

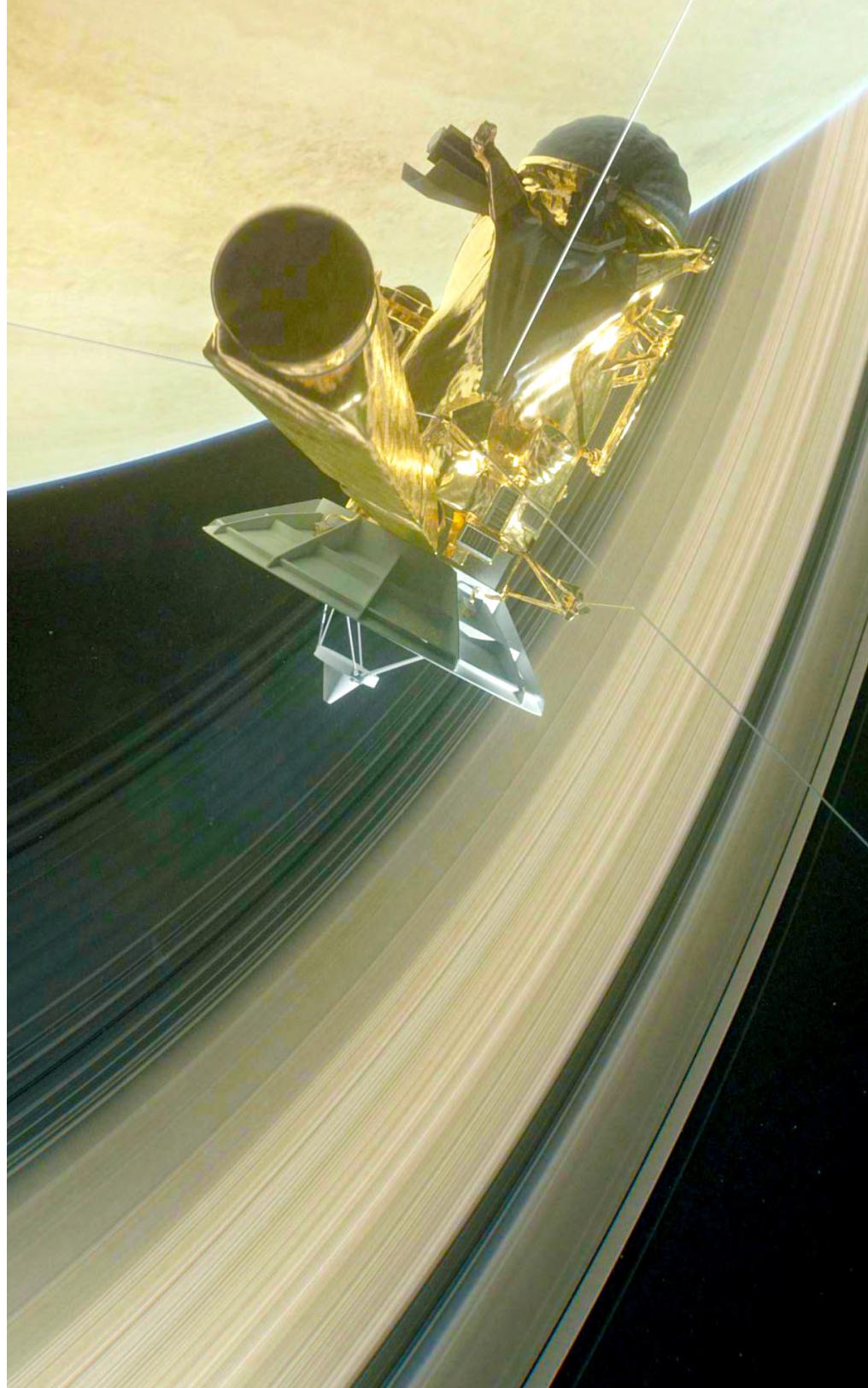
# Future Focused

AIAA ANNUAL REPORT 2016–2017



## FUTURE FOCUSED

The American Institute of Aeronautics and Astronautics (AIAA) is nearly 30,000 engineers and scientists from 88 countries dedicated to the global aerospace profession. AIAA convenes five yearly forums; publishes books, technical journals, and *Aerospace America*; hosts a collection of 160,000 technical papers; develops and maintains standards; honors and celebrates achievement; and advocates on policy issues. AIAA serves aerospace professionals around the world—who are shaping the future of aerospace—by providing the tools, insights, and collaborative exchanges to advance the state of the art in engineering and science for aviation, space, and defense.



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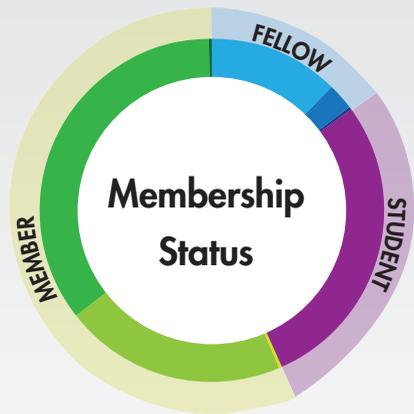
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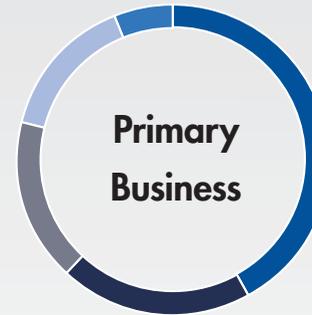
The AIAA Foundation has a separate report. [Click here to access the AIAA Foundation Impact Report.](#)

# A SNAPSHOT OF AIAA

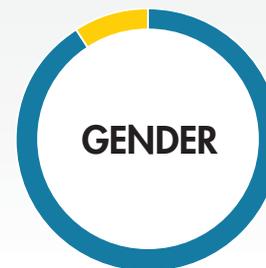
## WHO WE ARE



3,658	ASSOCIATE FELLOWS
721	FELLOWS
65	HONORARY FELLOWS
8,353	STUDENT MEMBERS
49	ASSOCIATE MEMBERS
6,107	MEMBERS
10,420	SENIOR MEMBERS
4	HONORARY MEMBERS
<b>29,377</b>	<b>TOTAL MEMBERSHIP</b>



