

## **The IEEE SFBA Nanotechnology Council Chapter**

invites you to hear Innovalight CTO, Dr. Homer Antoniadis, reprise his talk of January 2007 on nanotech enabled Silicon Ink.

Back then he created a buzz but was short on results. Now he's starting up a manufacturing line in Sunnyvale CA and has been featured on the Discovery Chanel.

<http://www.youtube.com/watch?v=UPpvPAriAOY>

Come hear how with nanotechnology he's is saving silicon to fight another day!

### **Tuesday - September 15, 2009 Seminar**

**Title:Silicon Inkjet Printed High Efficiency Solar Cells**

**Speaker: Homer Antoniadis, CTO, Innovalight, Inc.**

**Date:** Tuesday September 15, 2009

**Time:** Registration, networking & light lunch 11:30am. Presentation & Q/A 12:00 to 1pm

**Location:** National Semiconductor Bldg E-1 CMA Room. 2900 Semiconductor Drive, Santa Clara, CA

<http://www.google.com/search?hl=en&q=2900+Semiconductor+Drive.+santa+clara%2C+ca&btnG=Google+Search>

**Cost:** IEEE Members and Students \$5. Non-Members \$10

**Please RSVP at our web site:**[www.ieee.org/nano](http://www.ieee.org/nano)

#### **Talk Abstract:**

We have developed methods for making high efficiency Cz-Si wafer based solar cells using Innovalight's proprietary Silicon Ink technology. Our approach uses n-type Silicon Ink, a phosphorous doped silicon nanoparticle colloidal dispersion and industrial ink-jet printing systems, to form high efficiency emitters on p-type silicon wafer absorbers. The cell fabrication approach utilizes the same tools and materials used in a standard screen printed solar cell manufacturing line with only one additional tool, a printing system, which is used to deposit and dry the n-type Silicon Ink. This simple process improves the efficiency of standard screen printed solar cells by more than 1% absolute with minimal impact on manufacturing cost.

#### **Speaker Biography:**

Dr. Antoniadis brings a rich background of technical and engineering leadership in photovoltaics and other large area optoelectronic applications to Innovalight. His 15 year career spans Osram Opto Semiconductors, Hewlett-Packard Labs, Agilent Technologies and Xerox and he is widely recognized as a regular invited lecturer and conference chair at leading industry events. At Osram he led the product development efforts from R&D through production for a variety of OLED displays. He also brings valuable knowledge and experience in the area of high-throughput, low-cost, printable electronic technologies.

Dr. Antoniadis has more than 50 publications in photovoltaics, OLEDs, polymer materials and amorphous silicon and has 17 issued US patents. He has a PhD and MS in Physics from Syracuse University and a BS in Physics from Ioannina University, Greece.