



# Winter 2019 Newsletter

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Angela Diggs and Chi Mai, Editors

## AIAA HQ ANNOUNCEMENTS

### Count me IN!

AIAA needs you to update your Professional Interest Codes and your AIAA profile before 18 January 2019 by logging into [aiaa.org/myaiaa](http://aiaa.org/myaiaa) and clicking on the "Manage My Profile" hyperlink.

Under the new AIAA governance structure, voting for the [directors of each technical group](#) has also changed. Members are only eligible to vote for positions that pertain to your specific fields of interest, so make sure those interest codes are updated so that you have a voice in the right areas!

### Congressional Visits Day

Each year, AIAA members travel to Washington, DC, for a day of advocacy and awareness with national decision-makers. CVD is 20 March this year, and topics include maintaining a vibration workforce, supporting STEM education, and achieving budget stability. [Federal employees can attend as long as its not in any official capacity. Travel stipends are available and must be applied for by 1 February.](#) For more info, visit <https://www.aiaa.org/CVD/>.

### AIAA Anti-Harassment Policy

To maintain a professional environment, AIAA has implemented an anti-harassment policy applicable to everyone at any AIAA-sponsored activity or related social gathering. Please review the policy at <https://www.aiaa.org/Anti-Harassment-Policy/>.

## UP FRONT

### AIAA Software Engineering Award

#### Dr. Scott Morton

AIAA NWFL would like to congratulate Dr. Scott Morton for his selection as the recipient of the AIAA Software Engineering Award for 2019 "for over 30 years of significant research and innovations in the software engineering of multi-disciplinary, physics-based simulations tools for the design, analysis, and virtual test of aeronautical systems." The award is presented for outstanding technical and/or management contributions to aeronautical or astronautical software engineering. Dr. Morton received his award at a recognition luncheon at the AIAA SciTech forum.



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# UPCOMING EVENTS, DATES, AND DEADLINES

## National

### [2019 AIAA Foundation Scholarships and Graduate Awards](#)

*Applications due: 31 January 2019*

Undergraduate and Graduate scholarships are available. Students must be current AIAA student members in good standing, have completed at least one academic semester of full-time college work, have a minimum 3.3 GPA on a 4.0 scale, and plan to continue their education in a field of science or engineering encompassed in the technical activities of AIAA.

Helpful links for more information or to apply:

Undergraduate:

[www.aiaa-awards.org/a/solicitations/home/1104](http://www.aiaa-awards.org/a/solicitations/home/1104)

Graduate:

[www.aiaa-awards.org/a/solicitations/home/1082](http://www.aiaa-awards.org/a/solicitations/home/1082)

Eligibility requirements: [www.aiaa.org/eligibility/](http://www.aiaa.org/eligibility/)

AIAA scholarship site: [www.aiaa.org/scholarships](http://www.aiaa.org/scholarships)

### [Congressional Visits Day 2019](#)

*20 March 2019—Washington, D.C.*

Travel stipend applications due 1 Feb 2019

### [DEFENSE 2019](#)

*7-10 May 2019—Laurel, MD*

Early Bird Registration: 23 Jan - 23 Apr 2019

## Regional

### [Region II Student Conference](#)

*4-5 April 2019*

*International Palms Resort & Conference Center, Cocoa Beach, FL*

The next Region II Student Conference will be at Cocoa Beach, FL and will be co-hosted by the Florida Institute of Technology and Embry-Riddle Aeronautical University. Professional members are needed to judge papers and presentations prior to and during the conference.

## Section

### **Executive Council Meetings**

*2nd Monday of the month, 11:30 am*

*Bamboo Sushi Bar & Hibachi Express, Niceville, FL*

If interested in attending, please let us know by e-mailing [nwfl.aiaa@gmail.com](mailto:nwfl.aiaa@gmail.com) so that we can inform you of any changes to the meeting.

### **Professional Development Lunch & Learn Series**

*Times/dates TBD*

*Doolittle Institute, Niceville, FL*

AIAA NWFL will host professional development lunch-and-learn sessions. The sessions will last 20-30 min. Local professional societies are invited to participate, with topics such as work/life balance, mentoring, intern management best practices, tips for effective meetings, and career transitions. Email [nwfl.aiaa@gmail.com](mailto:nwfl.aiaa@gmail.com) if you wish to present a topic.

### **East Panhandle Regional Science & Eng. Fair**

*Wednesday, 30 January 2019*

*Northwest Florida Fair Grounds, Ft. Walton Beach, FL*

AIAA NWFL will be judging and presenting special awards at the regional science and engineering fair. If you wish to volunteer as an AIAA judge, please email [nwfl.aiaa@gmail.com](mailto:nwfl.aiaa@gmail.com) ASAP!

