



# Looking to the Future

*AIAA ANNUAL REPORT 2010–2011*

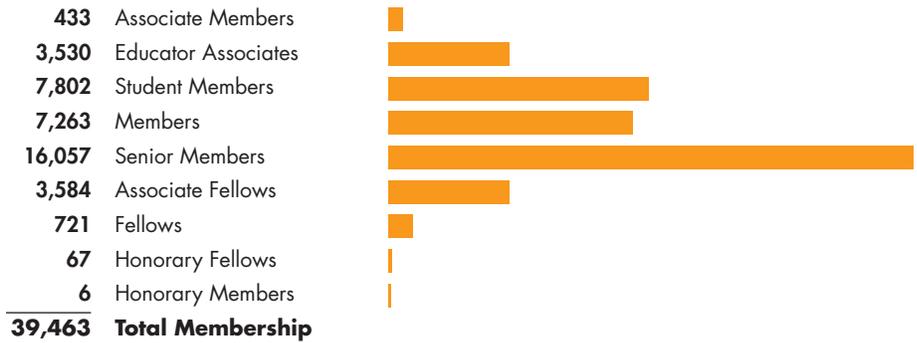
  
The World's Forum for Aerospace Leadership

# A Snapshot of AIAA

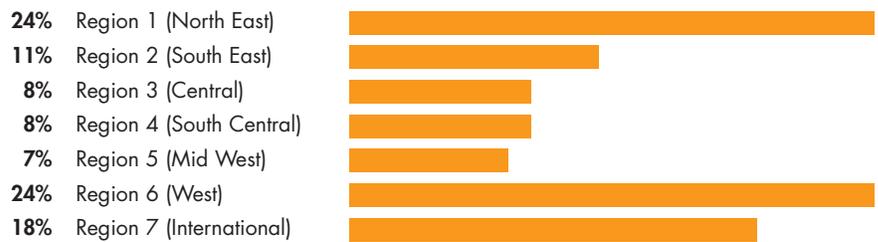
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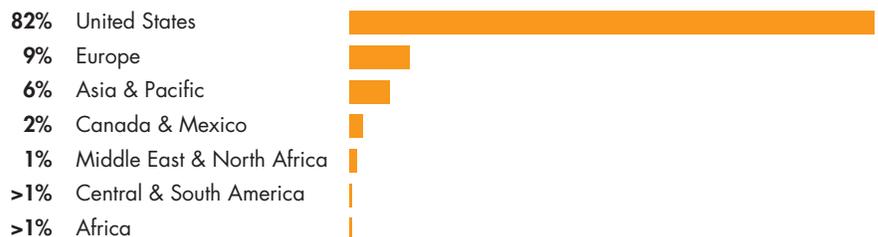
## Membership Status



## by AIAA Region



## by World Region



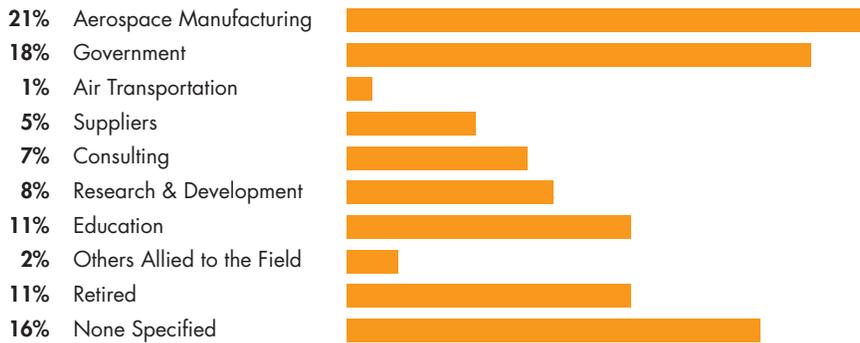
## by Age



## by Gender



## by Primary Business



**The American Institute of Aeronautics and Astronautics** is the world's leading professional society in the field of aerospace science, engineering, and operations.

