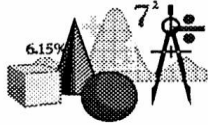




# SPARKS

Daytona Section Newsletter  
March 2015



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## MARCH SECTION MEETING

Thursday March 26th at the Halifax River Yacht Club, 6:00 PM  
331 South Beach Street, Daytona Beach, Florida 32114

### PRESENTATION TOPIC

**Locating and Tracking Aircraft in the World-Wide Airspace System**

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### CHAIR'S REPORT



Another year, another successful Engineers Week! Many of our members from near and far attended this year's EWeek banquet at Embry-Riddle, in addition to participating in variety of STEM outreach activities throughout the Volusia County area. A great deal of thanks goes to Vice-Chair, Dr. Keith Garfield, for planning the banquet and speaker, and to Dr. Tim Wilson at Embry-Riddle Aeronautical University for agreeing to host.

March is always a time of significant activity as our student competition teams and their advisors prepare for the annual student robotics event at SoutheastCon, to be hosted in Fort Lauderdale, Florida, the second weekend of April. Donations to support these teams enable them to travel and register for the conference, as well as to eat while they're there. The Daytona Section is always pleased to sponsor to the extent possible, but any additional donations are always greatly appreciated by the students. To find out how to donate to the teams, contact our Student Activities Chair, Dr. Billy Barott.

I'm sure that many of you enjoy the "Tales of an Old Professor" nearly as much as I do, so you're in luck! This month's speaker will be the old professor, Dr. Al Helfrick himself, and trust me—it's even better to listen to him in person than it is to read his narratives. I look forward to seeing all of you there at the usual time and place.

As usual, don't be shy to let us know what your section can do for you!

*Jeanette*

## MARCH PROGRAM

### LOCATING AND TRACKING AIRCRAFT IN THE WORLD-WIDE AIRSPACE SYSTEM

The presentation will discuss the development of aircraft locating and tracking systems from the earliest systems to radar-based and later systems. The discussion will be of locating systems used for navigation, air traffic management and search and rescue.

### OUR SPEAKER

Albert Helfrick, Ph.D. is a retired department chair and professor at ERAU. He also teaches short courses on avionics for the University of Kansas and is the author of 12 books. He has been a member of the IEEE since 1963. He has designed avionics systems for Cessna Aircraft, Tel-Instrument Electronics and has won the AIAA John Ruth award and the Radio Club of America Jerry Minter award for his contributions to avionics.

## DAYTONA SECTION NEWS

### FEBRUARY'S PRESENTATION



Dr. Keith Garfield (left) is shown thanking Anton Kiriwas for his presentation on NASA Exploration Systems during Engineering Week activities at ERAU.

The presentation was co-sponsored by the ECSS Department at ERAU and the Daytona Section.

The presentation was a huge success, over 65 people attended. Anton discussed the past, present and future of NASA.

He explained that NASA has been focused on a three-pronged approach to exploration under its aptly named Exploration Systems Development programs.

These programs working together enable the agency to extend human existence beyond earth orbit for the first time since the Apollo program and beyond lunar orbit for the first time in history.

After the presentation, Jeanette Barott led a tour of the ECSS Engineering Department's labs and class rooms in their new located on the 3<sup>rd</sup> floor of Lehman Building.

## LIFE MEMBERS COMMITTEE

The Life Members Committee have arranged for a tour of the Microflex Inc. plant in Ormond Beach on Thursday, March 26 at 10:00 AM. Microflex has developed techniques for braiding stainless steel for making hoses from 1/4" in diameter to 30" in diameter. The small hoses look just like the ones we use for indoor plumbing and/or hooking up our washing machine. The large ones are.... well...large. They have a range of applications from cryogenics to automotive to almost any application. Their web site says: "Microflex metal hose assemblies are used in a multitude of applications - from tank trucks to Space Shuttles; steam generation to gas separation - Microflex hose assemblies are the standard by which the industry compares all metal hose."

Microflex is very proud of the quality of their products and has an ISO9001 approved facility. Their welders are ASME certified as well.

The tour is open to all interested members. If you would like to join the tour, please contact Ron Gedney, Life Member Committee Chair: e-mail [r.gedney@ieee.org](mailto:r.gedney@ieee.org); tel. 386-478-1204.

## ADDITIONAL SECTION NOTES

We are looking for volunteers to start a Women in Engineering Chapter, a Young Professionals Affinity Group, a Communications Society Chapter, a Power Electronics Society Chapter, and a Robotics and Automation Society Chapter. Interested? Contact the Section Chair, Jeanette Barott ([barottj@erau.edu](mailto:barottj@erau.edu)).

The IEEE is offering loyalty pins to reflect landmark years of membership for members. If you would be interested in receiving one of these pins, please contact the Section Chair, Jeanette Barott ([barottj@erau.edu](mailto:barottj@erau.edu))

## ANOTHER TALE FROM THE OLD PROFESSOR

### The Mystique of English Cars

If the only English cars you had ever met were Rolls Royce, Bentley, Aston Martin, and Jaguar you would think English cars were the most opulent, sexy and fastest cars on the road. The English were known for their sports cars; Austin Healy, Mini Cooper, Lotus, Triumph and, not to be missed; the Morris Garages. The what? The Morris Garage company made a line of cars called Morris; utilitarian and non-descript, and another line called MG, for Morris Garage.

The Old Professor had a 1958 MG in the proper British racing green. It was a drop-head coupe or roadster which meant it had a convertible top and seated two friendly people of small stature. The 1958 MG could be had with a 1600 cc dual overhead cam engine.

It had disk brakes in front as standard equipment. It had radial tyres, the boot and the bonnet were made from aluminium to lighten the car which made it very good on petrol. (Attention spel cheker; I am talking about a British car. Stop underlining my words.)