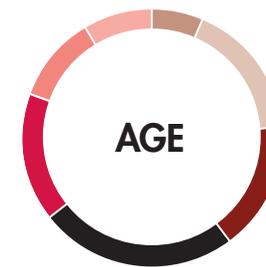
42%	INDUSTRY
20%	GOVERNMENT
17%	ACADEMIA
15%	RETIRED
6%	NOT SPECIFIED



90%	MALE
10%	FEMALE



9%	ENGINEERING AND TECHNOLOGY MANAGEMENT
30%	AEROSPACE SCIENCES
12%	AIRCRAFT AND ATMOSPHERIC SYSTEMS
5%	INFORMATION SYSTEMS
12%	PROPULSION AND ENERGY
15%	SPACE AND MISSILES
11%	AEROSPACE DESIGN AND STRUCTURES
7%	NOT SPECIFIED



6%	20-29
16%	30-39
15%	40-49
23%	50-59
15%	60-69
10%	70-79
8%	80+

## MEDIA HIGHLIGHTS

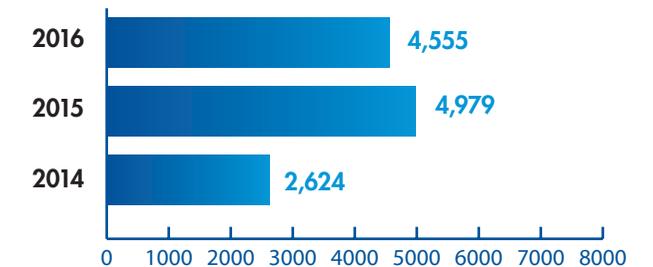
### AIAA's GROWING SOCIAL MEDIA FOOTPRINT

f FACEBOOK FANS		t TWITTER FOLLOWERS	
2017	49,852	2017	16,452
2016	44,626	2016	13,000
2015	30,585	2015	11,969
2014	23,392	2014	8,564

in LINKEDIN PAGE FOLLOWERS		i INSTAGRAM	
2017	9,445	2017	1,583
2016	7,954	2016	701
2015	6,248	2015	N/A

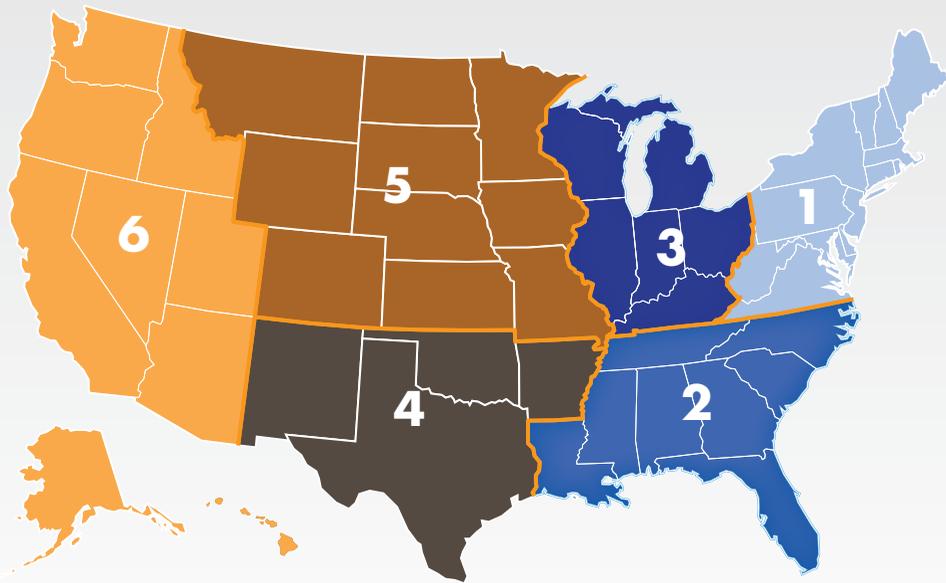
in LINKEDIN GROUP MEMBERS	
2017	16,011
2016	12,411
2015	10,955
2014	7,264

### MEDIA MENTIONS OF THE INSTITUTE



# A SNAPSHOT OF AIAA

## WHERE WE ARE



### PERCENTAGE OF MEMBERSHIP

BY REGION

23%	REGION 1 (NORTHEAST)
11%	REGION 2 (SOUTHEAST)
8%	REGION 3 (CENTRAL)
8%	REGION 4 (SOUTH CENTRAL)
7%	REGION 5 (MID WEST)
25%	REGION 6 (WEST)
18%	REGION 7 (OUTSIDE U.S.)

### NUMBER OF CORPORATE MEMBERS

BY REGION

32	REGION 1 (NORTHEAST)
5	REGION 2 (SOUTHEAST)
7	REGION 3 (CENTRAL)
5	REGION 4 (SOUTH CENTRAL)
9	REGION 5 (MID WEST)
18	REGION 6 (WEST)
15	REGION 7 (OUTSIDE U.S.)



### PERCENTAGE OF MEMBERSHIP

BY WORLD REGION

46%	EUROPE
38%	ASIA AND PACIFIC
8%	CANADA AND MEXICO
3%	CENTRAL AND SOUTH AMERICA
4%	MIDDLE EAST AND NORTH AFRICA
1%	AFRICA



*J. G. Maser*  
**James G. Maser**  
President



*Sandra H. Magnus*  
**Sandra H. Magnus**  
Executive Director

The past year was truly future focused: We changed how we govern ourselves, we expanded our programming, and we committed to increasing our community's diversity. All of these changes have kept the Institute on its glide path toward a brighter tomorrow.

Following an overwhelming vote for changes to the AIAA Constitution and Bylaws, the focus has been on implementing the new structure. Effective May 2017, the new structure includes both an Institute Board of Trustees (Board) and a Council of Directors (Council). The Board, drawing upon the input of the Council, its own deliberations, and other considerations (e.g., external economic or policy factors), sets the vision, develops the strategy, and monitors the progress of a number of Board-directed committees responsible for implementing the strategic plan. The newly created Council generates ideas to shape the Institute's overall vision and strategy through a number of member-directed committees—the Council is the voice of the membership.

