AIAA Long Island Section
American Institute of Aeronautics and Astronautics

AIAA/AFA/ASME/IEEE(AES)
Joint Section Meeting

Thursday, March 26, 2015

L. Nicole Smith
Senior Project Manager
Orion Multi-Purpose Crew Vehicle (MPCV) Program
NASA John H. Glenn Research Center

"Testing Orion, the World's Next Crewed Vehicle"

Location: **Bethpage Public Library**
47 Powell Avenue
Bethpage, NY 11714

Time: **6:00 PM Social Time**
6:30 PM Pizza
7:00 PM Presentation

Cost for Pizza: **$5, Members and Guests**
Free, for Students

RESERVATIONS REQUESTED
RSVP BY March 25, 2015
to: David Paris at
davidsparis@optonline.net
or (516) 458-8593

Orion, the United States' next crewed vehicle, will begin a series of system- and vehicle-level testing this year that runs through the launch of the first crewed vehicle in 2021. Five of these major vehicle tests will be performed at NASA's Plum Brook Station in Sandusky, Ohio. The Space Power Facility was built in 1969 to originally support nuclear spacecraft testing and houses the world's largest thermal vacuum chamber. The Orion Program modified the facility to include the world's most powerful acoustic test chamber, the world's most powerful vibration test stand, and reverberant Electromagnetic Interference / Compatibility test capability – a veritable one-stop shop for large-scale spacecraft environmental testing. This talk will explore the challenges of developing, building, and maintaining a facility of this scale while actively performing Orion tests. The successful first flight test in space last December 5 carried Orion through two elliptical orbits reaching about 3,600 mile altitude and testing vehicle systems including the heat shield during a 4,000° F, 20,000 mph re-entry.

Ms. Smith is the Senior Project Manager for the Orion Multi-Purpose Crew Vehicle (MPCV) testing at Plum Brook Station at the NASA Glenn Research Center. Prior to that, she was the Aerospace and Manufacturing Legislative Fellow for Ohio Senator Sherrod Brown, was the project lead for the in-house engineering work on the Space Environment Test Project, and was the Systems Engineering & Integration Lead for the Orion Service Module. Previously, she was the Electrical Power Systems Integration Engineer for the ISS Program Office at the NASA Johnson Space Center, and in the ISS Training Division, was the lead Systems Instructor for Assembly Flight 13A and integration of the Russian Segment simulator. Before NASA, she worked in Computational Fluid Dynamics, aerothermal analysis, hypervelocity impact studies, and orbital debris analysis at Lockheed Martin Space Mission Systems. Ms. Smith was appointed the first-ever Young Professional liaison to the AIAA Board. She has been the recipient of many NASA and AIAA awards. She has Bachelors Degrees in Mathematics & Statistics and in Aeronautics, a Masters Degree in Aerospace Engineering, and is an AIAA Associate Fellow.

Directions: The library is west of Route 135 in Bethpage. Take Route 135 to Exit 8, then West on Powell Ave. for about 0.25 miles. The library is on the south side of the street. Park across Powell Ave., opposite the library.