### [STEM Teachers of the Year Award](#)

*Nominations due: 1 February 2019*

AIAA NWFL is accepting nominations for STEM Teachers of the Year to recognize teachers for exciting K-12 students about STEM and preparing them to use/contribute to tomorrow's technologies. See the link above for the call for nominations.

### **Space Systems TC Essay Contest on Space Force**

*Essays due: 31 March 2019*

The AIAA Space Systems Technical Committee is holding its annual essay contest for 7th & 8th graders. [This year's topic is the Space Force.](#) Essays are due to [nwfl.aiaa@gmail.com](mailto:nwfl.aiaa@gmail.com) by 31 March.

# RECENT EVENTS

## Graduate Student Research Presentations

28 June 2018

Doolittle Institute, Niceville, FL

Chi Mai

AIAA NWFL hosted technical lectures from graduate students performing internships this summer through the AFRL Scholars program at the Air Force Research Laboratory Munitions Directorate. Topics were presented from the student's research at their home institutions.

About 20 people, both AIAA members and non-members, attended the event and learned about aerodynamic fin effectiveness (Florida State University), nickel-rich high-temperature shape memory alloys (University of North Texas), and AlFeSi-based alloys (University of Florida).



Ms. Soto-Medina presents her research in materials science.



AIAA members and AFRL Scholars comprise an attentive crowd.

## Distinguished Lecture by Dr. Mark Lewis on Hypersonic Flight

23 July 2018

Doolittle Institute, Niceville, FL

Chi Mai

Due to increasing emphasis on the development of hypersonic vehicles and weapons, AIAA NWFL hosted a distinguished lecture event with over 90 attendees listening to former U.S. Air Force Chief Scientist and former AIAA president Dr. Mark J. Lewis present "Hypersonic Flight: Progress and Challenges on the Way to High-Mach Systems" at the Doolittle Institute in Niceville, FL.

Dr. Lewis reviewed hypersonics milestones as well as recent U.S. hypersonics programs, particularly the X-51A. While there are numerous hypersonic programs, there are still not enough flight tests or data. Dr. Lewis concluded by reviewing the current state of investments in hypersonics throughout the DoD, USAF, AFRL, AFOSR, and DARPA.



Dr. Mark Lewis presents his distinguished lecture on hypersonic flight and programs.



## RECENT EVENTS (CONT.)

### Professional Society Mixer

18 October 2018

3rd Planet Brewing "Mothership", Niceville, FL

Chi Mai and Angela Diggs

The Northwest Section of the AIAA invited the local chapters of the Air Force Association (Eglin Chapter #365, Hurlburt Chapter #398), the American Society of Mechanical Engineers (NW FL Section), National Defense Industrial Association (Gulf Coast Chapter), Society of Experimental Test Pilots (Southeast Section), and Society of Women Engineers (NW FL Section) to participate in a professional society mixer focused on career mentoring. AIAA provided free drinks and SWE provided snacks.

Work-Life Balance topics were discussed, with discussion starters provided, such as:

- How do you spend most of your time? Is that what you want to be doing?
- How do you prioritize what you work on? How do you decide what not to work on?
- What are your strategies to deal with e-mail or distractions?
- How do you work "smarter"?
- How do you handle difficult supervisors, managers, or peers?
- Are you encouraged to take reasonable risks? Do you? Why or why not?
- What is your work culture like? Do you control the structure of your goals and tasks?

### Panama City Dinner

26 August 2018

Uncle Ernie's Bayside Grill, Panama City, FL

John Fay

The AIAA Northwest Florida section hosted a dinner with Panama City members. AIAA members John Fay, Tonia Murray, James Filley and their significant others attended. AIAA activities, education outreach, and local topics of interest were discussed. The event is expected to be repeated in the future to maintain connection with those AIAA members in the Panama City area.



AIAA Members Judith and Ryan Sherrill help set up the event.



Members mingle and discuss during the event.