The new governance structure defines clear lines of authority and accountability for deploying Institute resources that will be necessary to execute our Strategic Plan. It also allows you, the member, to play a greater role in AIAA's future – it gives you a more effective way to engage the volunteer leadership about matters of importance to you, while also creating a mechanism to encourage member-driven growth and innovation.

To prepare for implementation, the previous Board of Directors established a Governance Transition Group (GTG) in summer 2016, thus dissolving the previous Governance Working Group. The GTG is charged with identifying tasks and making recommendations that are necessary to make the new structure a reality. The intent during the transition effort is to take the time to ensure that we "get it right" the first time. However, the transition may require some adjustment along the way.

One of the first elements of the transition process gave existing Board members some choices. They could decide to either complete their term on the new Institute Board of Trustees as a Member-At-Large or resign from the Board and take on a leadership role as a member of the Council of Directors or a Board-directed committee corresponding to their existing functional elected position. These choices took effect in May 2017. Our recently completed 2017 elections filled vacancies on the Council of Directors. The transition will be complete in 2020 when all current Council of Director terms have expired and new members elected to those positions.

Our new structure allows for the addition or deletion of both Board-directed or Council-directed committees as the vision and the goals of the Institute dictate. The member-directed committees under the Council of Directors will generate ideas to shape our future vision and strategy and will then communicate those ideas to the Board through the Council. The Board will weigh those suggestions and will set the Institute's strategic vision as well as develop a Strategic Plan to achieve the vision. The Board-directed committees will create and execute the plans necessary to implement the Board's strategy and vision. The Board will oversee this entire process and will monitor the progress made by the Board-directed committees as they work to bring about the Institute's strategic vision.

The governance transition process is a marathon, not a sprint. It is a process, that when finished, will improve AIAA's ability to serve its members in a relevant, expedited, and judicious fashion.

## TIME WAITS FOR NO ONE

The ongoing need to offer AIAA's members engaging, relevant, and useful programming drove our second major effort of the year – the continued refinement and expansion of our growth plan. This year's plan focused on commercialization of space, aerospace cybersecurity, and unmanned aerial systems and autonomy.

Mindful that industry will continue to play a significant role in driving future space exploration and development AIAA hosted a [Space Commercialization Executive Summit](#) as part of its 2016 SPACE Forum. Cosponsored with Aviation Week and Space Technology, the summit brought together leaders from across the space industry to identify the challenges and opportunities for continued private sector engagement in space. Based on the discussions at the summit, AIAA issued a report that documents several conditions helpful to facilitate a thriving private space sector. These include political, legal, and regulatory stability; the knowledge that the government is an important customer for the industry but that it is not the only customer; and the need to leverage all available resources, including industry trade associations, in the policymaking process.

Recognizing the importance of cybersecurity to aerospace, AIAA is moving deliberately to inform and assist the industry in understanding the myriad threats and threat actors, and the management and mitigation of such threats. To that end, in partnership with Good Harbor Security Risk Management, AIAA launched "Protocol: Aerospace Cybersecurity News," a monthly news and information resource available to all members. In partnership with Taia Global, we have supported aerospace-related panel sessions at its Suits and Spooks Conference to bridge the gap between the intelligence community and the aerospace industry. At our 2016 AVIATION Forum, we partnered with GBA Consulting to hold a Cybersecurity Table Top exercise aimed at educating aerospace engineers and professionals about the very real cyber threats that could adversely affect their businesses or organizations. Most recently we held the inaugural Protocol Live webcast featuring Good Harbor's Richard Clarke addressing emergent cybersecurity threats and mitigation strategies to counter them.

As part of 2016's AVIATION Forum, AIAA debuted the DEMAND for UNMANNED® symposium to address the tremendous explosion of growth in UAS and the complexity it brings. Although often regarded by the public as mere toys, UAS are increasingly an important part of modern life and need to be integrated into civil and military aviation. AIAA brought together UAS and aviation system stakeholders to discuss and collaborate on research challenges and advancement strategies. With over 250 attendees, the dynamic, two-day program explored how UAS are catalysts for autonomy, robotics, and machine intelligence. Overall, 30% of the DEMAND for UNMANNED® attendees reported that the symposium was the sole reason they had registered for the AVIATION Forum.

(continued)

## FINANCIAL INFORMATION 2014–2016

(in thousands U.S. \$)

	Institute Total Assets	Institute Revenue	Institute Net Assets
2016	40,689	22,861	31,112
2015	37,665	20,247	29,772
2014	38,770	22,030	31,426

*The Institute is future focused, financially strong, and poised to provide our members—across industry, academia, and government—the programs, content, and leadership that will help the aerospace sector grow and thrive as a global enterprise.*

Knowing that aerospace must become greener to ensure the sustainability of our planet's environment, AIAA offered attendees at its 2016 Propulsion and Energy Forum a Hybrid-Electric Propulsion Workshop, bringing together engineers and researchers from industry, federal laboratories and academia. Attendees heard from experts on how state-of-the-art power generation, storage and distribution technologies are impacting potential design and development approaches across all classes of more-electric, hybrid-electric and electric aircraft designs. Using these insights, they then helped to map a course for future hybrid-electric propulsion and electric aircraft content, products and programming that AIAA could offer to this community as this technology advances from R&D into product development.

This is just a sampling of the new content that AIAA developed during the last year to expand the Institute's relevance and enhance your professional life. Our growth plan is not monolithic; it is a living document that depends on champions and doers to ensure it continues to grow and capture the areas critical to our community. The growth plan represents a great opportunity to get involved and make a difference in what AIAA does in the years ahead.

### COMMITMENT TO DIVERSITY AND INCLUSION

AIAA is mindful that we all are responsible for—and benefit from—a diverse and inclusive aerospace community. It is not an easy undertaking but few are more important to the future success of the industry. How best to achieve greater diversity and inclusion remained an Institute priority and area of focus this past year—an effort that was ably led by AIAA's Diversity Working Group (DWG). Established in 2015, the DWG's mandate is to promote and encourage greater diversity and inclusion across the aerospace workforce and the Institute. Through events, research, and member input, the DWG considered data, best practices, challenges, and opportunities and ultimately produced AIAA's first-ever Diversity and Inclusion Plan in late 2016. The plan underscores AIAA's steadfast commitment to building inclusion and diversity across the profession and the Institute. It is not a static list of challenges confronting our community and their potential solutions, but rather it is a starting point for change and improvement. This living document outlines near-, mid-, and long-term actions targeted at understanding and gathering appropriate metrics, raising awareness and initiating proactive programming, and continuing to evolve AIAA's strategic approach to these issues. It also defines three diversity and inclusion goals: conduct reliable, representative, and continuous assessment of AIAA membership diversity; raise awareness of diversity and inclusion; and facilitate improvements in diversity of AIAA members and its committees, interest groups, programs, and volunteer leadership. Each goal has objectives, which in turn have a series of recommendations for implementation.

