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Chair Chat

St. Louis Section Chair- Jim Guglielmo

Welcome to the February issue of the St. Louis AIAA Section newsletter, which will highlight both January and February events, and provide information for programs coming up in the last half of February and in March.

We had a very successful dinner meeting in January that was co-sponsored with the Boeing REACH organization, and included an excellent presentation by Dr. Jim Paunicka on Autonomous Systems. We also welcomed back two Boeing retirees, Don Bingaman and Chris Rice, for a Technical Specialist meeting around the topic of climate change, and an aerospace-related approach to help reduce near-term global temperatures.

Since this is the month of February, I will share some Valentine’s Day aircraft-related trivia. According to Wikipedia, the British Aircraft (B.A.) Manufacturing Company followed up on the success of their first aircraft, the Eagle, with the design of a similar but smaller (and slower) version called the B.A. III Cupid. The Cupid was a low-wing, two-seat, single-engine aerobatic aircraft, had a fixed landing gear, and was powered by a 130 hp de Havilland Gipsy Major inverted inline engine. The aircraft was targeted at the touring and club training market, and first flew in 1935. Unfortunately, only one aircraft was ever built. It was flown in the 1935 King’s Cup Jubilee Race by John Armour, and then sold the following year to South Africa. And finally, although he is not an aerospace engineer but instead a physicist and philosopher, one of my favorite quotes from Albert Einstein: “Gravitation cannot be held responsible for people falling in love.”

As always, if you have any questions, recommendations, or suggestions for events, please email me at james.j.guglielmo@boeing.com or call 314-452-1271. And if you are interested in either volunteering on the Council or at an event, we welcome your help.

Thanks!

Jim Guglielmo
**History in Aviation: January**

*Historian - Colin Thiele*

11 January 1935 - Amelia Earhart becomes the first pilot to fly solo between Hawaii and the United States, with a flight time of 18 hours 15 minutes in a Lockheed Vega 5C.

14 January 1942 - The XR-4 completes its first flight. Developed by Sikorsky, it was the first helicopter to be mass produced and the first helicopter accepted by the U.S. military.

![XR-4 by Sikorsky](image1)

![Concorde Supersonic Airliner](image2)

21 January 1976 - The first passenger services by the Concorde supersonic airliner are flown with British Airways and Air France flights taking off simultaneously for Bahrain and Rio de Janeiro.

31 January 1958 - Explorer 1, the first United States satellite, is launched into orbit.

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**Aerospace Link of the Month**


[https://www.sciencedaily.com/releases/2020/01/200129131449.htm](https://www.sciencedaily.com/releases/2020/01/200129131449.htm)
Featured Council Member of the Month!

YP Council Member – Tyler Brammeier

Tyler Brammeier is a structural design engineer with The Boeing Company. For the past year, he has supported engineering modifications and maintenance design changes for legacy F/A-18, T-45, and AV-8B planes in the global services division. Tyler is currently transitioning to a new role with a defense program.

Tyler received a bachelor’s degree in mechanical engineering from Purdue University in 2014 with a minor in global engineering. He is currently pursuing his master’s degree in mechanical engineering at Washington University in St. Louis. Prior to working at Boeing, Tyler spent 5 years at John Deere. There he worked in the global advanced research and development group designing, building, and testing innovative combine harvester technology in environments around the world.

Tyler and his fiancé Sarah are getting married this summer. Tyler enjoys cheering on the Cards, Blues, and Boilermakers. He also spends time helping out on his family’s farm in southern Illinois, travelling, and cooking.

Membership Report

Nic Moffitt, Alex Friedman – Membership Chairs

The Section membership is at 578 members. The distribution breaks down as shown in the table below and the pie chart at the right.