We provide products, services, and events that stimulate creative technical exchange on emerging opportunities and critical problems in the aerospace profession; facilitate lifelong learning and career enhancement opportunities for aerospace professionals; pursue initiatives on aerospace workforce development, including a focus on early-career and next-generation professionals; and act as the public policy advocate and voice of the aerospace profession.

Our vision is to be the shaping, dynamic force in the aerospace profession – *the* forum for innovation, technical excellence, and global leadership.

Our mission is to address the professional needs and interests of the past, current, and future aerospace workforce and to advance the state of aerospace science, engineering, technology, operations, and policy to benefit the global society.

AIAA was formed in 1963 through the merger of the two primary professional societies for space and aviation – the American Rocket Society (ARS, founded in 1930 as the American Interplanetary Society) and the Institute of the Aerospace Sciences (IAS, founded in 1932 as the Institute of the Aeronautical Sciences). Over many decades, our members have been involved in every milestone in modern American flight.

## Financial Information 2008–2010

(in thousands US \$)	Institute Total Assets	Institute Revenue	Institute Net Assets
<b>2008</b>	28,067	17,054	13,115
<b>2009</b>	25,954	21,604	7,735
<b>2010</b>	27,622	24,596	9,271

# President's Report



Mark Lewis

*We can celebrate the increase in our student membership, up 14%, and in our corporate membership, up 11% over the last two years.*

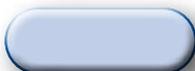
It has been a positive year for AIAA, despite the struggling economy and the increasingly difficult government R&D environment that has resulted. The troubled world economic climate, reductions in military spending, and uncertainties at NASA pose significant threats to the aerospace industry as a whole, as well as to AIAA. In this context, our stability is reflected not only in our overall fiscal health, but also in the new initiatives we have successfully undertaken, from international cooperative agreements to programs bringing value to our members in creative new ways. All of these initiatives help build the foundation for a healthy future for AIAA, responsive to the evolving face of the aerospace profession.

On the financial side, operations have continued to meet our business goals and objectives. Despite losses in the economic downturn, the financial health of our investment portfolio has been improving. Top line growth has been flat for several years, but AIAA has protected the bottom line by carefully managing expenses and increasing operational efficiencies. For example, we have developed online capabilities for an increasing number of applications, including publications, conference administration, and a digital version of *Aerospace America*. These new initiatives will also position us for stronger results as the economic situation improves. Many of these efforts are highlighted in this year's Annual Report, which is itself presented in a new, more user-friendly format.

The primary metrics of the state of the Institute—membership, conference attendance, and publications—are mixed. We can celebrate the increase in our student membership, up 14%, and our corporate membership, up 11% over the last two years. The latter reflects a renewed enthusiasm among our corporate members, and great work by our leadership and staff. The growth in student membership highlights increased enrollment in aerospace curricula, and a keen interest in aerospace by the rising generation. Although our professional membership declined, it was only by three percent. Given the global recessionary period, and the fact that we instituted a long-overdue increase in membership fees, this decrease was actually less than we anticipated. All of these results indicate that our members greatly value the benefits they receive from membership in AIAA.

Overall conference attendance has been relatively steady. Some well-established conferences saw a slight decline in attendance during the economic downturn, but our overall results were bolstered by new events hosted by AIAA, including the International Conference on Environmental Systems (ICES) and *Aerospace in the News*, both of which brought in new constituencies and participants. Hosting ICES and *Aerospace in the News* was a special opportunity, as these events were acquired from the Society of Automotive Engineers. We are also developing other new events for the current year and beyond; as the economy improves, we expect conference attendance to again be on a growth path, at our traditional conferences as well as these new events. Moreover, we are exploring ideas for consolidating conferences, developing partnerships with other societies, and increasing the effectiveness of certain traditional events.