# OUTREACH

## K-12

### FIRST STEM Equity Grant

*Coalition for STEM Success in NW FL*

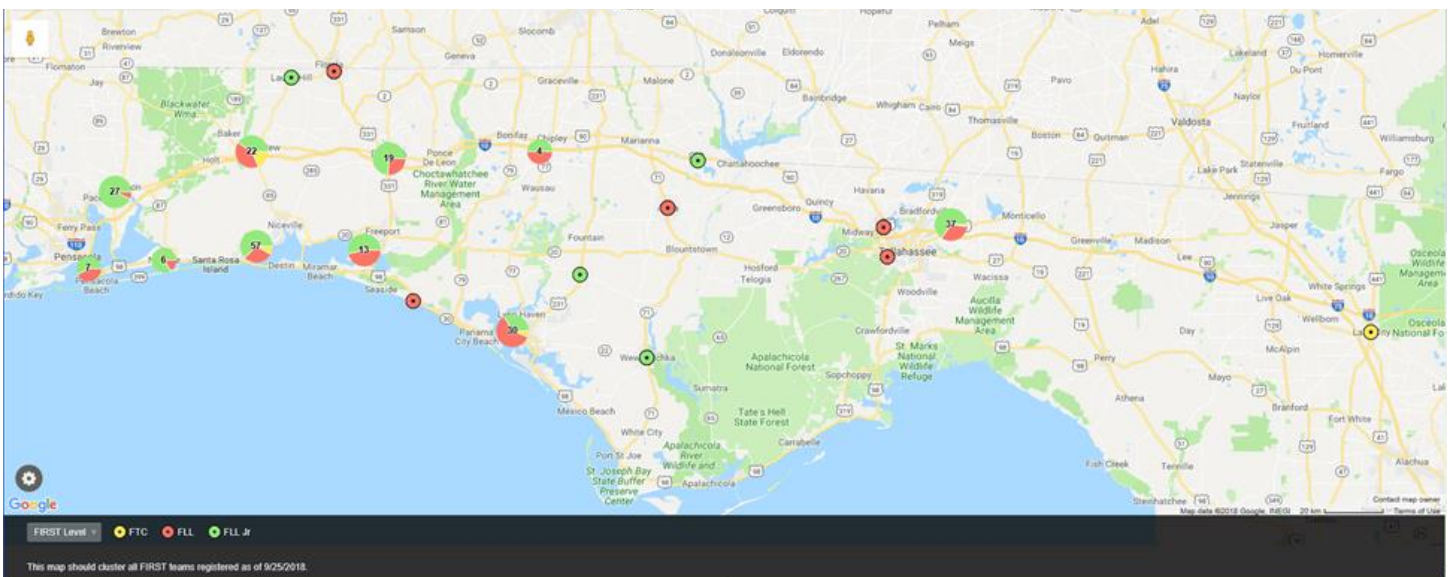
*Angela Diggs*

On 1 July 2017, the Coalition for STEM Success in Northwest Florida was given a FIRST STEM Equity grant of \$49,990 to address STEM inequality in the Florida panhandle. The AIAA NWFL Section administered the grant funds with significant help from the FIRST Lego League (FLL) and FLL Jr affiliates and the Doolittle Institute. At the time of the grant award, the Coalition agreed to create 28 new FLL Jr and 15 new FLL teams, reaching 168 and 80 students, respectively. The efforts of the Coalition were also intended to support 24 FLL Jr and 48 FLL teams already in existence, plus 4 FTC and 7 FRC teams. Combining the new and existing team support, the grant funds were expected to support 828 K-12 students.

In the 2017-18 academic year, our coalition created 15 new FLL teams and 43 new FLL Jr teams, exceeding our FLL Jr goal by 15 new teams and 90 new students. The Coalition paid registration and 1 EV3 kit for each FLL team. In addition, the FLL teams were allowed to choose one additional EV3 kit or a laptop.

The coalition paid registration, 1 WeDo 2.0 kit, and 1 laptop for each FLL Jr team. The Coalition, with significant support from the FLL Jr and FLL affiliates, held 12 FLL Jr training sessions and 5 FLL training sessions, reaching an estimated 170 educators and coaches. During the 2017-2018 academic year, the Coalition supported 7 FLL Jr expos and 8 FLL team events.

For the 2018-19 academic year, our Coalition supported 26 FLL teams, with 6 returning teams and 20 new teams for a total of 195 students in FLL. Additionally, in 2018-19, the Coalition supported 81 FLL Jr teams, with 31 returning teams and 50 new teams, for a total of 486 students in FLL Jr. Our outreach in team registrations in 2018-19 was substantial because of the community awareness generated by the 2017-18 teams. Many of the schools we partnered with requested additional teams, often spanning several grade levels. FLL and FLL Jr have made a huge impact across the Florida panhandle in raising excitement for STEM activities. We have many coaches, mentors, and parents who are impressed with the program and have seen significant student development both in academic and interpersonal areas.



Map of 2018-19 FIRST teams in the FL panhandle, supported through the FIRST grant and other means.



## OUTREACH (CONT.)

### K-12 (cont.)

#### Paxton School Outreach—Bernoulli's Baby

3 October 2018

John Fay

The AIAA Northwest Florida section provided education outreach to Paxton School through the Engineers for America (EFA) sortie "Bernoulli's Baby". Dr. John Fay presented the lesson to AIAA Educator Associate Heather Stewart's 8th grade class. The lesson uses box fans to explore the effects of airfoil shape on lift.