While the DWG's initiatives focus on expanding diversity, it also pays special attention to inclusion to ensure that AIAA not only attracts and maintains a diverse membership, but also provides a positive and supportive environment for professional growth and development for all members—student and professional. We encourage all members to read the [full plan](#) and get involved with the DWG and this most worthy endeavor.

It has been a busy 12 months for AIAA, and this letter has only highlighted a few of the major themes that the Institute has addressed over the year. For more information on what we've been doing to help you shape the future of aerospace, please take the time to read the rest of this annual report. It will highlight our other activities: efforts on the public policy front, work with our student members and branches, the ongoing effort to bolster AIAA's publications, the success of our forums, and things our regions, sections, and technical communities are doing to make a difference in your professional lives.

Our governance structure changes, our growth plan, and our commitment to diversity are fundamental to making the Institute stronger and better positioned to serve you. Through the hard work of our volunteer leaders, members, and staff, the Institute is future focused, financially strong, and poised to provide our members—across industry, academia, and government—the programs, content, and leadership that will help the aerospace sector grow and thrive as a global enterprise. We are confident that all of these activities will be valuable to you as members, and that they will propel the Institute toward a bright and thriving future—a future in which each of you will be vitally involved in growing the Institute and expanding its influence throughout our community.

# SERVING THE PROFESSION

- **328 awardees** were recognized for their accomplishments
- **Over 500 members** were named Honorary Fellow, Fellow, Associate Fellow, or Senior Member
- **Nearly 60 AIAA members** were advanced to “Emeritus” status in appreciation of their 50 continuous years of membership
- **44 technical papers** were designated as “Best Paper” by their respective technical committee
- **25 AIAA sections** were recognized for overall excellence, effective communications, member recruitment, and successful programming



## HONORS AND AWARDS

For over 80 years, AIAA has been committed to ensuring that aerospace professionals are recognized and celebrated for their achievements, innovations, and discoveries that make the world safer, more connected, more accessible, and more prosperous. From the major missions that reimagine how our nation utilizes air and space to the inventive new applications that enhance everyday living, aerospace professionals leverage their knowledge for the benefit of society. AIAA continues to celebrate that pioneering spirit showcasing the very best in the aerospace industry.

Over the past year, awardees and honorees received peer recognition at forum recognition luncheons and recognition events such as the annual AIAA Fellows Dinner, the black-tie Aerospace Spotlight Awards Gala, the AIAA Associate Fellow Awards Recognition Ceremony and events hosted with other technical societies.

Looking forward, AIAA remains committed to celebrating achievements of aerospace professionals and will implement creative ways to using technology to showcase honorees.



# SERVING THE PROFESSION



■ Team Arizona speaking with Senator Ted Cruz (R-TX)

## PUBLIC POLICY

AIAA continues to lead the way on issue advocacy that impacts the aerospace sector. The Institute delivers extensive technical expertise and policy guidance to decision makers at the federal and state levels, serving as a reliable resource on a full spectrum of aerospace issues.

### KEY ISSUES

- **Aerospace & Defense Budget Funding and Procurement**  
A paramount issue that we must tackle is the ongoing struggle to achieve budget stability and predictability. At the same time, it is imperative for Congress to address the continuous decline in federal funding for research and development. Moreover, both NASA and the FAA are in need of long-term authorizations and appropriations in order to meet short- and long-term program and mission requirements.
- **Aerospace & Defense Workforce Enhancement**  
A robust and technologically proficient aerospace and defense sector also requires policies that enhance our workforce. This includes improving the pipeline of STEM-educated workers into the U.S. economy and retaining highly-skilled foreign-born STEM graduates who receive degrees at U.S. universities.
- **Aerospace & Defense Competitiveness and Security**  
Several issues must be addressed by Congress in order for our nation's aerospace and defense industry to remain competitive in a growing global market. These include, among other things, establishing aircraft emissions regulations that align with our international partners, reforming the foreign military sales process, ensuring that the U.S. Export-Import Bank Board is filled so that it can process transactions of more than \$10 million, and prioritizing supersonic/hypersonic national defense capabilities.



[Learn More: AIAA Public Policy Key Issues](#)



■ Team Virginia in front of the Capitol on Congressional Visits Day

## CONGRESSIONAL OUTREACH

In late January, AIAA joined the Aerospace Industries Association and the Space Foundation to sponsor educational briefings in both the House and the Senate. Aerospace industry experts presented a broad overview of the sector's myriad contributions to our national defense, security, economy, and quality of life.

AIAA's 20th annual CVD program was held on 29 March. This year, 123 members representing 29 different states attended, with a majority of the participants being students and young professionals. State teams visited approximately 222 congressional offices to help promote the Institute's key issues and raise awareness of the long-term value that science, engineering, and technology bring to the nation.

## PUBLIC POLICY NEWSLETTERS

As a benefit of your AIAA membership, we provide quarterly updates on public policy issues of relevance to the aerospace community.



[Public Policy Newsletter Archive](#)

# SERVING THE PROFESSION



Istanbul Technical University alumni at AIAA SciTech Forum.



John Rose of Boeing Space, Defense, and Security addresses students at the 2017 AIAA SciTech Forum.



Students of the AIAA Brigham Young University Student Branch in the Utah desert with their Level 1 High Power rockets.

## STUDENT ENGAGEMENT

AIAA currently has over 200 active student branches, including 43 international student branches, with a total active membership of over 8,000 students worldwide. Your student branch is your base of operations in AIAA during your university years, and it can help open doors to professional activities, recognition, and contacts that would otherwise be unavailable to students.