The trends in publications are more complicated, because they are affected not only by short-term economic conditions, but also by an ongoing technological change. Online journals are well-established in the modern publishing and research environment. In the recent news e-book revenues are continuing to grow an incredible rate, although they still only generate about 40% as much revenue as the print market. Our experience has followed a similar trajectory. Although print subscriptions are down, electronic or "softcopy" subscriptions are well up, a trend we expect will continue. So we are



contemplating a world without print or at least with limited print. For journals, print-only revenues are now about one-third of our total revenues; print/online packages contribute another 25%. Print versions continue to contribute substantial revenues, but cost more to produce and distribute than their electronic counterparts. The future is clear: in fiscal year 2010 online journal revenue surpassed print-only for the first time, with 42% of subscription revenue. AIAA e-books, however, remain in their infancy, and face additional technological evolutions. The ultimate fate of print editions of any publication, as well as of the traditional book, remains to be seen, since we are still in the middle of that transition, but the good news is that the market remains strong overall for the full range of our publications. I attribute this to the continuing high quality of our publications, which are recognized as the standard throughout our community.

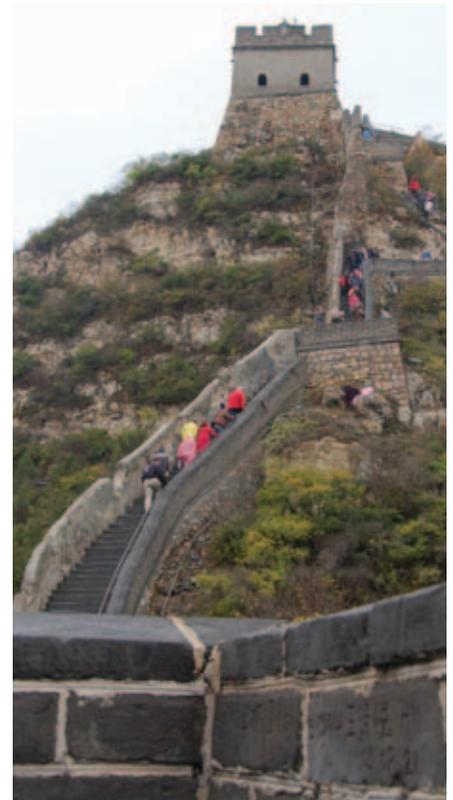
We also face another important cultural challenge ahead: calls to make the results of all federally funded research available free of charge, which could have a substantial impact on our publications. "Public access publishing" might sound reasonable, but in reality may significantly undermine the peer review process, and with it, the overall quality of our publications. Our Publications Committee is working with our Public Policy Committee in collaboration with other societies to address this important issue.

Initiatives that are not easily measured in strict metrics may nonetheless have a profound effect on our future. Among these is a budding partnership with the Chinese aerospace community, an initiative that is proceeding cautiously as we seek the most beneficial path for all parties. We are also pursuing the ongoing transition to "softcopy" versions of our products and capabilities to enhance our efficiency, increase our flexibility, and strengthen our engagement in the public arena. Along these lines, we are putting a significant effort into revamping our Web site in response to member feedback.

None of these efforts happened overnight, and we have been able to build on past years' initiatives. Thus, interactions with our Chinese aerospace counterparts build on initiatives begun several years ago to expand our presence in countries with a growing aerospace industry

*We signed agreements with the Chinese space community's equivalent of AIAA, and with a Chinese publisher for translations of AIAA books.*

# 美国航空航天学会



■ The AIAA delegation to China, inside the Forbidden City and at the Great Wall. The characters at left say "The American Institute of Aeronautics and Astronautics."

*Attendance has increased each year at AIAA Congressional Visits Day and at our policy forums on Capitol Hill.*

that is underrepresented in the Institute's membership. In the past year, we signed agreements in Beijing with the Chinese space community's equivalent of AIAA and with a publisher for Chinese translations of AIAA books. Following that, a corporate member delegation from space-related companies visited China and toured Chinese space industry sites. The State Department characterized these AIAA activities as important in building long-lasting relationships throughout this close-knit community. We will continue these efforts, expand them into the Chinese aviation community, and explore similar initiatives with other established and rising aerospace nations.

