



## AIAA ANNOUNCEMENTS

### AIAA Governance Vote

AIAA Executive Director Sandra Magnus visited our section in March to discuss proposed changes to AIAA's governance structure. Voting for AIAA's board of directors as well as the governance changes has now ended. More than 4,400 votes were cast regarding the new governance structure (more than 20% of the membership and above the constitutional requirement), and the proposed constitution change passed by a margin of 91.8% to 8.2%.

To learn more about the governance change and/or to communicate your thoughts to the AIAA Governance Working Group, visit the website below.

More Info: <https://www.aiaa.org/governance/>

### AIAA Membership Upgrades & Honors

Nominations and references are currently being accepted for membership upgrades to the levels of Fellow and Honorary Fellow.

Requirements for AIAA Fellow are:

- Must be an Associate Fellow at the time of the current deadline for nomination (June 15).
- Five AIAA members in good standing are required to act as references. One reference must be a Fellow, member of the Board, Section Chairperson, or Technical Committee Chairperson. Reference forms are due July 15.

<https://www.aiaa.org/Secondary.aspx?id=254>

## UP FRONT

### Volunteers Needed as EFA Tour Guides at AF Armament Museum

Supporting Engineers for America tours of the Air Force Armament Museum at Eglin AFB has been one of AIAA NWFL's flagship STEM education outreach efforts. If you're interested in leading tours for school groups, please contact John Fay at [john.fay.3.ctr@us.af.mil](mailto:john.fay.3.ctr@us.af.mil).

### AmazonSmile and AIAA NWFL

Shop at Amazon.com? Now 0.5% of the price of eligible AmazonSmile purchases can go to AIAA NWFL!

To set up, go to <http://smile.amazon.com/>, and search for "American Institute Of Aeronautics And Astronautics Niceville, FL".

Alternatively, use this direct link to set up: <http://smile.amazon.com/ch/59-3105873>

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# UPCOMING EVENTS, DATES, AND DEADLINES

## National

### AVIATION 2016

*Jun 13-17, 2016—Washington, DC*

Registration Open

### Propulsion & Energy 2016

*Jul 25-27, 2016—Salt Lake City, UT*

Manuscript Deadline: Jun 23, 2016, 1900 CDT

Early Bird Registration Deadline: Jul 6, 2016

### SPACE 2016

*Sep 13-16, 2016—Long Beach, CA*

Manuscript Deadline: Aug 18, 2016, 1900 CDT

Registration Open

### SciTech 2017

*Jan 9-13, 2017—Grapevine (Dallas / Fort Worth), TX*

Abstract Deadline: Jun 6, 2016, 1900 CDT

Registration Opens: Sep 12, 2016

Early Bird Registration Deadline: Dec 19, 2016

### DEFENSE 2017

*Apr 25-27, 2017—Laurel, MD*

## Regional

### Young Professionals Symposium

*Dynetics Solutions Complex, Huntsville, AL*

*Oct 20-21 (Thu-Fri), 2016*

This fall, the Greater Huntsville section will host a symposium tailored to Young Professionals (members age 35 or younger, to include graduate students). All interested YPs are invited to participate. The symposium is an opportunity for YPs to give technical presentations and network. Abstracts due 2016 Aug 1. Visit <http://aiaayps-hsv.com/> for the Call for Papers and for more information. The symposium is not limited to AIAA members.

## Section

### Executive Council Meetings

*Café Bienville, Niceville, FL*

*3rd Tuesday of the month, 11:30 am*

The June agenda will cover overall planning for the upcoming 12 months. If interested in attending, please notify the Chair (Ben Dickinson, [benjamin.dickinson.1@us.af.mil](mailto:benjamin.dickinson.1@us.af.mil)) or the Vice-Chair (Angela Diggs, [angela.diggs.1@us.af.mil](mailto:angela.diggs.1@us.af.mil)), so that we can inform you of any changes to the meeting.

### Section Professional Meetings

Planned topics of the section professional meetings for the remainder of the year are:

- June: 3-Part Methodology
- August: Engineers as Educators
- October: TBD

# RECENT EVENTS

## Adaptive Control Lecture by Mark Balas

*Benjamin Dickinson*

Mark Balas, a Distinguished Professor of Aerospace Engineering at Embry-Riddle Aeronautical University in Daytona Beach, FL presented a lecture titled "Direct Adaptive Control of Infinite Dimensional Systems for Fun and Profit" to AIAA NWFL members and other local, technical professionals.