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<th>Type</th>
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If you want to help someone get connected with AIAA events in St Louis, please pass along a couple of social media groups related to our St. Louis Section. We advertise our events on Facebook through the group “I Fly St Louis” and through the Boeing inSite group “AIAA – St Louis Section”. Both of these groups are free to join and do not require AIAA membership. Please feel free to forward any membership questions to Nic Moffitt and Alex Friedman.

Please Note: AIAA Associate Fellow and Fellow Nominations Due in Three Months

If you are looking to be nominated for Associate Fellow or Fellow, the nominations are due in April 15 and June 15, respectively. The nominations take several weeks to put together, and you will need to find a Nominator and several References. If you are interested in being nominated, please contact Nic Moffitt or Alex Friedman.
On Tuesday, February 4, the section was joined by Don Bingaman and Chris Rice for this month’s Technical Specialist meeting. Their presentation was a more detailed briefing of the recent AIAA SciTech Paper 2020-0618, entitled “A Stratospheric Aerosol Injection Lofter Aircraft Concept: SAIL-01.” Don and Chris introduced compelling material about the current state of global climate change and the urgency required to delay (and ultimately reverse) its effects. They also proposed a near-term solution to reduce global temperatures by flying a fleet of high-altitude aircraft which disperse small, inert, and inexpensive particulates into the atmosphere. The physics of this idea – called “Geo Engineering the Atmosphere” – were explained, and an aircraft design was proposed to carry out the mission. Don and Chris have over 80 years of combined experience in aircraft design, and the practicality of their proposed aircraft has received concurrence from other experienced individuals in the field.

AIAA/REACH January 2020 Meeting

Abby Sevier/Bob Dowgwillo- Newsletter/Dinner Meetings Chair

On January 16th, REACH and AIAA hosted their annual dinner meeting at Ferguson Brewery. Over 50 attendees came to see Dr. Jim Paunicka speak on Autonomous Systems. The dinner meeting was a great success, with Dr. Paunicka giving an excellent overview of the current Unmanned Aerial Systems (UAS) in the aerospace industry, future disruptive technologies, and also highlighting the excellent opportunities to get involved with AIAA at both the section and national level. An engaging question and answer session followed the presentation as well as the raffle of the apt door prize, a small drone. The AIAA St. Louis Section and REACH thank Dr. Paunicka for his time and great presentation!
Upcoming Events – 2020

- **February 19th**: AIAA Table at Engineer's Week Boeing Opportunity Fair
- **February 21st**: AIAA Table at the Engineer's Club of St. Louis Career Fair
- **February 27th**: Dinner Meeting / Student Branch Engagement, Washington University
- **March 17th**: Technical Specialist Meeting, Co-Axial Rotorcraft Presentation by Cory Seidel
- **March 19th**: Dinner Meeting/Educator Associates Recognition, Challenger Center Tour
- **March 20th**: Young Professionals Networking Social
- **April 23rd**: Dinner Meeting – Hypersonics
- **April 28th**: Technical Specialist Meeting, Active Flow Control / Shape Memory Alloys Lecture (Part 1)
- **April 29th**: Judging at the St. Louis Science Fair
- **April 29th**: Spring into STEAM
- **April 30th**: Aviation Day for Teachers
- **May 14th**: Technical Specialist Meeting, Tour of the Boeing Active Flow Control Lab (Part 2)
- **May 14th**: Annual Honors and Awards Dinner – Orlando’s
- **End of May**: Young Professional’s Tech Presentation Fair

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2020 Academy of Science - St. Louis Science Fair

The 2020 Academy of Science - St. Louis Science Fair is quickly approaching, with judging for the student projects to be held on Wednesday, April 29th, at the Queeny Park Greensfelder Recreation Complex from 10:00 am to 11:30 am. Please see the following website for more information: [https://www.sciencefairstl.org/](https://www.sciencefairstl.org/)

For the last 10+ years, the St Louis AIAA Section’s Service Projects Committee has been proud to review aerospace related projects from students from K-12, and provide nominal monetary awards to those students who have demonstrated thoughtful originality combined with the rigors of proving their aerospace related hypotheses.

