

IEEE Orlando Section 2014 Annual Awards Banquet

Date: Saturday, October 25th, 2014

Time: Starting at 6:00 pm with dinner being served at 7:00 p.m. with meeting and awards immediately after. Appetizers and beverages will be served from 6:00 p.m. till 7:00 p.m. A Cash bar will also be available.

Place: The venue will be the [Renaissance Inn](#) (the *Normandie* Suite) at 5445 Forbes Place (1/2 mile north of the airport, just off Hwy 436 or Semoran), Orlando, Florida, 32812. All participants will receive free parking.

Cost: The fees for attendance will be as follows:

	If purchased by 10/01/2014	After 10/01/2014
IEEE Member and Guest	\$25.00/person	\$35.00/person
IEEE Student Member and Guest	\$15.00/person	\$25.00/person
IEEE Life Member and Guest	\$15.00/person	\$25.00/person
Awards Winner and Guest	Free	Free
Student Scholarship Winner	Free	Free
Others	\$40.00/person	\$50.00/person

RSVP: Deadline for all reservations is C.O.B. October 20, 2014. Please confirm your intent to attend, along with your **desired main course** (Chicken, London Broil or vegetarian) to: ravi.shrees@gmail.com or stanbuchanan@IEEE.org or lynguthre@aol.com.

Menu: The menu will include Fresh Greens, starch, desert and vegetable and main course choice of Grilled Chicken or London Broil (vegetarian plates are available on request).

Bio

Bob Jackson is a lifelong Electrical Engineer who has explored, utilized and expanded his academic background while continuously broadening and deepening his engineering expertise fueled by his broad and diverse technical and application interest areas. Initially, while serving as a young Naval Aviator, and when not actually in the cockpit of the several small single seat jet aircraft types he was fortunate enough to fly, Lt Jackson was privileged to help engineer the radar target detection and fuzing subsystem for the Phoenix long range interceptor missile while working in the Michelson Laboratory of the Naval Weapons center at China Lake, California. After the Navy, Mr. Jackson worked for more than twenty years in the Lockheed Martin Image and Signal Processing Laboratory as an algorithm task lead, Principal Investigator, and Program Manager developing advanced, real time operating, image trackers, automatic target recognizers, boresight correlators and real time state-of-the-art image processing hardware architectures that helped make Lockheed Martin the acknowledged leader in Electro Optic Night Attack systems for the Air Force, Army and Navy to this day. Over the past ten plus years Mr. Jackson has created a Jackson Technologies startup to explore the development of experimental personal aircraft with performance characteristics rivaling commercial air transportation, and a Sky3D startup to explore extreme baseline 3D stereoscopic algorithms and functionalities that are unique within the marketplace and that have diverse potential application areas. Mr. Jackson continues his love of flight with over 3000 hours in a wide variety of aircraft types and operating conditions, and particularly enjoys flying, testing and improving creations he has also helped conceive and develop.

Abstract

Challenges and Rewards of the Design, Construction and Operation of 'Amateur-Built' Aircraft

The Federal Aviation Authority has defined an 'amateur-built' sub-category of Experimental aircraft that allows developers of all backgrounds and qualifications to construct, obtain airworthiness certificates for, and to operate 'home' or 'amateur-built' aircraft for the purpose of education, research and development. Some of the challenges and rewards of creating and operating such a category of aircraft starting using a kit that formed the basis for the construction of a 'Velocity' custom turbocharged, retractable gear, long range cross country capable, experimental aircraft are described. The presentation includes slides and a video to describe and detail some of the engineering, construction, flight test and operational challenges and rewards of an aircraft that has now flown over 850 hours and nearly 150,000 miles through the United States, Canada, the Bahamas and Caribbean. Performance characteristics of the design will be summarized, along with an overview of the electrical, avionics, cabin heating and cooling system, and a series of aerodynamic and engine cooling experiments and airflow alternatives we investigated to improve the performance of the high altitude turbo-normalized engine modification and its operational characteristics. Finally, future improvement considerations will be described, and a video showing key elements of the (ten year) construction effort, as well as demonstrating some of the flying adventures undertaken with the plane over the last five years, will be shown.