The event, sponsored by the Doolittle Institute and the AIAA NWFL, was held in December 2015 at the University of West Florida in Fort Walton Beach. Ten people attended the lecture, which was preceded by a meet-and-greet with refreshments.



Prof. Mark Balas and AIAA NWFL Chair Ben Dickinson.



AIAA NWFL Chair Ben Dickinson at the AIAA promotional table.

## Astronomy Night

*Chi Mai*

The Northwest Florida Astronomy Association (NWFAA) hosted AIAA NWFL members for an astronomy night in February 2016 at the Northwest Florida State College (NWFSC) observatory in Niceville.

We started the evening at 5:30 pm with NWFAA members setting up their telescopes. The brightest objects in the night sky, the Moon, the star Sirius, and some satellites were spotted.

Tom Haugh, the NWFAA outreach coordinator, gave a very informative presentation on beginner astronomy and what we should expect when looking through portable (small) telescopes. Tom showed what the planets look like through small telescopes and talked about some of the constellations we'd be able to see that evening.

Afterwards, we returned outside for more observations (Sirius, Orion's belt, etc.). The high humidity that evening affected clarity, but it was an otherwise fine night for star viewing.

The NWFAA was very gracious in hosting the event and educating our members about astronomy and their equipment. The NWFAA informed us of their Library Telescope Program in which community members can borrow telescopes from the libraries at Hurlburt Field, Fort Walton Beach, Valparaiso, Niceville, and Crestview. The waiting lists can be months long, so get on it now!

The NWFAA meets monthly at the NWFSC Observatory. The NWFAA also hosts public viewings at state parks in the area. For more information about the NWFAA and to see when they meet, visit their website: <http://www.nwfastro.org/>



## RECENT EVENTS (CONT.)

### Networking Workshop

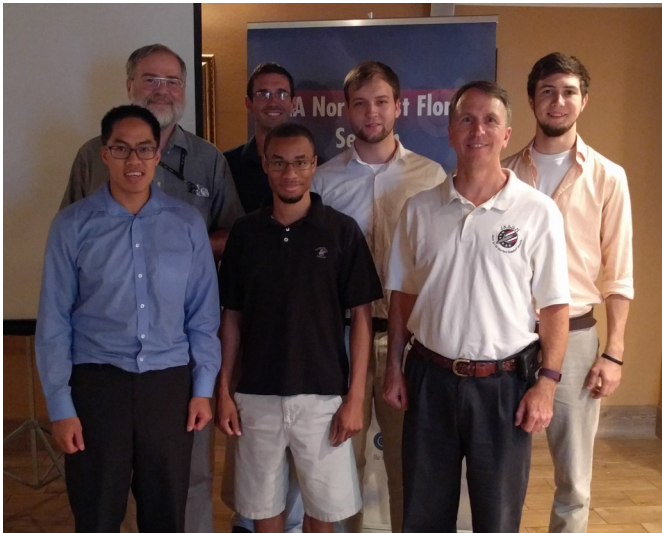
*Michael Sytsma*

Michael Sytsma, AIAA NWFL membership chair, hosted a networking workshop for AIAA NWFL members. The material was developed at a networking meeting that Michael Sytsma attended at AIAA SciTech 2016. Best networking practices were discussed from preparation to follow-up.

The event was held in May 2016 at The Boathouse Landing restaurant in Valparaiso. Six people attended the workshop, including three students from the Florida State University student branch. The students earlier that day attended an engineer's tour of the Air Force Armament Museum led by John Fay.



Michael Sytsma leads a networking workshop.



Networking workshop attendees.

## OUTREACH

### AIAA Student Branches

#### Univ. of South Alabama Student Branch Kickoff

*John Fay*

On November 11, 2015, John Fay traveled to the University of South Alabama to take part in the kick-off party of the AIAA Student Branch there. While there, he met Prof. Carlos Montalvo who is the faculty advisor to the student branch. He also met with Courtney Kronenberger and David Trent of the AIAA Greater Huntsville Section and several students from the student branch. He spoke to Dr. Montalvo about arranging a visit for the student branch to Eglin AFB—similar to the JSF tour that we had for the Florida State students—and also expressed his availability to come over as a guest lecturer. While the visit to Eglin has not materialized, he visited USA again on April 22 to give talks to two classes.



Photos from University of South Alabama AIAA Student Branch kickoff meeting (clockwise from upper-left):

- Prof. Carlo Montalvo flying his quadrotor.
- Prof. Montalvo's quadrotor.
- Initial gathering of students at the student branch kickoff.