AIAA student branches are chartered by both the Student Activities Committee and the AIAA Board of Directors. In January 2017, AIAA recognized two new AIAA student branches during AIAA SciTech Forum in Grapevine, Texas.

- Universidad Autonoma de Baja California (Region VII, but supported by AIAA San Diego State University Student Branch in Region VI)
- Polytechnic University of Puerto Rico (Region II)



Polytechnic University of Puerto Rico AIAA Student Branch (Region II).



[Learn More About Student Branches on AIAA.org](https://www.aiaa.org)

# SERVING THE PROFESSION



STATISTICS 2016

54.3% New



## TOP 3 COUNTRIES (by percentage)



54% United States



15% China



5% Great Britain



## PUBLISHING ESSENTIAL TECHNICAL INFORMATION

AIAA has earned an international reputation as the preeminent publisher of cutting-edge aerospace journals and books and leads the industry in archiving and delivering technical aerospace material. Because AIAA's community is diverse and global, collaboration and the sharing of information and insights in a broad context is critical; our publications program is supported by fair, open, and ethical processes and policies for the benefit of authors, members, and other customers.

Since the 1930s, AIAA and its predecessor organizations have published close to 500 books, including monographs, case studies, textbooks, histories, and reference works; over 160,000 conference papers; and almost 70,000 journal articles. AIAA's current technical publications include eight journals, three book series, domestic and international standards documents, a growing number of ebooks and other electronic products, and a full-service, interactive website, Aerospace Research Central.

Today, preservation of AIAA's publications represents a major focus of the Institute. Through the wise reinvestment of revenues generated by publication sales and subscriptions, income from other Institute activities, as well as the generous support of its corporate members, AIAA has created comprehensive archives, providing access to technical information to individual members, institutions, and other customers. Revenues from AIAA publications also support investments in professional member collaboration, interaction, development, and recognition worldwide; contribute to student programs and scholarships at precollege and undergraduate and postgraduate levels; and strengthen the profession through the creation of essential domestic and international standards across a range of topics, including growth areas from commercial space to UAVs.

[Learn More about Journals, Publications, and Standards at arc.aiaa.org](http://arc.aiaa.org)

## Books 2016

Total Number of New Titles Published:	7
Total Number of Existing Titles Reprinted:	29
Total Number of New Publishing Agreements Signed:	9

## JOURNALS 2016

Total Number of Manuscripts Submitted:	2,174
Total Number of Manuscripts Rejected:	1,541
Total Number of Articles Published in all Journals:	1,248

## CONFERENCE PAPERS 2016

Total Number of Abstracts Submitted:	6,988
Total Number of Abstracts Rejected or Withdrawn:	1,902
Total Number of Papers Published in Conference Proceedings:	5,086

# SERVING THE PROFESSION

## SOCIAL MEDIA ACROSS THE AIAA FORUMS

Total Tweets at all Forums:	6,580
Total Twitter Timeline Deliveries from all Forums:	89,918,712
Total People Reached by Twitter at all Forums:	24,536,259

Tweet-ups have become very popular with AIAA Forum attendees.

Social media has become fully integrated into the experience of attending an AIAA forum.

## FORUMS

AIAA forums continue to bring the aerospace community together around critical topics, providing relevant programming and opportunities for valuable networking.



- Focused on “Driving the Next Century of Flight Innovation,” the 2016 AIAA AVIATION Forum had a strong showing in Washington, DC. As part of this forum, AIAA organized its first DEMAND for UNMANNED® symposium so UAS and aviation system stakeholders could discuss and collaborate on research challenges and advancement strategies.



- The 2016 AIAA Propulsion and Energy Forum addressed “Innovations in Propulsion and Energy Driving System Solutions.” Following the forum, the AIAA communities involved in electric aircraft and hybrid electric power and propulsion met as part of a workshop to define the role of the Institute of this area.



- “Opportunities for the Global Community” was the theme of the 2016 AIAA SPACE Forum. In conjunction with the forum, AIAA partnered with Aviation Week Network to bring together leaders in the space industry for the first Space Commercialization Executive Summit.



- In addition to the core program at the 2017 AIAA SciTech Forum addressing “Full Spectrum Disruption Across the Global Aerospace Community,” the forum featured enhanced programming to better serve the large student and young professional audience who attend this forum.



- The 2017 AIAA DEFENSE Forum stimulated insightful conversations and collaboration through cutting-edge, in-depth technical research presentations and senior-level plenary briefings, supporting the theme “Strengthening National Defense and Security through Innovative Collaboration.” The forum created classified discussions across the communities, agencies and disciplines involved in aerospace defense.

## UPCOMING FORUMS

**2017 AIAA AVIATION Forum**  
5–9 June 2017  
Denver, Colorado  
[aviation.aiaa.org](http://aviation.aiaa.org)

**2017 AIAA Propulsion and Energy Forum**  
10–12 July 2017  
Atlanta, Georgia  
[propulsionenergy.aiaa.org](http://propulsionenergy.aiaa.org)

**2017 AIAA SPACE Forum**  
12–14 September 2017  
Orlando, Florida  
[space.aiaa.org](http://space.aiaa.org)

**2018 AIAA SciTech Forum**  
8–12 January 2018  
Kissimmee, Florida  
[scitech.aiaa.org](http://scitech.aiaa.org)

**2018 AIAA DEFENSE Forum**  
8–10 May 2018  
Laurel, MD  
[defense.aiaa.org](http://defense.aiaa.org)

 To learn more about the latest programming at AIAA forums, visit the forum websites!

