Avi Braun Curriculum Vitae

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Education

Ph.D. ***Ben-Gurion University of the Negev, Israel*** (2009-2013)
Jacob Blaustein Institutes for Desert Research, department of Solar Energy and Environmental Physics.
Dissertation title: **"The physics of high carrier injection rates in concentrator photovoltaics"**. Advisor: **Prof. Jeffrey Gordon**

M.Sc. ***Ben-Gurion University of the Negev, Israel*** (2007-2009)
Jacob Blaustein Institutes for Desert Research, department of Solar Energy and Environmental Physics. **(Summa Cum Laude)**
Thesis topic: **"Investigations of advanced multi-junction concentrator photovoltaics"**. Advisor: **Prof. Jeffrey M. Gordon**

B.Sc. ***Tel Aviv University, Israel*** (2003-2007)
Raymond and Beverly Sackler faculty of exact science.
Physics and Astronomy **(Cum Laude)**.
Geophysics and Planetary sciences **(Cum Laude)**.

Professional Experience

- Ben-Gurion University of the Negev, Israel. Postdoctoral position (2013-present)
- Intel Corporation (Israel). Student position as a VLSI engineer (2006-2007)
- Israel Aerospace Industries (IAI). Unmanned Aerial Vehicle operator (2003-2005)
- Military Service: Air Force Branch, IDF, Aircrew and Flight instructor (1996-2003)

Honors and Distinctions

- The **Junior Research Fellowship** of Imperial College London. Three years funding of ~$200,000 (to start on December 2013)
- **The Rieger Prize** for doctoral research in renewable energy (2012)
- Elected as the representative of Ben-Gurion University in the **Global Young Scientists Summit @one-north**, Singapore, January 2013
- **The Adams fellowship**, awarded by The Israel Arts and Science Academy (2011-present)
- **The Rieger Prize** for doctoral research in renewable energy (2011)
- **Negev scholarship** for Ph.D. candidates (2009-2011)
- **The Robert Equey Prize** for Excellence in Desert Studies (2009)
- **BGU Dean's Prize** for M.Sc. students, (2009)
- **The Wolf Foundation Scholarship** for academic excellence in M.Sc studies (2009)
- **Department prize** (Geophysics and planetary sciences) for outstanding achievement (2004)

International Scientific Collaborations

- Prof. N.J. Ekins-Daukes, *The Quantum PV Group at Imperial College, London, UK*: Quantum-well solar cells, edge illuminated multi-junction solar cells (2010-2012)
- Prof. T. Hannappel and K. Schwarzburg, *Dep. of Solar Fuels and Energy Storage Materials, HZB, Berlin, Germany*: colored measurements of PV cells (2010-Present)
- Prof. A.W. Bett, *Fraunhofer ISE, Freiburg, Germany*: tunnel diodes for concentrator multi-junction cells (2009)
- Dr. A. Dollet, *PROMES, CNRS, Font Romeu, France*: high irradiance measurements (2007)

Publications

1. A. Braun, E.A. Katz, D. Feuermann, B.M. Kayes, and J.M. Gordon, "Photovoltaic performance enhancement by external recycling of photon emission", ***Energy & Environmental Science*****,** vol. 6, 1499 (2013)
2. A. Braun, A. Vossier, E.A. Katz, N.J. Ekins-Daukes, and J.M. Gordon, "Multiple-bandgap vertical-junction architectures for ultra-efficient concentrator solar cells", ***Energy & Environmental Science*****,** vol. 5, 8523 (2012)
3. A. Braun, E.A. Katz, and J.M. Gordon, "Basic aspects of the temperature coefficients of concentrator solar cell performance parameters," ***Progress in Photovoltaics: Research and Applications*****,** DOI: 10.1002/pip.2210 (2012), in press
4. O. Berger-Tal, A. Braun, and K. Embar, "Foreword by the Guest Editors: What is Good Science?", ***Israel Journal of Ecology & Evolution***, vol. 57, 289-291 (2011)
5. A. Braun, B. Hirsch, A. Vossier, E.A. Katz, and J.M. Gordon. "Temperature dynamics of multijunction concentrator solar cells up to ultra-high irradiance", ***Progress in Photovoltaics: Research and Applications****,* vol. 21, 202-208 (2013)
6. A. Braun, S. Nadine, K. Schwarzburg, T. Hannappel, E.A. Katz, and J.M. Gordon, "Current-limiting behavior in multijunction solar cells," ***Applied Physics Letters*** 98, 223506 (2011)
7. A. Braun and J.M. Gordon, "Analytic solution for quasi-Lambertian radiation transfer," ***Applied Optics***, vol. 49, 817-822 (2010)
8. A. Braun, B. Hirsch, EA. Katz, W. Guter, AW. Bett, and JM. Gordon, "Localized irradiation effects on tunnel diode transitions in multi-junction concentrator solar cells," ***Solar Energy Materials and Solar Cells***, vol. 93, 1692-1695 (2009)

Presentations at International Meetings

A. Braun et al., "Ultra-Efficient Concentrator Solar Cells Based on Multiple-Bandgap Vertical-Junction Architecture", *The 14th International Meeting on Optical Engineering and Science in Israel, Tel-Aviv, Israel* (2013)
A. Braun et al., "Multiple-bandgap vertical-junction architectures for ultra-efficient concentrator solar cells and thermal applications", *The 18th Sede Boqer Symposium On Solar Electricity Production, Sede Boqer, Israel* (2013)
A. Braun et al., "Temperature coefficients of concentrator solar cells up to ultra-high irradiance", *The 38th IEEE PVSC, Austin, Texas* (2012)
A. Braun et al., "Probing concentrator solar cells up to ultra-high irradiance at controlled temperature", *The 8th International Conference on CPV Systems, Toledo, Spain* (2012)
A. Braun et al., "The temperature dynamics of multijunction concentrator PV cells up to ultra-high irradiance" *The 17th Sede Boqer Symposium On Solar Electricity Prod., Sede Boqer, Israel* (2011)
A. Braun, "Concentrated photovoltaic – concept, achievements and challenges", *The 1st Solar Energy Conversion and Storage Student Conference, Zikhron Ya'akov, Israel* (2010)
A. Braun et al., "Fundamentally new aspects of tunnel diode transitions in multi-junction photovoltaics", *The 16th Sede Boqer Symposium on Solar Electricity Production, Sede Boqer, Israel* (2010)

Academic and Community Activities

- Member of the municipal economic committee, Midreshet Ben Gurion (2011-present)
- Member of the organizing committee of the 2nd, 3rd and 4th annual symposium of the Swiss Institute for Dryland Environmental and Energy Research (2009-2012)
- Guest editor of the Israel Journal of Ecology & Evolution – "The making of good science" (a special issue published in 2012)
- Treasurer and council member, Blaustein Institutes for Desert Research, student council (2008)