# OUTREACH (CONT.)

## K-12

### Engineers as Educators

Angela Diggs

At the start of each school year, AIAA hosts an “Engineers as Educators” workshop to educate engineers and educators how to engage students in STEM in the classroom. The last workshop was held in September 2015.

Teachers and STEM volunteers were invited to participate in two sorties developed by Engineers For America and AIAA. The event was organized by a team of AIAA members (professionals and educator associates). Rick Soria, an AIAA Educator Associate and retired teacher, taught the lessons. Participants split into two groups with teachers and STEM volunteers in each group and executed two lessons, “Air Power” and “Bernoulli’s Baby.” After the event, AIAA fulfilled several requests to run the experiments in the classroom.



AIAA Educator Associate Rick Soria teaches sorties at the Engineers as Educators workshop.

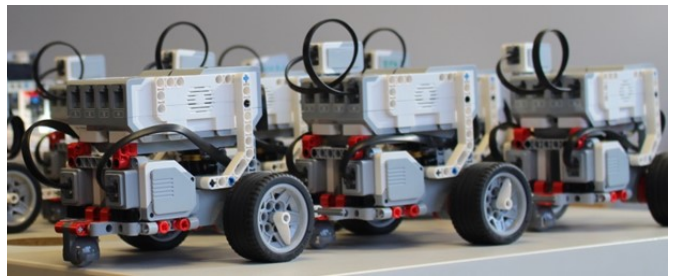


AIAA Educator Associate Rick Soria teaches “Bernoulli’s Baby.”

### EV3 Robotics Training

Angela Diggs

In December 2015, the AIAA NWFL Section paired with Engineers for America, the Air Force Association, and the Doolittle Institute to host a robotics training session for the EV3 robots used in the FIRST Lego League competitions. The goal of the workshop was to provide hands-on training to teachers, STEM volunteers, and parents. Teachers from the local Okaloosa County School District participated, as well as teachers from Walton and Leon Counties. Several local parents and AIAA members also participated. AIAA Educator Associate Rick Soria led the lesson, and AIAA provided breakfast for the participants. The training materials will be developed into “sorties” available for teachers to request STEM volunteers to present in their classrooms.



EV3 robots.



Attendees getting hands-on time with the EV3 robots.



# OUTREACH (CONT.)

## K-12 (cont.)

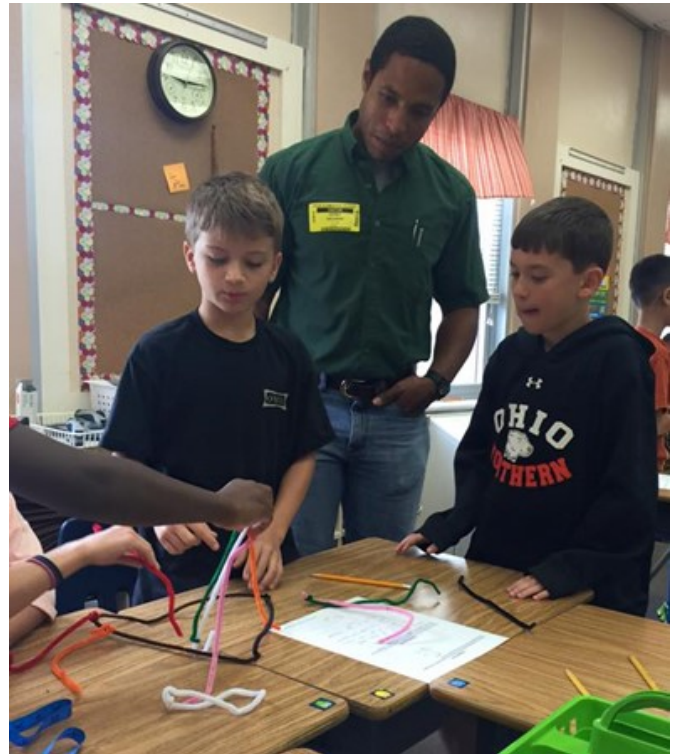
### I LOVE Science

*Angela Diggs*

The I LOVE Science program is designed to run for the course of the school year and puts professional STEM volunteers in the classrooms once a month for an hour-long lesson. I LOVE Science at Edge Elementary (Niceville) covers both 4<sup>th</sup> (120 students) and 5<sup>th</sup> (100 students) grades with unique science lessons, such that students get two years of monthly science experiments with no repeats. The experiments meet Florida math and science standards and engage students in fun activities that demonstrate scientific principles. The AIAA NWFL section sponsored all of the materials for I LOVE Science at Edge Elementary School.

