

May 9, 2012

Challenges in Optical Design in Soldier Systems

Peter Vallianos

N2 Imaging Systems, Irvine, California

Abstract: N2 Imaging Systems is a designer and manufacturer of new generation soldier night vision and targeting systems, with emphasis on small, low power, and cost effective, thermal imaging and multisensor designs (i.e. Night vision goggles, sights, etc). This presentation is an overview, highlighting some of the of the key challenges in Soldier Systems Optics design, with example solutions (e.g. new broad band chalcogenides, hybrid polymer glass designs, places for optical computing, free form prisms, eyepieces, display technology directions, etc.). This presentation is from the viewpoint of designers, where the challenges are related to real mission requirements, real size/weight constraints, and performance, environmental and reliability requirements implicit in these designs.

About our speaker: **Peter Vallianos** is a Co- Founder; VP Bus. Dev. & Technology Application at N2 Imaging. His responsibilities include E-O systems engineering related to design of low SWaP, high performance, uncooled IR and multi-sensor imaging systems for soldier, vehicle, and small UAV applications, and development of business and technical strategies to meet the product performance and cost requirements of these respective military markets. Business activity involves US DOD, US OEMs, and selected European companies where relationships offered technology that can support both US and NATO defense forces. Pete has over 40 years of experience in EO sensor and system development and management within the US DoD and NATO marketplace. He became a Technical Consultant / Entrepreneur in 1988 working on combining new imaging sensor, stabilization, and image processing technologies, before focusing on the new generation of uncooled IR systems including the formation of Nytech Imaging Systems. Nytech's success in small IR imagers and their application in thermal weapon sights and driver's viewers led to the acquisition of Nytech by DRS Technologies in 2002. N2 Imaging Systems is the new name of the former Nytech Imaging Systems development operation after its spin out from DRS in 2007.



Wednesday, May 9, 2012

6:00 Tour of [N2 Imaging System](#)

([14430 Myford Rd, Irvine, CA 92606](#))

(US Citizenship or Green Card required at N2)

7:00 Dinner at Citrus Cafe

([1481 Edinger Ave, Tustin, CA, 92780](#))

8:00 Presentation at Citrus Cafe

Cost: \$25 (OSSC Student Members are Free!)

On-line Registration: www.osscc.org or

Contact: [Brent Bergner](#), OSSC Arrangements
Chair, Events@osscc.org, 949-260-9900 x33

Please Register by May 7, 2012