

SUMMARY Photonics engineer with 8 years experience developing award winning products for solid-state lighting and defense applications.

EDUCATION **Universitat Politècnica de Catalunya, Barcelona, Spain** **August 2012 - September 2014**
Master of Science in Photonics

Georgia Institute of Technology, Atlanta, Georgia, USA **August 2002 - December 2007**
Bachelor of Science in Materials Science and Engineering

EXPERIENCE **CD6, Barcelona, Spain** **May 2014 - September 2014**
Remote Sensing Engineer

- Simulated radiometric performance of LADAR remote imaging in an underwater environment.
- Numerical results were verified, and the software was delivered to the customer on time.

Phosphor Tech Corporation, Lithia Springs, Georgia **January 2005 - July 2012**
Materials Engineer Task Manager

Manager

- Managed 3 year energy efficiency project that received Illuminating Ideas Award by DOE.
- Navy rail gun sensor project responsibilities included managing engineering tasks, and working with sub-contractors to develop a deliverable calibrated sensor.
- Supervised international interns in a nanophosphor research program.

Engineer

- Developed medical imaging phosphor screens for digital X-rays. Optimized manufacturing procedures to decrease cost by 80% while increasing efficiency and overall performance.
- Automated colloidal quantum dot growth for improved quality of ZnSe nanophosphor. Material analysis of nanoparticles included quantum efficiency, stability, particle size, and zeta potential analysis on "Delsa Nano C."
- Improved LED extraction efficiency via refractive index gradient of layered phosphor. Applied spectroscopy for in-situ monitoring of electrophoretic phosphor deposition.
- Design Of Experiment: Synthesized a sample space of 250 zinc selenide sulfide phosphors for LED white light color rendering. Characterized materials and published results based on quantum efficiency and stability.
- Increased phosphor lifetime by 120% with CVD and colloidal chemistry.
- Successfully demonstrated the scalability of phosphors by building an automated continuous manufacturing system complete with reducing gases and oxygen sensors.

Marketer

- Team work contributions to SBIR proposals led to funding on various projects.
- Built www.phosphor.com which continues to drive new sales through online purchases.

The Georgia Institute of Technology, Atlanta, Georgia **August 2004 - May 2005**

- Volunteered to synthesize photonic crystals by colloidal chemistry, photolithography, ALD.
- Led engineering team in the development of a fully functional, table top, rail gun that became known as "A good model for a design project" in MSE at Georgia Tech.

SKILLS **Software:** Matlab, HTML, LaTeX, SpectraSuite, Program Design, Office
Lab: PID Furnace Control, Acetylene Torch, Delsa Nano Certificate
Optics: Integrating Spheres, Spectrometers, Fiber Optics, Lasers, PMTs, Filters, Oscilloscopes, Polarizers

HONORS

- DOE's 2010 Illuminating Ideas Award For Significant Achievement in Solid-State Lighting R&D
- Herald and Founding Father of Sigma Pi at Georgia Tech
- Professional Member of SPIE

PUBLICATIONS

- (1) Morris T. Master's thesis, Universitat Politècnica de Catalunya (2014)
Radiometric simulation of LADAR imaging for underwater environments
- (2) Summers, et al. Materials Science Forum Vols. 654-656 (2010) pp 1130-1133
Nanocrystalline Phosphors for Lighting and Detection Applications
- (3) Menkara, et al. Optical Society of America 19 Issue S4 pp. A972-A981 (2011)
Development of nanophosphors for light emitting diodes