All lessons feature the scientific method (ask a question, discuss background information, make a hypothesis, test hypothesis, collect and analyze data, and draw conclusions), with emphasis on making a hypothesis and data collection/analysis. The lessons range from engineering design challenges to basic biology, chemistry, and physics, to understanding measurement systems, estimation, and forces. All lessons also include graphing and mathematics exercises.

I LOVE Science is also active at Longwood Elementary School (5<sup>th</sup> grade, Shalimar), Saint Mary Catholic School (Fort Walton Beach), and Northwood Elementary School (Crestview). Various AIAA members volunteer at those schools.



4th-grade students attempt to build a structure with pipe cleaners under evolving restrictions.

# OUTREACH (CONT.)

## K-12 (cont.)

### Paxton School Students Visit Eglin AFB

*Angela Diggs*

Under the guidance of AIAA Educator Associate Heather Stewart, Paxton School students enrolled in the Gaetz Aerospace Institute program visited the Eglin AFB flight line, control tower, and Air Force Armament Museum in October 2015. The visit was coordinated by AIAA and Major David Levene of the 40th Flight Test Squadron. AIAA Associate Fellow John Fay met the students at the Air Force Armament Museum to give them a walking tour of the aircraft. The students are studying aerospace principles and are dual-enrolled at Embry-Riddle Aeronautical University through the Gaetz Aerospace Institute. The AIAA NWFL section paid for the transportation costs and helped set up all of the tours.



A Paxton School student looks into the cockpit of an A-10C.



A Paxton School student trials a flight simulator.



AIAA Associate Fellow John Fay leading Paxton School students on a walking tour of the Air Force Armament Museum.

# OUTREACH (CONT.)

## K-12 (cont.)

### Okaloosa County School District Science Fair

*Michael Sytsma*

The Okaloosa County School District Science Fair was held on February 3 at the Northwest Florida Fairgrounds in Fort Walton Beach. The AIAA NWFL Section continued its tradition each year of endowing special awards on students whose projects showed excellence in aerospace-related topics. Several AIAA members volunteered as judges: Otmar Yakaboski, Michael Crawley, Eugen Toma, Brian Sytsma, and Michael Sytsma. Two students each were recognized at the junior and senior levels with cash prizes of \$100 and \$50 for the winners and runners-up in each level. The awards were presented at a ceremony held on February 16 at Saint Mary Catholic School in Fort Walton Beach.



Michael Sytsma presents certificates and awards to students participating in the Okaloosa County School District Science Fair whose projects exhibited excellence in aerospace-related topics.

### AIAA National Annual Essay Contest

*Michael Sytsma and Michael Crawley*

The AIAA Space Systems TC sponsors an annual middle-school (7th and 8th grades) essay contest. This year's topic was to discuss how either a moon base or a Mars base could help us learn about the Earth and space. Michael Sytsma and Michael Crawley judged 3 papers based on originality, soundness of logic, realism, and quality and clarity. This year's winning paper was authored by Hayley Ard, an 8th grader at Paxton School. Hayley's paper will compete nationally with other section-winning papers. The national winner for each grade level receives a \$100 award, and the school receives \$250 for their science classroom.



Hayley Ard of Paxton School had her essay chosen by the AIAA NWFL section to compete at the national level.



# OUTREACH (CONT.)

## K-12 (cont.)

### Outreach Efforts by AIAA NWFL Members

*Chi Mai*

AIAA NWFL members have been busy supporting STEM education in the section.

In September, Anton VanderWyst taught a lunar lander module to 108 8th-grade students at Liza Jackson Preparatory School, and AIAA provided materials. Anton has also volunteered at Destin Middle School and at Bruner Middle School, where he discussed 3-D printing and trips to Mars.

In October, Anton presented with Heather Stewart (AIAA Educator Associate) of Paxton School at the annual conference of the Florida Association of Science Teachers (FAST) in Tallahassee on the Lunar Lander lesson and how to get local STEM volunteers active in the classrooms.



AIAA Senior Member Anton VanderWyst presents at the Florida Association of Science Teachers annual conference.

