



**SAN FRANCISCO BAY AREA
NANOTECHNOLOGY COUNCIL**

April 2009 Seminar

Co-Sponsored by IEEE LEOS / PHOTONICS SOCIETY

Subject:

Nanotechnology enabled Solid State Lighting for Today and Tomorrow.

Speaker:

**Dr. Jeff Ramer,
Senior Scientist, BridgeLux, Inc.**

Date: Tuesday, April 21, 2009

Time: Registration & 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

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Talk Abstract:

High power light emitting diodes (LEDs) emitting white light are now being adopted for various illumination applications such as downlight, street lighting, as well as incandescent and halogen bulb replacements. The white LED consists of a sophisticated blue-emitting GaN-based multi-quantum well LED and a phosphor-containing overlayer for down-conversion of blue into yellow emission. Various aspects of nano-scaled device designs will be discussed for the production of high efficiency white LEDs.

Bridgelux is the first, new US-based light-emitting diode (LED) chip company in the past 20 years. The Company's focus is bringing innovation to light by providing high power, energy-efficient and cost-effective LED solutions. Bridgelux's technology replaces traditional lamp and luminaire technologies (such as incandescent, halogen and fluorescent lighting solutions) with solid-state products that provide high performance and energy-efficient white light for general lighting applications. Bridgelux's current and future-generation products support global clean energy initiatives by reducing energy consumption and offering environmentally friendly solutions.

Speaker Biography:

Jeff received his B.S. in Physics (with honors) in 1992 from California Polytechnic State University, San Luis Obispo, CA, and in 1997, he earned his Ph.D. from the University of New Mexico for work in the area of MOCVD growth and characterization of InGaN based materials. That same year, Jeff joined the technical staff of Emcore Corporation in Somerset NJ as a staff scientist. After two years of research in various III-V materials, he began development work on the E300 scale GaN MOCVD reactor, later known as 'GaNzilla.' Emcore sold the Turbodisc division to Veeco Instruments in late 2003, and he subsequently focused on a more advanced version of this reactor, which addressed issues of non-uniformity in the GaN and InGaN materials. This new design enabled a Turbodisc GaN platform to achieve record uniformity for the critical InGaN active region which dramatically improved yield of LED devices.