



**AIAA/IISE/IEEE(AES)/ASME  
Joint Section Meeting**

**Thursday, February 21, 2019**

**Dr. Zarrin Chua,  
Human Factors Engineer, Aurora Flight Sciences**

**Designing for the Human Users of an eVTOL Aircraft System**

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

**RESERVATIONS REQUESTED  
RSVP BY Feb. 20, 2018  
to: [davidsparis@twc.com](mailto:davidsparis@twc.com)  
or 516-458-8593**

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

**Cost for Pizza: \$7 Members and Guests  
Free for Students**

Aurora Flight Sciences, an independent subsidiary of Boeing, is a leader in the development and manufacture of advanced unmanned systems and aerospace vehicles. Aurora, a member of the Uber Elevate consortium, is developing an electric Vertical Takeoff and Landing (eVTOL) aircraft to allow future passengers to fly within urban environments. The eVTOL aircraft includes eight lift rotors for vertical takeoff/landing and a cruise propeller and wing to transition to high-speed forward cruise. While initially operated with a safety pilot, the eVTOL aircraft is designed for fully autonomous operations carrying two people or cargo. The first test bed flights are scheduled to begin in 2020 in Dallas and Dubai.

In addition to the standard challenges of designing a brand-new airframe and intelligent aircraft system, this “flying taxi” concept must also consider multiple users within the eVTOL ecosystem. This talk will cover the development challenges of incorporating human factors into the design of both the physical and digital systems. It isn’t just the passenger that must be accounted for, but also the pilot, air traffic control, the community, etc., in order for Aurora’s eVTOL aircraft system to be successful.

Dr. Zarrin Chua is a Human Factors Engineer at Aurora Flight Sciences (A Boeing Company), working out of the Research & Technology Center in Cambridge, MA. Her research interests are in human-machine collaboration, applied neuroscience and ergonomics, and user interface design for aerospace systems. She received her doctorate in aerospace engineering with a focus on cognitive engineering in 2013 at the Georgia Institute of Technology. Her Masters and Bachelors are also in aerospace engineering, from Georgia Tech and Virginia Tech, respectively. She has been a research fellow at a number of institutions including ISAE-Supaero (Toulouse, France); ENAC (Toulouse, France); NASA Johnson Space Center; and the Technical University of Munich (Germany).

**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.