NPS Defense Energy Program Presents:

Defense Energy Seminar

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Fundamentals of Lithium Ion Battery Technology

21 Aug 2013 – Glasgow Hall, Rm 102 – 1200

With Guest Lecturer Mr. Frank Puglia

Director of Research and Development
Yardney Technical Products, Inc.

Mr. Frank Puglia

Yardney Technical Products (YTP) is a company with 69 years of experience providing battery solutions for high profile programs in the commercial and government markets. This includes the company's Lithion division which has provided Li-ion batteries for aerospace and military programs since 1997 including the first batteries integrated into military aircraft (B2-Stealth Bomber) and the first batteries sent to Mars. As such, we are well suited to discuss the various battery chemistries, programs, successes and failures that have occurred throughout the battery industry in recent years.

Topics will include:

- General Yardney Background
- Review of Current and Next Generation Chemistries
- Review of Battery Safety
- Discussion of Battery Programs in General

Abridged Biography:

Mr. Puglia has a Master's Degree in Chemical Engineering with his thesis research on Low Cost Materials for Fuel Cells and Batteries. Before joining Yardney, he worked at Energizer Battery Company, Westlake, OH, Aurora, OH & Asheboro, NC as a Quality/Process/Design Engineer being responsible for AAA size cell production of 1.5 million cells per day. During this time he also implemented semi-automated SPC systems onto high speed manufacturing lines. His current responsibilities as Director of Research and Development include overseeing the company's development of new materials and products. He is the Lead Investigator for high energy and power improvements for the company's military programs, providing supervision and direction to 20 Engineers and Research Scientists. Specific areas of concentration include cell and battery physical design and thermal design and modeling for batteries in failure modes. Mr. Puglia has a long history of developing both battery designs (Mars Rovers (MER)-First Li-Ion on Mars, Mars Science Laboratory (MSL) Otologics-First Human Implantable Li-Ion, Large Underwater Li-Ion batteries) and processes (Qualified YTP's baseline coating and ultrasonic welding processes).

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