In This Issue

Notes from the HFES Annual Meeting 2-3
Top Aerospace News in 2017 4
Upcoming Conferences and Events 5
Staying Connected: Top Tweets 6
Mystery Craft 7
Mystery Tower 8
Job Opportunities 9-11

Chair
Paul Havig Ph.D.
Air Force Research Laboratory
Dayton, OH
paul.havig@us.af.mil

Program Chair
Steven Landry, Ph.D.
Purdue University
Lafayette, IN
slandry@purdue.edu

Secretary/Treasurer
Tony Thomas
Sonalysts, Inc.
Fredericksburg, VA
tony.thomas@gmail.com

Newsletter Editor
Emily M. Stelzer, Ph.D.
The MITRE Corporation
McLean, VA
estelzer@mitre.org

Webmaster
Tony Thomas
Sonalysts, Inc.
Fredericksburg, VA
tony.thomas@gmail.com

Awards Committee Chair
Jason P. Kring, Ph.D.
Embry-Riddle Aeronautical University
Daytona Beach, FL
jason.kring@erau.edu

Historian
Dennis B. Beringer, Ph.D.
FAA/Civil Aeromedical Institute
Oklahoma City, OK
dennis.beringer@faa.gov

San Diego Airport
HFES 2018

The 2018 HFES Annual Meeting will be held from October 1-5 at the Philadelphia Marriott in Philadelphia, PA.

Proposals will be due February 5, 2018. Begin working on those papers today!

Notes from the HFES 60th Annual Meeting

Making Research and Application a Partnership in Progress

The HFES Annual Meeting was held in Austin, TX from October 9-13. Meeting attendees were treated to daily plenary sessions, the first of which was led by Ronald Davis, former director of the Office of Community Oriented Policing Services of the U.S. Department of Justice. Mr. Davis spoke to the need to focus efforts on the reform of the policies, practices, and culture of police organizations to support real and sustainable reform in law enforcement. On Wednesday, October 11, Fred Oswald chaired a panel titled, “Applying Human-Systems Integration to America’s Policing System.” Panelists included Ronald Davis and Chief Jim Buermann, President of the Police Foundation.

The third plenary session, held on October 12, was chaired by S. Camille Peres and included M. Sam Mannan, Liz McDaniel, and Johan
Hendrikse as invited speakers. This plenary session examined the role of human factors engineering in helping to prevent future incidents associated with the oil and gas industry.

The final plenary session was chaired by Russell Branaghan and included speaker James Paul Gee. This plenary was titled, “Beyond Gamification: From Here to Affinity.”

Within the lecture session portion of the conference, the Aerospace Systems Technical Group (ASTG) hosted four sessions. These sessions examined human factors considerations in general aviation, space and unmanned vehicles, aviation displays and information presentation, and human factors issues in commercial aviation and air traffic control.

In addition to the lecture and panel sessions, the technical group organized four posters within the “Interactive Posters Session and Reception,” held on the evening of October 10. Many members of the ASTG also participated in the “Posters with Fellows” session, held on October 11.

The proceedings for all of the conference papers were provided to conference attendees. If you were unable to attend, the proceedings can also be purchased on the HFES website.
Top Aerospace News of 2017

**BasicMed Rule Issued for GA Pilots**

FAA issues BasicMed rule for general aviation pilots, allowing these pilots to fly without holding an FAA medical certificate as long as they meet basic requirements. This rule change makes it more efficient to become a general aviation pilot.

**Data Comm Live in NY Airports**

Data comm, which controllers can use to send pilots clearances, flight plan revisions, and advisories by text (rather than voice), went live in the New York area, including JFK, LaGuardia, Newark, Teterboro, and Westchester airports.

**Boeing to Build Hypersonic Spaceplane**

DARPA selected Boeing to design and build a reusable, hypersonic space plane. This plane is envisioned to fly into suborbital altitudes, launch satellites into orbit, and return to the ground horizontally like an airplane.

**Increased Traffic During Eclipse**

Air traffic control worked 35% more traffic on August 21, 2017—the day of the solar eclipse—than is usually observed on that day.

**Part 23 Formally Takes Effect**

Part 23, which overhauls the airworthiness standards for general aviation airplanes, formally took effect in September 2017. This rule will shorten the time needed to move new safety technologies for small aircraft into the marketplace.

**Display of Own-ship on EFBs Permitted**

The FAA issued a new Advisory Circular (AC120-76D) that allows for the display of own-ship position on electronic flight bags (EFBs) during all phases of flight. This update is expected to unlock significant value from flight applications on mobile devices.

**Dubai Announces Use of Drone Taxis**

Dubai announces that the city is preparing to launch a fleet of autonomous aerial taxis in the next five years, using the EHang 184 quadcopter, which debuted at the Consumer Electronics Show in 2016.

**Airspace for Commercial UAS**

FAA released the first set of UAS facility maps for 268 airports, which depict specific areas and altitudes near airports where drones may be authorized to fly safely for commercial operations.

