SUMMARY VITA- Ben M. Damiani
Adjunct Faculty of Electrical Engineering

Education
1992- 2004 *Georgia Institute of Technology* Atlanta, GA

- Doctorate of Philosophy in Electrical Engineering (May 2004)
- Scientist: Fraunhofer ISE, Freiburg, Germany (April - September 1998)
- Masters/Bachelors of Science in Electrical Engineering (1996/1998)
- Language Experience: 5 years of Spanish and 1 year of German

Academic Experience
Research Assistant
Georgia Institute of Technology, Atlanta, GA 1996 – 2004

- Design, Characterization, Process Development, and Modeling of Silicon Solar Cells, 14 Technical publications in Journals and Conference Proceedings
- International Joint Research Effort on Czochralski Si with participants from Japan, Belgium, Germany, Australia, and the USA, Cooperative work with Sandia National Laboratory (Special Paper Award 11th International PVSEC)

Non-Academic Experience
xSi Solar LLC – President/CTO Chattanooga, TN 2013 – Present

- Co-Founded innovative bifacial solar cell and module manufacturing company
- Cell and Module manufacturing begins December 2014, 4 provisional patent applications

Semco-Engineering – Industrial R&D Mngr **Montpellier, France** 2011 – 2013

- Managed international team to achieve solar cell manufacturing and next generation solar cell design.
- Established cross collaboration teams between France, USA, Germany, and India
- 6 publications plus the first n-type PhosTop cell module using NICE Technology with least Silver in World

Suniva, Inc. - Senior Engineer Atlanta, GA 2008 – 2011

- First Employee hired outside of Executive Staff (#6). Designed $5 million dollar R&D lab including facilities, equipment, and price negotiations. Under budget at $3.8 million dollars.
- Established collaborative joint development agreement with **$1 billion dollar** (Varian) public company when Suniva, Inc. was a $55 million dollar startup with no production. The JDP involved the exchange of a $3 million evaluation tool at zero cost to Suniva for process development.
- Directed technology design for next generation solar cell process that reduced steps from 10 to 9, increased ave. efficiency from **17.6% to 18.7%** in less than 18 months using screen printing and **Ion Implantation**.

Solar World - USA – Senior Process Engineer **Hillsboro, OR** 2007 – 2008

- Increased efficiency for struggling solar cell process from 16.4% to 16.9% within first 3 weeks
- Improved cell and module measurement techniques for higher quality products
- Determined best practices for Cz crystal wafering process to improve yield

Intel Corporation, LTD – Senior Process Engineer Hillsboro, OR 2004 – 2007

- **Medium/High Current Implant Ionization Module Owner** (Best in Class performance for product ramp. 65 nm process development to high volume manufacturing, Recipe development for transistor junction formation for current Duo Processors used in high volume manufacturing. Stability monitoring development for Ion Implant using tool parameters and optical detection.

• Initiated multi-corporate effort to improve medium current tool performance for reproducible dosimetry. Root cause determination provided $5,000,000 in savings for Intel alone in 2006.

Publications

1. **B. Damiani**, A. Ebong, A. Rohatgi, "Design Optimization for Higher Stabilized Efficiency and Reduced Light Induced Degradation in B Doped Cz Si Solar Cells", Prog in PV, vol.10 no.3, p.185-193, 2002
2. **B. Damiani**, M. Hilali, and A. Rohatgi, " Light Induced Degradation in Manufacturable Multi-crystalline Silicon Solar Cells", 11th Workshop on Crystalline Si Solar Cell Mat. and Processes, Colorado, p.229
3. M. Hilali, **B. Damiani**, and A. Rohatgi, "Lifetime Enhancement During Processing of Porous Si Solar Cells", 11th Workshop on Crystalline Si Solar Cell Mat. and Processes, Colorado, p.235
4. R. Lüdemann, **B. Damiani**, and A. Rohatgi, "RIE Textured FZ Si Solar Cells", Munich '01
5. Rohatgi, V. Yelundur, J. Jeong, A. Ristow, M. Hilali, B. Damiani, "Recent advances and approach toward low-cost high-efficiency multicrystalline silicon solar cells", in Proc.11th International Workshop on the Physics of Semiconductor Devices, vol. I, 2001 p. 73
6. **B. Damiani**, M. Hilali, A. Rohatgi,"High Temperature LID", New Orleans '02, 29 IEEE PVSC
7. **B. Damiani** and A. Rohatgi, "Greater Than 15% Efficient Screen Printed Solar Cells with Porous Si ARC",12th Workshop on Cryst Si Solar Cell Material and Processes, Colorado, p. , 2002
8. **B. Damiani**, K. Nakayashiki, A. Rohatgi, S. Ostapenko, and I. Tarasov, "Light Induced Degradation in Promising Multi-Crystalline Silicon Materials and Cells", Proc. of the 3rd WCPEC, Osaka, Japan, 2003
9. **B. Damiani,** V. Yelundur, A. Rohatgi, et. al, "First implementation of ion implantation to produce commercial silicon solar cells", accepted EPVSEC 2011
10. Russell Low, Atul Gupta, **B. Damiani** et al., "Selective emitter by ion implantation using novel masking technology....," IEEE PVSC, Seattle, WA, June 2011
11. D. Meier, **B. Damiani**, et. al., "....", NREL CSi PV 2010
12. D. Meier, **B. Damiani**, et al., "N-type Phos-Top", IEEE PVSC, Seattle, WA, June 2011
13. A. Gupta, B. Damiani, et al., "Ion Implantation …. " EPVSEC, Valencia, Spain 2010