The styling was extremely clean at a time when American cars had chrome everything; were the size of a ferry boat and looked more like rockets than cars. To keep the car totally clean of chrome the MG had no door handles and consequently no door locks. You had to reach through the side curtains and open the door from inside. Oh! Side curtains are plastic and canvas substitutes for roll-up windows. With some notable exceptions such as the side curtains, the 1958 MG was way ahead of its time.

The convertible top and the side curtains were not too effective during bad weather. Snow and rain would filter in to the car as the side curtains flopped in the wind. This never bothered me as I made a habit of wearing a rain coat while driving in bad weather but girlfriends were always complaining. That may be why I had no steady girlfriends until I got my next car which had roll-up windows.

The convertible top was engineered so that when retracted, it fit in a space behind the seats and not hidden with a lumpy canvas cover like American cars. Getting the top down and stowed required precise maneuvering because the frame had more joints than a King Crab. It was quite a chore getting the top up and down.



King Crab



MG Roadster



Because of this, most British roadster owners would put the top down in early summer and it would stay down until mid-fall. The car would be protected from rain with a tonneau cover which stretched tightly over the open cockpit. Most covers had a zipper leaving half the tonneau open allowing the car to be driven with just a minimal opening.

This was OK until it started to rain. As long as the car kept moving the rain would blow over the driver's head and driver and car would remain dry. But if the car stopped; that would be a different story. Most British roadster drivers knew the precise timing of the traffic lights on their commute to school or work and could remain dry even in a rain storm.

It was sunny summer day and the Old Professor was driving his MG. Approaching a traffic light I stepped on the brake and the seat came out of the floor. I landed behind the seat entangled in the crab-like convertible top. I was being held by the seat belt and still firmly in the seat but my knees were now pointing skyward. I was able to pull the emergency brake and the car was already out of gear in preparation for stopping but I was trapped.



1958 MG

Soon I saw a man looking down at me. He was the driver of the car behind me and saw me disappear and asked if I was OK. Between the two of us I was extricated from the crabby convertible top and was able to drive the two blocks home by sitting on the floor which wasn't much different than the seat anyhow.

How can a seat completely disconnect from a car? I pulled back the carpeting and found the meaning of the term "floor boards". The floor of the MG was wood and had rotted. After a quick trip to the lumber yard for some ½ inch plywood and wood preservative I spent the rest of the afternoon replacing both sides of the floor, and the MG was as good as new.



**Epilogue;** There is a certain mystique associated with vintage British sports cars; so much so that the Old Professor owned several others and still has one; a red 1957 Berkeley, with side curtains.  
*Al Helfrick*

## DAYTONA SECTION SHIRTS



We are pleased to offer Daytona Section polo shirts for our Section members. The shirts are embroidered with the IEEE Logo and DAYTONA SECTION on the left and your name and grade, if desired, on the right. The shirt is a high quality 5 oz, 65/35 poly/cotton pique in Royal Blue with white embroidery. Available in S - 2XL in men's as well as ladies sizes. Price is \$27, including tax, for S-XL size's, 2XL size is \$3 additional.

For more information or to order shirts contact:  
Allan Jusko  
3706 Longford Circle, Ormond Beach, FL 32174  
386-671-3706 or [a.jusko@ieee.org](mailto:a.jusko@ieee.org)

Indicate shirt size and name and grade if desired. Shirts must be paid for before ordering, typical turn around time is 2 weeks. Arrangements can be made to pick up shirts or have them shipped to you.

## DAYTONA SECTION COFFEE MUGS



The Daytona Section has available coffee mugs with the IEEE Daytona Section Logo and are available for \$7.00. Purchase one or more to show you support and pride in our Section.

Contact Roger Grubic at 386-441-8958 or [roger\\_grubic@ieee.org](mailto:roger_grubic@ieee.org) for more information.

## EDITORS NOTES

The **SPARKS** newsletter is also available on our website <http://www.ieee.org/go/daytona>  
**Region 3 website** <http://www.ewh.ieee.org/reg/3/> **Melbourne Section website** [www.ieeemelbourne.org](http://www.ieeemelbourne.org) **Orlando Section website** [www.ieee.org/orlando](http://www.ieee.org/orlando)

## FUTURE MEETING DATES:

The meeting date for the 2015 spring session is: Apr 23<sup>rd</sup>



## 2015 SECTION OFFICERS

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# MARCH 2015 MEETING

**Thursday** March 26<sup>th</sup> at the Halifax River Yacht Club  
331 South Beach Street, Daytona Beach, Florida 32114  
Just south of the Fire Station at the corner of Beach and Orange

**TOPIC** – Locating and Tracking Aircraft  
in the World-Wide Airspace System

**SPEAKER**- Albert Helfrick, Ph.D.

**Dinner** 5:30 PM

**Presentation**- 6:15 PM

## MENU SELECTIONS

**Cranberry and Brie stuffed Chicken Breast**, topped with a light tomato cream and served with rice pilaf and green beans

**Homemade Meatloaf with a Country Brown Gravy**, served with whipped potatoes and green beans

**Broiled Basa fillet with Smokey Hungarian Paprika**, topped with lemon beurre blanc and served with rice pilaf and green beans

**Unless noted, dinner entrées are \$20.00 each. Students \$10.00 each**

**\*A Veggie plate is available on request for \$10\***

**Please contact Allan Jusko by Wednesday the 25<sup>th</sup> at noon  
to give us a count for dinner or for further information**

**If you make reservations and are unable to attend, call at least 12 hrs prior to the event to cancel.**

**The Section is charged for all dinners ordered, please let us know if your plans change**

Allan Jusko

Editor

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