# SERVING THE PROFESSION

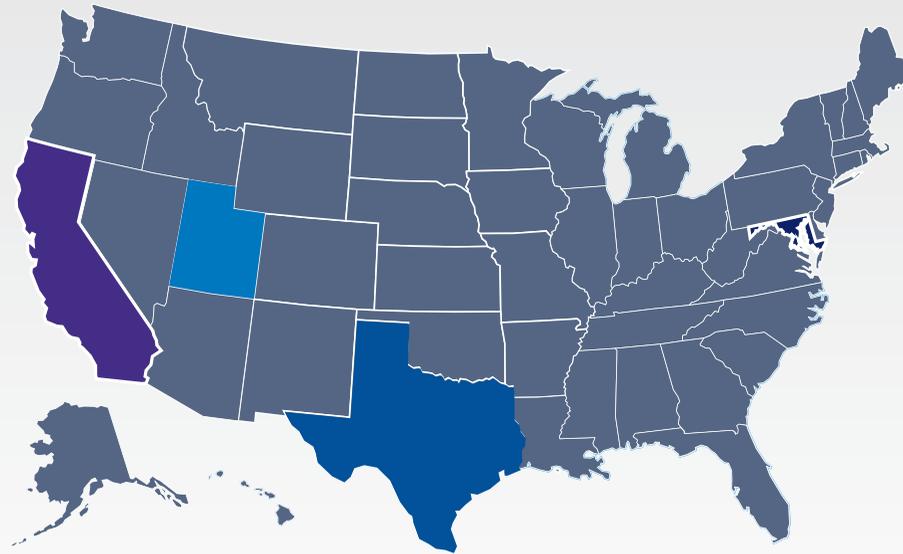
## FORUMS: BY THE NUMBERS



### SPACE FORUM

13–16 September 2016, Long Beach, CA

- 1,121 Attendees
- 476 Papers Published
- 30 Countries Represented



### DEFENSE FORUM

25–27 April 2017, Laurel, MD

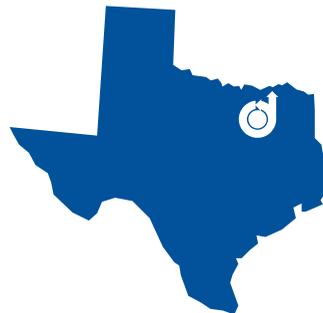
- 234 Attendees
- 83 Technical Presentations
- SECRET/U.S. ONLY



### PROPULSION ENERGY FORUM

25–27 July 2016, Salt Lake City, UT

- 1,161 Attendees
- 593 Papers Published
- 33 Countries Represented



### SCI-TECH FORUM

9–13 January 2017, Grapevine, TX

- 3,890 Attendees
- 1,967 Papers Published
- 38 Countries Represented



### AVIATION FORUM

13–17 June 2016, Washington, DC

- 2,281 Attendees
- 1,196 Papers Published
- 37 Countries Represented

## TECHNICAL ACTIVITIES

Technical Activities is currently made up of seven technical groups along with program committees. Within those seven technical groups are 71 technical committees (TCs) and 11 program committees (PCs). Although much of their time is spent organizing sessions for AIAA forums, a sampling of other activities that took place this past year follows.

### AEROSPACE DESIGN AND STRUCTURES

- The **Non-Deterministic Approaches (NDA) TC** created a service award to recognize outstanding contributions and advocacy for the NDA community in general, especially the AIAA NDA TC, their service as TC mentors, and conference organizers at various level of responsibilities and positions.
- The **Design Engineering TC** had a record number of entries for their annual Design/Build/Fly competition.
- The **Materials TC** developed a Materials book. The draft book is complete and publication is pending resolution of some copyright issues.

### AEROSPACE SCIENCES

- The **Aerodynamic Measurement Technology TC** held its fourth annual Update Presentations and Student Event at the 2017 SciTech Forum. Attendance has grown from 10 people to over 70. It is an opportunity for student outreach, networking, and education.
- At the 2016 AVIATION Forum in Washington, DC, the **Applied Aerodynamics TC** hosted its 6th CFD Drag Prediction Workshop (DPW). Unlike previous workshops, it occurred during the conference. The workshop boasted submissions (drag predictions) from 25 teams across North America, Europe, Asia, and South America. Attendance peaked at over 100 the first morning, and averaged about 75 over the two days.

- A best practice of the **Guidance, Navigation and Control TC** is to maintain a mentoring approach for assignments/subcommittee chairs. TC members who are interested in a position become a member of a subcommittee or support a lead on an assignment (i.e., protégés). After learning about the subcommittee role and responsibilities, subcommittee members are better able to transition into lead (i.e., mentor) roles. New members are strongly encouraged to volunteer for the protégé position when each assignment is reviewed.
- With a goal of growing the Aerospace Sciences content at AVIATION Forum, ITAR sessions have been established that allow members to present recent and relevant program information that is export controlled. ITAR sessions were implemented starting at the 2016 AVIATION Forum and will continue into the future.

### INFORMATION SYSTEMS

- The “Roadmap for Intelligent Systems in Aerospace” by the **Intelligent Systems TC** continues to be a major TC initiative to articulate a vision for intelligent systems and advocacy for research funding. The 1st edition of the roadmap was publicly released in June 2016. The 2nd edition is being planned for future release.
- The **Computer Systems TC** has increased its forum participation by having a session at DEFENSE Forum and AVIATION Forum already locked in.
- The **Digital Avionics TC** continues to generate new members for AIAA (over a dozen annually) by offering a one-year paid membership with any full-price conference registration to either of our two cosponsored conferences:
  - Digital Avionics Systems Conference (DASC)
  - Integrated Communications, Navigation, and Surveillance (ICNS)

(continued)

## PROPULSION AND ENERGY

- An Aircraft Electric/Hybrid Electric Propulsion and Power Workshop was held following the 2016 Propulsion and Energy Forum. A key outcome from the workshop was to establish the new **Aircraft Electric Propulsion Working Group** to coordinate and increase technical content across all forums as well as engage with other organizations such as IEEE.
- With the support of Aerojet Rocketdyne and Orbital ATK, the **Solid Rockets TC** continued to provide free Solid Rocket Road Show Kits for elementary and middle school science classes. The kits contain a DVD on solid rocketry, simulated propellant ingredients, and a workbook for students.
- The **Gas Turbine Engines TC** continued their program to actively engage student leaders and have them participate in TC activities.
- The **Energetic Components and Systems TC** revised and published the AIAA-S-113A standard "Criteria for Explosive Systems and Devices on Space and Launch Vehicles."
- The **Nuclear and Future Flight Propulsion (NFFP) TC** submitted a key issues report regarding the role of nuclear and advanced propulsion systems in national policymaking. NFFP also established the Robert L. Forward Pioneer Award to recognize outstanding contributions to the development of advanced and future flight propulsion concepts.
- The **Propulsion and Energy Forum Technical Program Committee** is developing innovative educational content for the forum in terms of tutorials. The first two tutorials are on the topic of additive manufacturing and propulsion system simulation. The group also is working to introduce the Complex Aerospace Systems Exchange (CASE) into the Propulsion and Energy Forum starting in 2017.

