director, BGU Blaustein Institutes for Desert Research)
Dr. **Eric Seboun**
Scientific Attaché, Embassy of France, Tel Aviv

11:00-12:30 **Session 1: Photovoltaics I**

(Chair: Prof. Enrique Gruenbaum, Tel Aviv University)

1. *Photovoltaic devices based on photosynthesis reaction center protein*
Chanoch Carmeli¹, Ludmila Frolov¹, Yossi Rosenwaks², Michael Chichik³, Shachar Richter³ and Itai Carmeli³
¹Departments of Biochemistry, ²Physical Electronics and ³Chemistry, Tel Aviv University, Tel Aviv, Israel
2. *Understanding photosynthesis: Electron transport in single biomolecular wires*
Iris Visoly-Fisher¹, Kavyon Daie¹, Yuichi Terazaono², Christian Herrero², Fernando Fungo³, Luis Otero³, Edgardo Durantini³, Juana J. Silber³, Leonides Serreno³, Devens Gust³, Thomas A. Moore², Ana L. Moore² and Stuart M. Lindsay¹
¹Dept. of Chemistry, Ben Gurion University, Beersheva, Israel; ²Arizona State Univ, AZ, USA; ³Universidad Nacional de Rio Cuarto, Argentina
3. *Modeling the effect of the structure of polymer photocells on their absorption spectrum*
Rafi Shikler^{1,2} and Richard H. Friend²
¹Dept. of Electrical & Computer Engineering, Ben Gurion University, Beersheva Israel and ²Cavendish Laboratory, Cambridge CB3 0HE, UK
4. *Reversible degradation of plastic solar cells: underlying mechanism*
Eugene A. Katz¹, S. Gevorgyan², F.C. Krebs²
¹J. Blaustein Institutes for Desert Research, Ben-Gurion University of the Negev, Sede Boker Campus 84990 Israel,
²The Danish Polymer Centre, RISØ National Laboratory, P.O. Box 49, DK-4000 Roskilde, Denmark



ניו טכנולוגי

5. *Potential of single wall carbon nanotubes in organic solar cells: A questionable efficiency of charge transfer*

Celine Bounioux¹, A. Konkin², A. Sperlich³, H. Hoppe², and Eugene A. Katz¹

¹Jacob Blaustein Institutes for Desert Research, Ben Gurion University, 84990 Midreshet Ben Gurion, Israel; ²Institute of Physics, Ilmenau University of Technology, Ilmenau, Germany; ³Experimental Physics VI, Physical Institute of Julius Maximilians, University of Wurzburg, Wurzburg, Germany

12:30-14:00 Lunch – Dining Room, High School for Environmental Studies

14:00-15:00 Session 2: Invited Keynote Lecture and Discussion

(Chair: Prof. David Cahen, Weizmann Institute, Rehovot)

If the leaf can do it, we can do it

Prof. James Barber

Imperial College, London

15:00-15:30 Coffee break

15:30-17:00 Session 3: Photovoltaics II

(Chair: Dr. Eugene Katz, BGU-Blaustein Institutes, Sede Boqer)

1. *Can up and down conversion and multi-exciton generation improve photovoltaics?*

Hagay Shpaisman, Olivia Niitsoo, Igor Lubomirsky and David Cahen

Dept. of Materials and Interfaces, Weizmann Inst. of Science, 76100 Rehovot, Israel

2. *Study of different light bias sources for Si solar cell spectral response measurements*

Ygal Eisenberg, Lev Kreinin, Ninel Bordin and Naftali Eisenberg

Jerusalem College of Technology, POB 16031, 91160 Jerusalem, Israel

3. *A metal - organic insulator - semiconductor solar cell, based on molecular monolayer self-assembly on n-Si*

Rotem Har-Lavan, Izhar Ron, Florent Thieblemont and David Cahen

Dept. of Materials and Interfaces, Weizmann Inst. of Science, 76100 Rehovot, Israel

4. *Wet-chemical synthesized Extremely Thin Absorber(ETA) solar cells with CdS and Cu_{2-x}S absorbers*

Olivia Niitsoo, Miles G. Page, Yafit Itzhaik, David Cahen and Gary Hodes

Dept. of Materials and Interfaces, Weizmann Inst. of Science, 76100 Rehovot, Israel

5. *Recent developments in dye sensitized solar cells at 3GSolar*

Jonathan Goldstein, Ilya Yakupov and Barry Breen

3G Solar, AVX Building, 3 Hamarpeh St., Har Hotzvim Technology Park, 91450 Jerusalem, Israel

17:00-18:00 Guided tour of the Ben-Gurion National Solar Energy Center at Sede Boqer

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



Tuesday, October 28, 2008**9:00-10:30 Session 4: System Issues**

(Chair: Prof. Moshe Levy, Weizmann Institute, Rehovot)