AIAA member John Fay leads the Bernoulli's Baby STEM lesson.

## MEET A MEMBER

### Ryan Sherrill

In this newsletter, we meet Ryan Sherrill, our section's Career Enhancement and Young Professional Chair since June 2017.

Interested in being featured in a future newsletter? Let us know [nwfl.aiaa@gmail.com](mailto:nwfl.aiaa@gmail.com).



#### What is your current organization and primary job responsibility?

I'm in the Air Force Research Laboratory—Munitions Directorate at Eglin AFB, and I focus on development and testing of autonomy algorithms.

#### How did you get started in aerospace?

As a kid, I loved airplanes and model rocketry. When I was 12, I joined the Civil Air Patrol, which gave me the opportunity to fly in gliders and powered airplanes.

#### What are you excited about in aerospace's future?

Using autonomy to design robotic vehicles that are able to perform dangerous tasks to protect our troops overseas.

#### What do you like to do in your free time?

Researching different kit airplanes with the goal of starting to build one in the next few years.

#### Education:

B.S.: Auburn University, 2007 (Aerospace Engr.)  
M.S.: Auburn University, 2009 (Aerospace Engr.)  
Ph.D.: Auburn University, 2013 (Aerospace Engr.)

## ABOUT THE SECTION

The Northwest Florida Section of the American Institute of Aeronautics and Astronautics, Inc. (AIAA NWFL) is home to 290 members (as of Nov 2018): 119 professionals, 140 educator associates, and 31 students.

The section spans 24 counties across northern Florida from Pensacola to north of Jacksonville. These counties are: Escambia, Santa Rosa, Okaloosa, Walton, Holmes, Washington, Bay, Jackson, Calhoun, Gulf, Gadsden, Liberty, Franklin, Leon, Wakulla, Jefferson, Madison, Taylor, Hamilton, Suwanee, Lafayette, Columbia, Baker, and Nassau.

Most of the aerospace-related activities in the AIAA NWFL section are at military installations in the western panhandle.

Officer/Chair E-mail:  
[nwfl.aiaa@gmail.com](mailto:nwfl.aiaa@gmail.com)

Facebook:  
<https://www.facebook.com/groups/NWFL.AIAA/>

Engage (under construction):  
<https://engage.aiaa.org/northwestflorida/home>

## AIAA NWFL Facebook Group

AIAA NWFL has transitioned from a Facebook page to a Facebook group! We hope this is a more engaging way to communicate than e-mails and the Share-Point site. Like us and contribute!

<https://www.facebook.com/groups/NWFL.AIAA/>

## AmazonSmile and AIAA NWFL

Shop at Amazon.com? Try AmazonSmile with your Amazon.com account and 0.5% of the price of eligible AmazonSmile purchases can go to AIAA NWFL!

<http://smile.amazon.com/ch/59-3105873>

## EXECUTIVE OFFICERS

### Chairperson

Chi Mai [chilnmai@gmail.com](mailto:chilnmai@gmail.com)

### Vice Chairperson

John Fay [john.fay.3.ctr@us.af.mil](mailto:john.fay.3.ctr@us.af.mil)

### Secretary

Angela Diggs [angela.diggs.1@us.af.mil](mailto:angela.diggs.1@us.af.mil)

### Treasurer

Kevin Diggs [kevin.diggs@us.af.mil](mailto:kevin.diggs@us.af.mil)

## COMMITTEE CHAIRS

### Program Chair

Eugen Toma [tomaeugen@icloud.com](mailto:tomaeugen@icloud.com)

### Technical Chair

Eugen Toma [tomaeugen@icloud.com](mailto:tomaeugen@icloud.com)

### Membership Chair

Michael Kelton [michael.kelton.1@us.af.mil](mailto:michael.kelton.1@us.af.mil)

### Career Enhancement/Young Professionals Chair

Ryan Sherrill [ryan.e.sherrill@gmail.com](mailto:ryan.e.sherrill@gmail.com)

### Education/Pre-College Outreach Chair

Judith Sherrill [judithabsherrill@gmail.com](mailto:judithabsherrill@gmail.com)

### Honors & Awards Chair

Michael Kelton [michael.kelton.1@us.af.mil](mailto:michael.kelton.1@us.af.mil)

### Public Policy Chair

VACANT—Open for Volunteers!

## AIAA NWFL Wins Section Awards

The AIAA NWFL section won two annual section awards in the small section category for 2017-2018!

- 1st place in Communications
- 1st place in STEM K-12 Outreach

These awards come with funds that enable the section to enhance our benefits to you!



AIAA NWFL Chair Chi Mai with AIAA Executive Director Dan Dumbacher at the 2018 AIAA Regional Leadership Conference.