AIAA Associate Fellow John Fay, as result of the Engineers as Educators workshop, traveled to Paxton School to teach the Bernoulli's Baby lesson. In addition, John supported the Florosa High School Science Fair, reviewed papers submitted to the Region II Student Paper Conference, and supported Science Night at Eglin Elementary by assisting 40-50 students in making straw rockets. John also took his telescope and solar filter to the STEMM Academy in Valparaiso to show students the transit of Mercury across the sun this May.



AIAA Associate Fellow John Fay works with Paxton School students on the "Bernoulli's Baby" lesson.

This May, AIAA Senior Member Ken Blackburn presented a lecture as part of the Discovery Saturday series at the National Naval Aviation Museum in Pensacola. The topic was paper airplanes, which included demonstrations, and was an excellent STEM outreach activity to the general public.

# OUTREACH (CONT.)

## K-12 (cont.)

### **AIAA NWFL Members Active in AIAA Foundation K-12 STEM Committee**

*Chi Mai*

Last year, AIAA formed the AIAA Foundation K-12 STEM Committee to provide vision, support, and unique opportunities for AIAA members and sections to engage more fully with local K-12 students and educators. Several AIAA NWFL members are active in this committee.

Tucker Hamilton, formerly of the AIAA NWFL section and still active in local STEM efforts through the STEM-ED organization, is the Committee Chair.

Angela Diggs, outreach coordinator for STEM-ED, chairs the Section Engagement Working Group. This WG helps communicate exciting STEM opportunities available to members to AIAA regions and sections.

John Fay, STEM K-12 Deputy Director for Region II (South East), chairs the Aerospace Micro Lessons Working Group, which organizes and distributes captivating STEM lessons for educators.

Tim Eymann chairs the new TC Coordination Working Group, which facilitates collaboration between the various AIAA Technical Committees and the K-12 STEM Committee.

Heather Stewart chairs the new Educator Associate Coordination Working Group, which facilitates collaboration between AIAA's Educator Associate members and the K-12 STEM Committee.

The working groups in the AIAA Foundation K-12 STEM Committee are:

- Section Engagement
- Aerospace Micro Lessons
- Education Programs
- Aerospace Robotics Competition (ARC)
- Best Practices
- Signature Programs
- Outreach Technology
- Educator Associate Coordination
- STEM K-12 Diversity Engagement
- Classroom Grants
- TC Coordination

If you would like to be involved in a working group, contact Tucker Hamilton at [STEMK-12WG@aiaa.org](mailto:STEMK-12WG@aiaa.org).

## ABOUT THE SECTION

The Northwest Florida Section of the American Institute of Aeronautics and Astronautics, Inc. (AIAA NWFL) is home to about 280 members (as of 2015): 137 professionals, 106 educator associates, and 32 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.

To become involved in the AIAA NWFL section, please email any one of the officers listed on the right.

[https://info.aiaa.org/Regions/SE/NW\\_FL/default.aspx](https://info.aiaa.org/Regions/SE/NW_FL/default.aspx)

## EXECUTIVE OFFICERS

### Chairperson

Ben Dickinson      benjamin.dickinson.1@us.af.mil

### Vice Chairperson

Angela Diggs      angela.diggs.1@us.af.mil

### Secretary, Webmaster, Newsletter

Chi Mai      chilnmai@gmail.com

### Treasurer

Michael Kelton      michael.kelton.1@us.af.mil

## COMMITTEE CHAIRS

### Program Chair

VACANT—Open for Volunteers!

### Technical Chair

VACANT—Open for Volunteers!

### Membership Chair

VACANT—Open for Volunteers!

### Career Enhancement/Young Professionals Chair

VACANT—Open for Volunteers!

### Education/Pre-College Outreach Chair

VACANT—Open for Volunteers!

### Honors & Awards Chair

VACANT—Open for Volunteers!

### Public Policy Chair

VACANT—Open for Volunteers!

## MEET A MEMBER



**Name:** Angela Diggs

**Org:** Air Force Research Lab

**Job:** Research Scientist

**Schools:**

B.S.: Mississippi State University

M.S.: Georgia Inst. of Technology

Ph.D.: University of Florida

Want to be featured in the next newsletter?  
Contact Chi Mai at [chilnmai@gmail.com](mailto:chilnmai@gmail.com).

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

I attended a SWE summer camp at Mississippi State University in junior high. We toured all of the engineering labs, and aerospace had the best one.

**Where do you think aerospace is headed?**

I think we're seeing a huge emphasis in STEM outreach, and I'm excited to see how that invigorates the field.

**Fun facts/interests/hobbies:**

I learned to hand-quilt from my great-grandmothers. I really enjoy the detail and the creative process.