



## Meeting Announcement

Speaker: Paul Bevilaqua

When: February 18, 2010

Where: Arlington Banquets – 1973 Henderson Rd – (Next to Kroger)

Schedule: Social: 6:00 – 6:30 PM, Dinner: 6:30 - 7:15 PM, Presentation: 7:15 - 8:00 PM

Cost: Members and Guests: \$20 Students: \$10

**Topic: Inventing the Joint Strike Fighter**

**Abstract** A team led by Lockheed Martin recently won the contract to develop the F-35 Joint Strike Fighter, a single airplane that will be built in three different variants. The Air Force variant is a supersonic strike fighter designed to operate from conventional runways. The Navy variant will launch and recover from aircraft carriers, while the Marine Corps variant will make vertical takeoffs and landings. The key to developing this family of aircraft is a new dual cycle propulsion system, which can be switched from a turbofan cycle to a turbo shaft cycle to increase thrust for vertical takeoff and landing. This propulsion system enabled the X-35 to become the first aircraft in history to fly at supersonic speeds, hover, and land vertically. The development team won the Collier Trophy, that recognizes "the greatest achievement in aeronautics or astronautics in America demonstrated during the preceding year," for this accomplishment. This presentation will describe the Joint Strike Fighter Competition and the development of this innovative engine, showing how a novel idea can grow into a new aircraft program.

**Biography** Dr. Paul Bevilaqua has spent much of his career developing Vertical Take Off and Landing aircraft . He joined Lockheed Martin as Chief Aeronautical Scientist of the Lockheed Advanced Aeronautics Company, and became Chief Engineer of Advanced Development Projects in the Lockheed Martin Skunk Works. During this time, he played a leading role in creating the Joint Strike Fighter Program. He invented the Lift Fan Propulsion System that made it possible to build a stealthy, supersonic VTOL aircraft , and led the engineering team that demonstrated the feasibility of building variants of this aircraft for the Air Force, Marines, and Royal Navy. Prior to joining Lockheed Martin, he was Manager of Advanced Programs at Rockwell International's Navy aircraft plant. He began his career as a Captain in the U.S. Air Force and Deputy Director of the Energy Conversion Laboratory at Wright Patterson Air Force Base. He has a BS in Aerospace Engineering from the University of Notre Dame, and MS and PhD degrees in Aeronautics and Astronautics from Purdue University. He is a member of the National Academy of Engineering and a Fellow of the American Institute of Aeronautics and



Astronautics, and he is the recipient of a USAF Scientific Achievement Award, AIAA and SAE Aircraft Design Awards, AIAA and AHS VSTOL Awards, and Lockheed Martin AeroStar and Nova Awards.

## Reservations

Contact            Thomas Ramsay  
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by noon on the 15<sup>th</sup> of February.

All reservations are final and due for payment after February 15<sup>th</sup>, 2010.

Cash or check (checks payable to: AIAA Columbus Section) at the door or send payment to Tom Ramsay at above address