If you would like to serve as a judge for this event, please contact Brad Sexton at 314-232-7826 or bradley.w.sexton@boeing.com. Previous experience is not needed, and as you can see from the pictures below, you’ll be part of putting a smile on a future aerospace engineer!

Images Courtesy of the National Academy of Science
Making a Change?

Are you graduating and moving? Planning to retire soon? Making a career move? If you are leaving the St. Louis Section area, please update your AIAA profile, so you will continue to receive accurate AIAA correspondence. Go to "My AIAA" ([http://www.aiaa.org/myAIAA](http://www.aiaa.org/myAIAA)) and, upon logging in, go to "My Account" and select "Edit Contact Info."

AIAA St. Louis Section Website & Twitter Account

Please see the AIAA St. Louis Section website for more information about upcoming events, announcements, and discussions: [https://engage.aiaa.org/stlouis/home](https://engage.aiaa.org/stlouis/home)

The AIAA St. Louis Section now has a Twitter account! Please follow us at [@StLAIAA](https://www.sil.si.edu/ondisplay/music/images/SIL7-10-028.jpg)

Come with me and you shall see, my pretty one,
The wonders of the moon and stars and of the sun;
We'll sail above the world, my love,
Into the blue in my aeroplane that's built for two,
Just me and you.


[https://www.sil.si.edu/ondisplay/music/images/SIL7-10-028.jpg](https://www.sil.si.edu/ondisplay/music/images/SIL7-10-028.jpg)
# AIAA St. Louis Section Council

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<th>Office</th>
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If you are interested in joining one of the committees, please contact the AIAA St. Louis Section Chair, Jim Guglielmo, or the committee chairperson.
THE AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS (AIAA) & THE AIAA SPACE SYSTEMS TECHNICAL COMMITTEE (SSTC)

INVITE YOU TO PARTICIPATE IN THE

2020 SSTC STUDENT ESSAY CONTEST

THEME:
“How advanced can you envision space technology and exploration through the next 50 years? What do we need to do NOW to achieve that?”

REQUIREMENTS:
• Typewritten essay, double-spaced, Times New Roman, 12 pt. font, in 1,000 words or less
• Include student name, teacher’s name, grade, and school name printed at the top of the essay
• Submit essay to your local section via email, with student and teacher’s name, phone, email, and mailing address for notification and awards in the body of the email

JUDGING CRITERIA:
1. Originality of ideas presented
2. Soundness of logic used to develop ideas
3. Realism of ideas presented
4. Quality of composition and clarity of expression

NATIONAL PRIZES:
1st place will be awarded $125, 2nd place will be awarded $75, and 3rd place will be awarded $50. Winners are publicly announced in the September issue of Aerospace America magazine.

ELIGIBILITY:
Any seventh or eighth grader (or equivalent).

DEADLINE:
Final submission deadline to local AIAA section officers is March 31, 2020. Local winners and their teachers will be notified in April. National winners and their teachers will be notified in May.

QUESTIONS:
Email Jackie Blumer jblumer@cucc.org
Wednesday, February 12, 2020

Boeing Building 100 Auditorium
6300 James S McDonnell Blvd,
Berkeley, MO 63134

Young Professionals Career Development Panel

Come learn from some of the top leaders in the aerospace industry! Our panelists account for many years of aerospace research, development and design, with experience in:

- engineering management
- technical leadership
- academia

Panelists will provide perspectives on their career paths, lessons learned and thoughts on the industry’s future. Come ready with questions!

Schedule
5:00-5:30 Social/ Networking
5:30-7:00 Panel discussion / Q&A

Menu
Snacks/Drinks

Tickets
Free

Reservation by 12 noon Monday, Feb 10
Send reservation by email*: stlaiia@gmail.com
Contact Steve Clark for questions
* In RSVP email, please include names and # of non-Boeing attendees