



**The Institute of Electrical and Electronics Engineers  
(IEEE)**

**Galveston Bay Section Meeting**

**Computer Society Chapter**



**July 13<sup>th</sup>, 2017 (Thursday) Luncheon Meeting**

**TOPIC: “Safety Critical Flight Software / Space vs. Commercial Aviation”**

**SPEAKER: Nate Uitenbroek, NASA Johnson Space Center**

**PRESENTATION:** Observations from experience in both the space and commercial aviation industries indicate that commercial aviation flight software can be held to more stringent standards than space flight software. Potential reasons for this difference are explored as well as proposals for why they should be more similar. One key practice that differentiates the two areas is the use of code coverage metrics to measure verification test coverage. This practice is discussed in the context of a tool that facilitates a low-cost method of gathering code coverage metrics. The author led the development of this tool and it is currently used in the Orion program.

**SPEAKER:** Mr. Uitenbroek has 20 years of experience in safety critical flight software development and test on a variety of projects. His career began at Rockwell Collins working on display flight software for the Boeing 767. Mr. Uitenbroek then transitioned to Honeywell International to work on the International Space Station (ISS) program. He worked at the Sonny Carter facility supporting the Multiplexer/De-Multiplexer Application Test Environment software. The facility supported multiple ISS flight software runs-for-the-record every week as well as stage testing for all the ISS assembly flight. Mr. Uitenbroek then became flight software development lead for the for the Command and Data Handling software through the Preliminary Design Review for Orion. Since leaving Honeywell in 2009, he has been working at NASA as the Orion Software Systems Engineering Integration and Test (SEIT) Lead and also Orion Flight Software Architect.

**Gilruth Recreation Center NASA-JSC, Discovery Room (downstairs)**

Free parking. No security processing required. Easy drive in off Space Center Blvd. See website below for map.  
Interested non-IEEE engineers, technicians, scientists, IEEE Members and guests alike are welcome!

**12:00 PM – 1:00 PM - Program and Q&A**

**11:30 AM - Light Lunch with reservation (\$10.00 donation). Please RSVP Before Noon Tuesday, July 11<sup>th</sup>, 2017**

**Number of lunches is limited. Please reserve early**

Reservations for lunch or to attend this meeting should be made by email to:

[d.k.rutishauser@ieee.org](mailto:d.k.rutishauser@ieee.org)

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