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**STUDENTS WITH CURRENT
ID ARE FREE!**

DINNER MEETING: Tuesday, March 21, 2017

**“Additive Manufacturing (a.k.a. 3D Printing)
of Gun Propulsion Charges”**

Scheduled Speaker:

Duncan Park

Senior Propulsion Engineer – Picatinny Arsenal

Additive Manufacturing (AM), or 3D printing of various materials such as metals, thermoplastics and ceramics is growing in popularity as a practical and effective manufacturing method. Utilization of AM technology for the manufacture of gun propellants enables charge designers to realize very complex geometries in comparison to today's standards of gun propellants. There are many methods of AM, and this presentation will focus on the material extrusion method. In this method, the material, typically a thermoplastic; is extruded and positioned on the x-y plane. Each layer is then fused to adjacent layers in the z-direction as the intended part is built from bottom up. A do-it-yourself (DIY) printer was characterized as various process parameters such as nozzle tip diameter, print temperature, and print speed, etc. were varied.

Duncan is currently working as a senior propulsion engineer in the Propulsion Research & Development Branch at Picatinny Arsenal. He has been researching and developing various gun propulsion technologies since 2003, and his focus areas are formulation/processing of gun propellants, insensitive munitions (IM), and additive manufacturing of gun propulsion charge. Duncan holds an M.E. in Engineering Management from Stevens Institute of Technology, Hoboken, NJ, (2013), a Graduate Certificate in Systems Engineering from Stevens Institute of Technology, Hoboken, NJ, (2005), and a B.S. in Chemical Engineering from University of Washington, Seattle, WA, (2001). He has authored/co-authored and presented over 60 papers, both domestically and internationally, in various Department of Defense (DoD) forums.

Jim Johnston's Steak House

58 Eisenhower Pkwy, Roseland, NJ 07687-1634

Phone: 973-228-2457

(Directions are attached)

Registration and NETWORKING

6:00 to 6:30 PM

Dinner

6:30 to 7:30 PM

Presentation & Discussion

7:30 to 9:00 PM

Come Out, and Bring a Friend or Spouse!

NETWORK WITH YOUR FELLOW CHEMICAL ENGINEERS!

Name:

Telephone:

Number Attending:

Admission:

Members & Guests: \$25

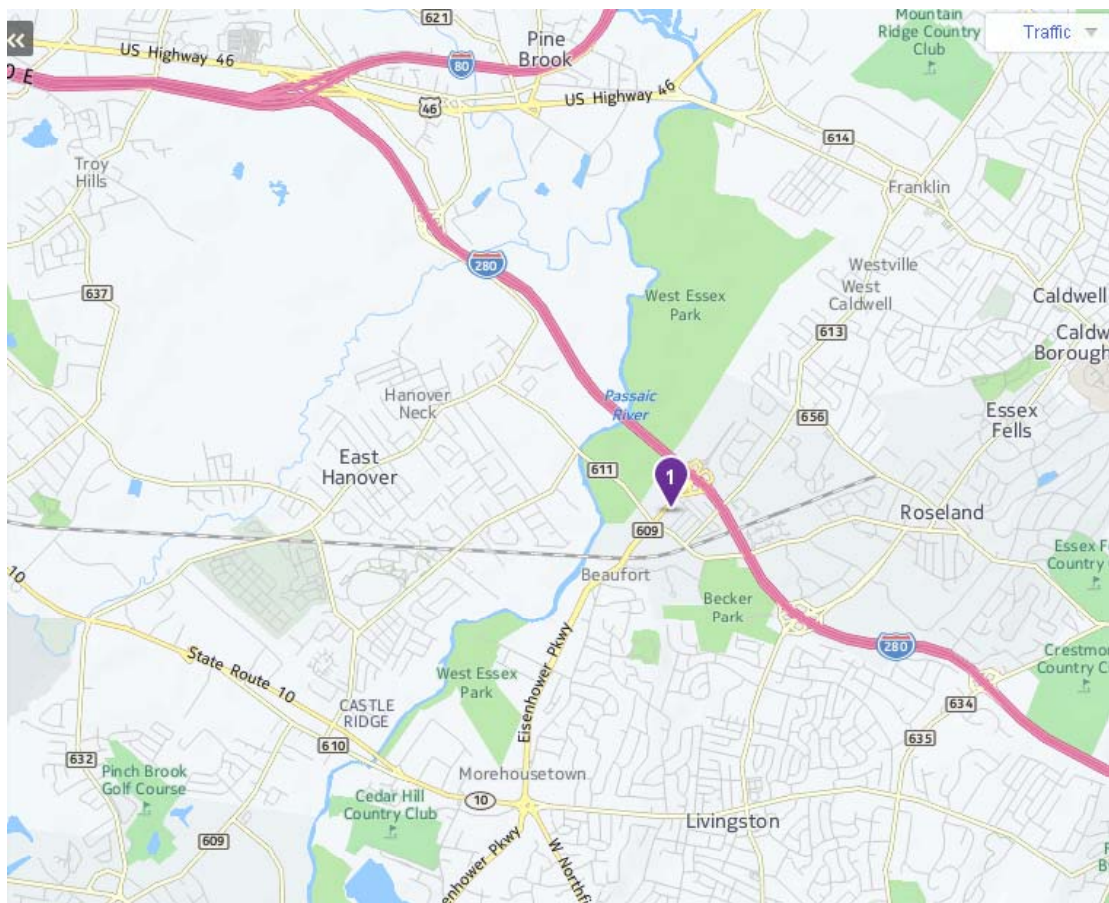
Retired Members: \$15

Send Reservation to:

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