Developing the online version of *Aerospace America* was accompanied by the ongoing transition of our journals and conference papers to the ScholarOne system, to improve our process of tracking conference papers and peer-reviewed journal articles. The books program will then follow suit through the remainder of 2011. We also developed an interactive version of our publications catalog, and introduced customized versions of our new Association Management Software to tailor the processes to the unique needs of the Institute's membership. A particular challenge was to do this in the context of our legacy processes.

I am also pleased to report that our growing public policy efforts of the past few years are having an ever-increasing impact. Attendance has increased each year at AIAA Congressional Visits Day and at our policy forums on Capitol Hill, and these policy efforts are increasingly effective, as shown by the increased participation of Legislators

■ AIAA's Design/Build/Fly competition drew teams of aerospace engineering students from across the country and around the world, including these competitors from Anadolu University in Turkey.



■ AIAA continued to expand its Education Alley program to excite schoolchildren about the wonders of science and engineering.



and their senior staff, and by an increasing number of requests for AIAA viewpoints on policy matters. For example, we were asked to support a Congressional hearing on manned spaceflight, a reflection of the fact that decision makers increasingly regard AIAA as a reliable source of aerospace technical information.

To sum up, we are on solid ground as we look toward the future. Financially, we are holding our own and even somewhat exceeding our annual fiscal goals. Beyond that, we are establishing the foundation to reach our future goals for growth, for outreach into the global aerospace community and the public square, and for expanded service to the aerospace profession.

My time as your President has been personally fulfilling, in leading the dedicated efforts of the partnership between the Institute's volunteers and staff. This Annual Report contains highlights of more activities than I can describe in this short summary, and I encourage you to explore our new format, and to share your comments and suggestions. Thank you for your confidence in electing me to represent the Institute. I encourage all of you to engage more fully with AIAA, to participate in activities important to your career, and to find ways in which you can make a difference. The profession needs your support as we move into the post-Shuttle era in a highly competitive global environment. Your enthusiastic involvement in what AIAA has to offer will enhance your professional life greatly, in ways beyond what you might imagine.

*Conference attendance was bolstered by new events hosted by AIAA.*

■ AIAA hosted its first International Conference on Environmental Systems (ICES) in Barcelona in 2010.



■ AIAA Houston Section members work with Booker T. Washington High School students to prepare an HD camera for a weather balloon launch experiment. The students built the payload themselves.



■ Great view from the balloon at 100,000 feet over Houston makes all the effort worthwhile! Credit: [www.ProjectAether.org](http://www.ProjectAether.org)

# Serving the Profession: Our Members

## AIAA HONORS AND AWARDS

AIAA is proud to honor the very best in aerospace – individuals and teams who have pushed aerospace technology forward, who have advanced the quality and depth of the aerospace profession, and who have leveraged their aerospace knowledge for the benefit of society. The Honors and Awards program began recognizing achievements in aerospace even before the American Rocket Society and the Institute of the Aerospace Sciences merged in 1963 to become AIAA, and there are now over 80 different awards. The oldest date back to the 1930s and 1940s, and today two awards—the Reed Award for Aeronautics and the Goddard Award for Astronautics—represent our very highest honors.

For well over 70 years, thousands of the industry's best and brightest have been recognized for their outstanding achievements in and significant contributions to aerospace, in technical fields as well as in public service, publications, section participation, and sustained service to AIAA.

### *Among the Stars – Saluting the Best of Aerospace*



■ The 2010 AIAA Fellows and AIAA Honorary Fellows at the Aerospace Spotlight Awards Gala in May 2010.



■ Accepting the AIAA Foundation Award for Excellence on behalf of the Joint Strike Fighter Program were Tom Burbage, Executive Vice President and Joint Strike Fighter Program General Manager at Lockheed Martin Aeronautics (center left), and Maj. Gen. C. D. Moore, Acting Program Executive Officer for the F-35 Lightning II Program Office (center right). With them are David Thompson, AIAA Foundation Board of Trustees (left), and AIAA President Mark Lewis (right).



