

## UTC Institute for Advanced Systems Engineering Seminar Series



Joseph Staubach and John Schmitz  
Pratt & Whitney

### AIRCRAFT PROPULSION SYSTEMS OPTIMIZATION

Friday May 30, 2014 1:00 – 2:00 p.m. Storrs Campus, UTEB 150

**Abstract:** Pratt & Whitney seeks to develop a long term relationship with University of Connecticut (UCONN) under the UTC Institute of Advanced Systems Engineering initiative. Our Goal is advance research and the skills to optimize Aircraft-Engine Power and Thermal Management Systems (PTMS) and achieve total aircraft energy optimization for maximum fuel efficiency and economics. Notionally, the areas of research will include Modeling & Simulation of highly coupled systems, representing design topologies such that they can be systematically explored with computational methods, and exploitation of adaptive sub systems through advanced control paradigms to achieve system objectives. This will require a highly multidisciplinary approach that will include, but not be limited to, thermodynamics, aerodynamics, structural design, control theory, systems engineering, and computer science. Our goal is to work with UCONN to engage critical graduate research, develop students for internships, and establish a local hiring pool of skilled system optimization engineers.

#### **Speaker Bios:**

**J.B Staubach** is a leader in the field of advanced gas turbine propulsion and is Pratt & Whitney's Discipline Chief of Systems Optimization for Advanced Programs and Technology. He has 30 years of experience including commercial, military, industrial, and space applications. He holds 10 patents on turbine design, advanced engine concepts and numerous publications on turbine aerodynamics and systems optimization. Education: BS in Mechanical Engineering, University of Connecticut; MS in Mechanical Engineering, Rensselaer Polytechnic Institute.

**John Schmitz (Technology Manager/AETD TMS CIPT Lead)** – Dr. Schmitz joined P&W in 2010 after completing doctoral work at the University of Notre Dame. He worked on operational commercial engine air systems support before transitioning to advanced thermal management system (TMS) and air systems technology management. Dr. Schmitz is the current TMS component integration product team (CIPT) lead for advance engines.

Education: BS in Aeronautical Engineering, Western Michigan University; MS in Aerospace Engineering, University of Notre Dame; PhD in Aerospace Engineering, University of Notre Dame.