1. *Field-level effects in rooftop arrays of small parabolic dishes*
Yosef Meller, Gil Shelef and Avraham Kribus
Tel Aviv University, Israel
2. *Negative impact of dust on the efficiency of solar energy production*
Sergey Biryukov and Leonid Yarmolinsky
Jacob Blaustein Institutes for Desert Research, Ben Gurion University, 84990
Midreshet Ben Gurion, Israel
3. *PV module stability experience at Sede Boqer*
David Faiman
Jacob Blaustein Institutes for Desert Research, Ben Gurion University, 84990 Midreshet
Ben Gurion, Israel
4. *Negative impact of clouds on the efficiency of solar energy production*
Sergey Biryukov
Jacob Blaustein Institutes for Desert Research, Ben Gurion University, 84990
Midreshet Ben Gurion, Israel
5. *Photovoltaic concentrators with unfolded aplanatic optics*
Jeffrey M. Gordon¹, **Daniel Feuermann**¹ and Pete Young²
¹Jacob Blaustein Institutes for Desert Research, Ben Gurion University, 84990
Midreshet Ben Gurion, Israel; ²SolFocus, Mountain View CA, USA

10:30-11:00 Coffee Break**11:00-12:00 Session 5: Invited Keynote Lecture and Discussion**

(Chair: Dr. Shlomo Wald, Chief Scientist, Israel Ministry of National Infrastructures)

*Nuclear Power – the French Experience***Dr. George Servièrè**

Électricité de France

12:00-13:30 Lunch – Dining room, High school for environmental studies**13:30-15:00 Session 6: Solar-Thermal**

(Chair: Prof. Avraham Kribus, Tel Aviv University)

1. *Solel – Spanish Solar Thermal Project*
Kenny Kleinerman
Solel Solar Systems Ltd., Beit Shemesh, Israel
2. *Evaluating a long-term thermal storage system for solar energy*
Roman Adinberg,
Weizmann Institute of Science, Rehovot. 76100

Israel Ministry of
National Infrastructures

3. *Thermal measurements of a CSP tower system: use of a thermal imager in the tower control system*

Ophir Chernin

Luz II/Bright Source

4. *A building-integrated spherical collector concentrating PV thermal system*

Mordechai Arenson

Ormat, Yavne and Tel Aviv University, Israel

5. *The Zenith Solar Z-10 CSP system*

Roy Segev

Zenith Solar Ltd, Nes Ziona Israel

15:00-15:30 Coffee break

15:30-16:30 **Session 7: Invited Keynote Lecture and Discussion**

(Chair: Prof. David Faiman, BGU – Blaustein Institutes)

State of the art solar plant technologies and their cost effectiveness

Prof. Aaron Roy

Ben-Gurion University of the Negev

16:30-17:00 Coffee Break

17:00-18:30 **Session 8: Long-term PV Issues**

(Chair: Dr. Morton Prince, Jerusalem)

1. *A dynamical thermal model of a PV panel*

Anat Razon and David Faiman

Jacob Blaustein Institutes for Desert Research, BGU, 84990 Midreshet Ben Gurion

2. *First efficiency measurements of 3J cells using PETAL*

David Faiman, Sergey Biryukov, Leonid Yarmolinsky, Shlomo Kabalo, Vladimir Melnichak and Dov Bukovza

Jacob Blaustein Institutes for Desert Research, BGU, 84990 Midreshet Ben Gurion

3. *Aspects of storage battery use*

Moshe Averbukh

Jacob Blaustein Institutes for Desert Research, BGU, 84990 Midreshet Ben Gurion

4. *How large can Israeli PV systems be?*

A. A. Solomon

Jacob Blaustein Institutes for Desert Research, BGU, 84990 Midreshet Ben Gurion

5. *Economic analysis of the Israeli feed-in tariff*

Hanoch Friedman and Yaakov Garb

Jacob Blaustein Institutes for Desert Research, BGU, 84990 Midreshet Ben Gurion

18:30-19:30 **Dinner**



Wednesday, October 29, 2008**9:00-10:30 ISES – Israel Session**

(Chair: Prof. David Faiman, BGU – Blaustein Institutes)

1. *The Israeli Government's Vision of Research and Development in Renewable Energy*

Dr. Shlomo Wald

Chief Scientist, Israel Ministry of National Infrastructures

2. *The Better Place Electric Vehicle Project*

Dr. Dan Weinstock

Better Place

3. *The electric car: solution or setback for the environment?*

Sigal Shusterman and **Prof. Avi Kribus**

Tel Aviv University

4. *Winflex wind turbine technology*

Dr. Vladimir Kliatzkin

CTO, Unibatt Ltd.

Closing Remarks – Prof. David Faiman**10:30-11:00 Coffee Break****11:00-12:00 ISES General Meeting – Members only****12:30-14:00 Lunch** – Dining room, High school for environmental studies**14:00 – 18:00 First French-Israeli Solar Energy Workshop – Day One**
(open to everyone – but requires separate registration)**20:00-22:30 Concert** – Giacomo Meyerbeer, Songs performed by Sivan Rotem (Soprano) and Yonatan Zak (Piano)