**Gov’t Examines Spectrum Auction**

The FAA, DoD, DHS, and NOAA receive approval and $71.5M of funding from OMB to examine the feasibility of making space on the radio spectrum available for auction. Auctioning spectrum bandwidth would require consolidating existing surveillance radar used to track aircraft and weather.

**sUAS Provide Hurricane Recovery**

Government and private operators, in partnership with the FAA, used sUAS to support response and recovery efforts in hurricane-battered locations. sUAS were specifically critical for surveying areas that were not accessible by surface vehicles.

**13th Falcon 9 Launch in 2017**

SpaceX performed the 13th launch of the year of the Falcon 9, the world’s first partially reusable launch system. The frequency of Falcon 9 launches has increased each year since its initial launch in 2010.

**Blue Origin Crew Capsule Launch**

Blue Origin successfully launched a life-size capsule to an altitude of 100 kilometers. The company hopes to use this capsule design to fly human tourists to space as early as 2018.
Upcoming Conferences and Events

Don’t miss these upcoming events and conferences that are planned for 2018:

- **Transportation Research Board (TRB) Annual Meeting**: January 7-11, 2018 in Washington, DC
- **Space Traffic Management Conference**: January 15-19, 2018 in Daytona Beach, FL
- **Moving the Future: Aviation, Aerospace, Transportation, Infrastructure, and Logistics**: February 17, 2018 in Cambridge, MA
- **World ATM Congress**: March 6-8, 2018 in Madrid, Spain
- **Uber Elevate**: Spring 2018 in Dallas, TX
- **Ergonomics and Human Factors 2018**: April 23-25, 2018 in Birmingham, UK
- **Sun N’ Fun International Fly-In Expo**: April 10-15 in Lakeland, FL
- **AUVSI Xpontential**: April 30-May 3 in Denver, CO
- **Aerospace Medical Association 2018 Annual Scientific Meeting**: May 6-10, 2018 in Dallas, TX
- **Air Traffic Controllers Association Tech Symposium**: May 15-17, 2018 in Atlantic City, NJ
- **9th International Conference on Applied Human Factors and Ergonomics**: July 26-28, 2018 in Orlando, FL
- **Third Workshop on Remotely Piloted Aircraft Systems (ICAO)**: August 21-23 in Lima, Peru
- **20th Congress of the International Ergonomics Association**: August 26-30, 2018 in Florence, Italy
- **Human Factors and Ergonomics Society International Annual Meeting**: October 1-5, 2018 in Philadelphia, PA
- **Communicating for Safety**: October 22-24, 2018 in Las Vegas, NV

If you have conferences you would like to add to this list, please contact:

Emily Stelzer
estelzer@mitre.org
Did you know HFES is on social media?
Join us there and stay connected!

@HFES
HFESociety
Human Factors and Ergonomics Society

Can’t get enough HF-related content in your life?
Download a new podcast!
You can find this podcast through any free podcasting app or online at:
humanfactorscast.com

Staying Connected

Top Tweets

Don’t forget that you can stay connected with HFES and its members through twitter (@HFES), facebook (@HFESociety) and LinkedIn (Human Factors and Ergonomics Society). If you haven’t started following HFES in these social media sites, you’re missing out on tweets like these:

Smart autopilot promises to keep flying safe | Horizon: the EU Resea...
Intelligent autopilot and cockpits designed by virtual reality could ease the burden on pilots and make flying safer for Europe’s airline passengers.
horizon-magazine.eu

Artificial intelligence’s long, hard trek to easy interfaces for complex ...
Artificial intelligence is a big deal at the moment, no pun intended. So far this year, venture capitalists have invested $7.6 billion in artificial intelligence tech...
siliconangle.com
Mystery Craft

Our last Mystery Craft was identified by many observant readers as a Stits SA-2A Sky Baby. Kudos goes to the first three responders the quickly and correctly identifying the mystery craft:

Chad Bieber, Joshua Downs, and Ken Schulz

The New Mystery Craft

Now it's time for the new mystery craft! Think you know what aircraft is shown in the picture below? If you have a guess, please email Emily Stelzer (estelzer@mitre.org) and put “ASTG Craft Trivia” in the subject line!
Mystery Tower

This mystery tower was a tricky one and stumped the group! It's a picture of the camera system that is being used at Leesburg Airport to support testing and demonstration of remote tower operations.