## AIRCRAFT AND ATMOSPHERIC SYSTEMS

- The **Aerodynamic Decelerator Systems TC** held a very successful H.G. Heinrich Parachute Short Course in Portsmouth, VA, 6–10 June 2016. They had 46 attendees who confirmed the value of the course. This year the TC also completed the initial phase of parachute report collection at the Linda Hall Library with over 20,000 pages of historical technical reports.
- The **Air Transportation Systems TC** started a webinar series where leaders from industry and technology areas related to aviation present their work to TC members. There were three webinars in 2016.

## ENGINEERING AND TECHNOLOGY MANAGEMENT

- The **Legal Aspects of Aeronautics and Astronautics TC** participated in the North American Regionals of the Manfred Lachs Space Law Moot Court Competition in April 2016. Committee members served as judges in the oral rounds of this student competition. The winner goes on to compete in the international round before judges from the International Court of Justice.
- The **Society and Aerospace Technology TC** teamed with the International Association of Astronomical Artists (IAAA) to present an exhibit of space-themed artwork at the 2016 SPACE Forum. The goal was to provide a societal connection between technical and aerospace artistic communities. The exhibit was well visited and well received by the conference attendees.
- The **Systems Engineering TC** revised the AIAA standard "AIAA S-117 Space Systems Verification Program and Management Process" and contributed to the editing of "Advances in Systems Engineering, Volume 1," which was published by AIAA in October 2016.

## SPACE AND MISSILES

- The **Life Sciences and Systems TC** along with the Space Architecture TC co-proposed and co-organized the 2016–2017 AIAA Graduate & Undergraduate Life Sciences Team Design Competition (Human Spaceflight: Phobos Base).
- The **Space Architecture TC** also published a brochure entitled "How to Become a Space Architect."

## PROGRAM COMMITTEES

- The **Pressure Gain Combustion PC** initiated the 1st International Constant Volume and Detonative Combustion Workshop in June 2017 in Poitiers, France.
- The **Unmanned Systems PC** represented AIAA at the FAA's MicroUAS Aviation Rulemaking Committee and also assisted at AIAA and Drone World Expo's IDEA.

# SERVING THE PROFESSION



Members of the Southern New Jersey Section having a blast with the Rowan University Student Branch's Blast Off! Event.



Greater New Orleans Section professional and student members at LSU.



AIAA Distinguished Lecturer Tucker Hamilton with members of the Indiana Section.

## REGIONS AND SECTIONS

Every month there are activities held across the country and around the world by AIAA's 58 sections. These events help members exchange information, build professional relationships, mentor young professionals, reach out to local students and support their local community. A small sampling of events from the seven regions exemplifies the scope and diversity of the many events and hard work of members in the field.

### REGION I

In the spring, the Southern New Jersey Section supported the Rowan University Student Branch at Rowan University's First Annual Blast Off! event for local high school rocket teams. Ten high school teams were asked to launch a rocket with an egg payload and target a given peak altitude and a landing area, recovering the payload intact. Teams were judged on altitude error, landing error, and time.

### REGION II

In November, the Greater New Orleans Section visited the Louisiana State University (LSU) Student Branch for a dinner and lecture on "SLS Core Stage Green Run Testing" by Nicholas Nugent of NASA Stennis Space Center.

### REGION III

In August, the Indiana Section welcomed AIAA Distinguished Lecturer Tucker Hamilton. Over 45 people met for dinner at the Slippery Noodle Inn and heard Tucker's lecture on "Making a Difference at Mach 2."

### REGION IV

In the Southwest Texas Section, members of the University of Texas (UT) at Austin Student Branch celebrated "Introduce a Girl to Engineering Day" with a STEM activities booth. Over 500 girls attended the event on the UT campus.



Members of the University of Texas (UT) at Austin Student Branch celebrated "Introduce a Girl to Engineering Day" with a STEM activities booth.

### REGION V

Rocky Mountain Section members attended an event at Boom Technologies in January. As part of the section's Speaker Series, they heard about Boom's supersonic airliner plans.

### REGION VI

The Tucson Section held an exhibit at the June 2016 ComicCon in Phoenix, and later at the Tucson ComicCon. They created special bookmarks, buttons and other materials, organized STEM events for attendees, and participated in panel discussions.

### REGION VII

The Adelaide Section organized an Australian Distinguished Lecture tour with lecturer Randii Wessen in late August. The itinerary included five public talks, one private lecture and tour, three STEM outreach events, two AIAA members-only events, and two radio interviews. Not including the radio interviews, more than 1,500 people attended the events.



Members of the Rocky Mountain Section listening to a presentation on supersonic aircraft.



Members of the Tucson Section running a STEM event for attendees of the 2016 Phoenix ComicCon.



Distinguished Lecturer Randii Wessen with members of the Adelaide Section at a members-only event.

# FINANCIALS

## STATEMENTS OF CASH FLOWS

(in thousands)

	Years ended 30 September	
	2016	2015
<b>Cash flows from operating activities</b>		
Net change in net assets	\$ 1,340	\$ (1,654)
Adjustments to reconcile change in net assets to net cash provided by (used in) operating activities:		
Depreciation and amortization	758	552
Net realized and unrealized gains on investments	(1,751)	1,443
Contributions restricted for long term investment	(25)	
Changes in operating assets and liabilities:		
Accounts receivable, net	575	(510)
Beneficial interest in trusts	(435)	197
Prepaid expenses and other current assets	3	(503)
Due from Foundation	(24)	96
Inventory	(17)	31
Accounts payable and accrued expenses	1,972	95
Deferred member dues	(91)	50
Deferred subscriptions	69	182
Deferred other	(267)	244
Other liabilities	1	(22)
Net cash provided by (used in) operating activities	2,108	201
<b>Cash flows from investing activities</b>		
Proceeds from the sale of investments	—	4,645
Purchases of investments	(737)	(6,133)
Purchases of fixed assets	(1,338)	(281)
Net cash (used in) provided by investing activities	(2,075)	(1,769)
<b>Cash flows from financing activities</b>		
Contributions to be held permanently	25	—
Net cash (used in) financing activities	25	—
Net change in cash and cash equivalents	58	(1,568)
Cash and cash equivalents, beginning of year	1,790	3,358
Cash and cash equivalents, end of year	<u>\$ 1,848</u>	<u>\$ 1,790</u>

## STATEMENTS OF FINANCIAL POSITION

(in thousands)

	Years ended 30 September	
	2016	2015
<b>Assets:</b>		
Cash and cash equivalents	\$ 1,848	\$ 1,790
Investments	26,847	24,362
Accounts receivable, net	307	881
Intercompany receivable	28	3
Prepaid expenses and other current assets	872	875
Inventory	41	24
Beneficial interest in trusts	9,036	8,601
Fixed assets, net	<u>1,710</u>	<u>1,129</u>
Total assets	<u>\$ 40,689</u>	<u>\$ 37,665</u>
<b>Liabilities:</b>		
Accounts payable and accrued expenses	\$ 4,039	\$ 2,067
Deferred member dues	2,803	2,894
Deferred subscriptions	1,972	1,903
Deferred other	707	974
Other liabilities	<u>56</u>	<u>55</u>
Total liabilities	9,577	7,893
<b>Net assets:</b>		
Unrestricted net assets	21,753	20,811
Temporarily restricted net assets	<u>9,359</u>	<u>8,961</u>
Total net assets	<u>31,112</u>	<u>29,772</u>
Total liabilities and net assets	<u>\$ 40,689</u>	<u>\$ 37,665</u>



AIAA is tax exempt under Section 501(c)(3) of the Internal Revenue Code. Audit Accounting Guidelines require the consolidation of financial results for the AIAA Institute and the AIAA Foundation. The complete audited consolidated financial statements are available on [www.aiaa.org/AnnualReports/](http://www.aiaa.org/AnnualReports/).

## STATEMENTS OF ACTIVITIES

(in thousands)

Years ended 30 September

2016 2015

### Change in unrestricted net assets:

#### Revenue

Member services	\$ 3,875	\$ 4,126
Technical publications	9,437	9,589
Outreach	131	263
Technical activities	<u>6,812</u>	<u>6,867</u>
Revenues before investment return, contributions and net assets released from restriction	20,255	20,845
Investment return	2,510	(679)
Contributions	21	55
Net assets released from restriction	<u>75</u>	<u>26</u>
<b>Total revenue</b>	<b>\$ 22,861</b>	<b>\$ 20,247</b>

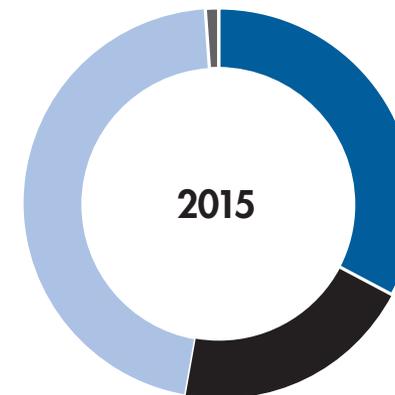
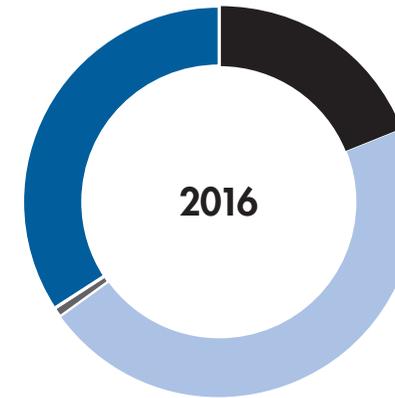
#### Expenses

Program services:		
Member services	\$ 3,372	\$ 3,460
Technical publications	4,531	4,910
Outreach	1,554	1,384
Technical activities	4,792	4,510
Strategic plan initiatives and business development	1,837	2,056
Other program services	1,432	1,007
Custodial program	75	26
General and administrative	<u>4,297</u>	<u>4,358</u>
Total expenses before investment expenses	21,890	21,711
Investment expenses	<u>29</u>	<u>27</u>
<b>Total expenses</b>	<b>21,919</b>	<b>21,738</b>
Change in unrestricted net assets	942	(1,491)

#### Change in temporarily restricted net assets:

Contributions and change in fair value of beneficial interest in trusts	435	(197)
Custodial program contributions	38	60
Net assets released from restriction	<u>(75)</u>	<u>(26)</u>
Change in temporarily restricted net assets:	398	(163)
Net change in net assets	<u>1,340</u>	<u>(1,654)</u>
Net assets, beginning of year	<u>29,772</u>	<u>31,426</u>
Net assets, end of year	<b><u>\$ 31,112</u></b>	<b><u>\$ 29,772</u></b>

## REVENUE



# LEADERSHIP



## 2016–2017 AIAA BOARD OF DIRECTORS

The heart of the Institute is its volunteer leadership—members elected by their peers to govern the organization. The Board is responsible for guiding AIAA’s activities and for stewarding its resources. The volunteer leadership in this report reflects the composition of the Board from June 2016 through May 2017.

■ Not pictured: James Albaugh, Laura McGill, Frank K. Lu



# 2016–2017 AIAA BOARD OF DIRECTORS

## **PRESIDENT (2016–2018)**

**James "Jim" G. Maser**  
Vice President, F135 Program, Pratt & Whitney

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Vacant

## **VICE PRESIDENT, FINANCE (2015–2018)**

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Florida Street Group

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**Annalisa Weigel**  
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University of Arkansas

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## **DIRECTOR–AT-LARGE (2015–2018)**

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SkySpecs

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University of Glasgow

## **DIRECTOR–INTERNATIONAL (2015–2017)**

VACANT

## **DIRECTOR–INTERNATIONAL (2015–2018)**

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MARI SCIETECH

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Northrop Grumman

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Rolls–Royce Corporation

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## **DIRECTOR–REGION V (2016–2019)**

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Stellar Solutions

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European Space Agency

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Blue Origin

## **STUDENT LIAISON (2015–2017)**

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Purdue University

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**Angelo M. Iasiello**, Chief Operating Officer

**William C. Seymore**, Secretary/Treasurer

**Suzie Rapp**, Executive & Governance Assistant

**Karen Rosenblum**, Chief Financial Officer



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