The New Mystery Tower

We have a mystery air traffic control tower for you in the picture below. If you have a guess, please email Emily Stelzer (estelzer@mitre.org) and put “ASTG Tower Trivia” in the subject line!
Job Announcement: Aurora Flight Sciences

Aurora Flight Sciences’ Research & Development center (Cambridge, MA) is looking for “user-centered” engineers to support the design and development of autonomous, semi-autonomous, and unmanned systems. *Hiring full-time, interns, and co-ops.*

Qualified human factors engineers, user interface developers, and systems engineers will work with multi-disciplinary teams of engineers, including experts in robotics, autonomy, aerodynamics, controls, human factors, structures, and flight testing, to:

- Develop designs and software requirements for novel user interfaces, potentially including novel interface modalities, for human control of robotic and autonomous systems.
- Incorporate human systems and cognitive engineering elements into current and future Aurora technology development programs. Apply expertise in knowledge elicitation, systems engineering, user interface design, and testing of interfaces, training programs, and procedures.
- Guide the design of underlying interface principles and software architectures for current and future Aurora human-machine interaction components, spanning large and small unmanned aerial vehicles, autonomous path planning and scheduling systems, and other efforts for both single- and multi-vehicle systems.

Recent autonomy programs at Aurora include our Robotic Copilot program, our electric VTOL aircraft (Uber Elevate), our TALOS autonomous cargo helicopter program, our Orion Medium-Altitude, Long-Endurance Unmanned Aircraft, and many others.

Minimum requirements for all roles:

- Must be a US Person (US Citizen or US Permanent Resident/Green Card Holder).
- Demonstrated experience of success in a fast-paced, highly collaborative environment with excellent English written and oral communications skills.
- Ability to support travel.
Ideal requirements for full-time Human Factors Engineers:
- MS or PhD in Human Factors, Human Systems Engineering, or related field and experience applying design and cognitive engineering principles to relevant aerospace and autonomous system problems.
- Technical background in user interface design, autonomous systems, robotics, human-computer interaction, and/or machine learning.
- Years of Experience e.g.: 5 plus years of demonstrated experience developing complex human-in-the-loop systems (graduate program may count toward this total).
- Project management experience
- Demonstrated experience working with a tailored systems engineering approach

Ideal requirements for full-time User Interface Developers:
- BS or MS in Computer Science or Human-Computer Interaction, or a related field
- 5+ years experience in UI development for desktop (e.g., JavaFX), mobile (iOS & Android) apps, and/or web-based applications for government and commercial applications
- Cross-platform tool experience is desirable.
- Experience in developing UI software across multiple hardware types (desktop, mobile, web)
- Experience with new interface modalities (VR/AR, natural language processing, facial and gesture recognition, etc.)
- Experience with: Java, JavaScript, HTML/PHP/CSS, Python, C/C++

Ideal requirements for full-time Systems Engineers:
- MS or PhD in Systems Engineering, Aerospace Engineering, Human Systems Engineering, or a related field and relevant experience in applying systems engineering principles to complex aerospace or human-autonomous systems
- Technical background in user interface design, autonomous systems, robotics, human-computer interaction, and/or machine learning.
- Project management experience
- Demonstrated experience working with a tailored systems engineering approach
- Experience with IBM Rational DOORS
- Familiarity with the military airworthiness processes
- Familiarity with the DoD Acquisition process (including risk management)
- Software architecting experience

If interested, please contact Dr. Jason Ryan (ryan.jason@aurora.aero) by 15 Feb 2018 with the following information:
- Resume
- Cover letter
- Both should clearly indicate to which position you are applying
- Earliest Start date
- With an email subject line “Human Factors Opportunities at Aurora Flight Sciences”

Aurora is an Equal Opportunity Employer.
Job Announcement: The MITRE Corporation

Cognitive Engineer - Human Machine Teaming focus

MITRE is different from most technology companies. We are a not-for-profit corporation chartered to work for the public interest, with no commercial conflicts to influence what we do. The R&D centers we operate for the government create lasting impact in fields as diverse as cybersecurity, healthcare, aviation, defense, and enterprise transformation. We’re making a difference every day—working for a safer, healthier, and more secure nation and world.

The Emerging Technologies department is chartered with identifying, developing, and employing new technologies that can be applied against the Government’s most challenging problems.

We are looking for entry-level cognitive engineers who are articulate, highly collaborative, creative and self-driven. This position will require deep understanding of cognitive engineering research and application, and advocacy as well as use of these methods within a systems development/systems engineering context.

- Use cognitive engineering methods, from planning through application of results in requirements and design.
- Work flexibly within multi-disciplinary government and industry teams to advocate for and apply process, results
- Conduct research towards improving human systems interfaces and human-autonomy collaboration in a wide range of government and military operational settings
- Perform a range of marketing and process development activities to improve systematic application of cognitive engineering within systems engineering processes.

*This position requires access to sensitive information only accessible to US citizens and therefore the positions requires US citizenship.

- Bachelors degree in Engineering Psychology/Human Factors, Industrial Engineering, Systems Engineering with a Cognitive Engineering focus, or other academic program which teaches cognitive engineering skills
- Excellent written and verbal communications skills
- Academic coursework or research focus in cognitive engineering field
- Familiarity with government and/or military systems development processes
- Experience in the conduct and application of human-machine teaming research.

Preferred: Masters degree in applicable field; Preference given to candidates with an active US DoD clearance.

To apply, please visit: www.mitre.org/careers and see requisition number 00048512