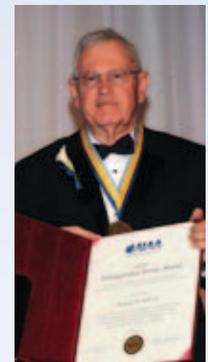
■ At the 2010 AIAA Aerospace Sciences Meeting, Professor D. Ian Poll of Cranfield University in the United Kingdom (left) delivered the Dryden Lectureship in Research, "Potential for the Minimization of Aviation's Impact on the Environment"; N. Albert Moussa, President of BlazeTech Corporation in Cambridge, Massachusetts (center) delivered the William Littlewood Memorial Lecture, "Aircraft Fire and Explosion Protection"; and former astronaut Col. Eileen M. Collins, USAF (ret.), delivered the von Kármán Lectureship in Astronautics, "Human Spaceflight Success in Space Science and Human Exploration."

More than five hundred guests gathered to salute honorees from academia, government, and industry on 12 May 2010 at the AIAA Aerospace Spotlight Awards Gala—a glittering event that showcased the 2010 AIAA Honorary Fellows, the 2010 AIAA Fellows, and the recipients of AIAA's top honors.

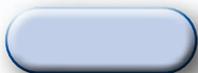
Bringing the aerospace community together, and encouraging and recognizing outstanding achievement, are among the primary goals of AIAA, and nominating worthy candidates for awards or membership upgrade is an important task for AIAA members. We urge AIAA members to consider which of their colleagues and peers are most deserving of nomination for special recognition of their achievements.



■ Gary Davis (left), 2010 recipient of the National Capital Section Barry M. Goldwater Educator Award, and Director of the Office of Systems Development at the NOAA National Environmental Satellite Data and Information Service, with AIAA President Mark Lewis (center) and AIAA National Capital Section Chair Rick Ohlemacher (right).



■ From left: AIAA Goddard Astronautics Award recipient Peter B. Teets, former Under Secretary of the U.S. Air Force; 2010 AIAA Reed Aeronautics Award recipient Eugene Covert, T. Wilson Professor Emeritus at MIT; 2010 International Cooperation Award recipient Kenneth Hodgkins, Director of the Office of Space and Advanced Technology at the U.S. State Department; 2010 Public Service Award recipient Myles O'Brien, aviation, space, and technology journalist; and 2010 Distinguished Service Award recipient Arnold Aldrich, Lockheed Martin Corporation (Retired).



## AIAA's Strategic Imperatives

The current AIAA Strategic Plan has three Strategic Imperatives:

- 1) **Sustain a Robust Aerospace Workforce and Develop Next-Generation Professionals;**
- 2) **Improve Aerospace Energy Efficiency and Advance New Energy Technologies; and**
- 3) **Advance Technologies to Monitor and Reduce Environmental Impacts.**

Many of our public policy activities are aimed at addressing these imperatives.



■ Public policy events were held at major AIAA conferences throughout the year.

## PUBLIC POLICY

### AIAA Grassroots Events Keep Growing

#### “Congressional Visits Day” Draws 166 Members to Capitol Hill

Grassroots AIAA public policy activities continue to expand, both in the number of events and the number of participants. This past year saw AIAA reach a high-water mark in its two most visible grassroots programs.

The 2010 Congressional Visits Day (CVD) events were held on 16–17 March with 166 attendees, making congressional office visits to discuss seven Board-approved 2010 Key Issues (KIs) that included four specifically covering our Strategic Imperatives. We also began the development of a new institutional process to ensure closer cooperation between the Public Policy Committee and the Technical Activities Committee in developing these key issues.

The number of our members who attended reflects a continued growth in this advocacy program. Again this year, each issue was represented both by a short KI statement and a two-page background paper prepared jointly by representatives of the AIAA technical and policy organizations. Preparation events using a “webinar” format in the weeks leading up to CVD were utilized for the first time to enable CVD registrants to be more informed regarding the KIs. In addition, the teams of members visiting from around the country benefitted from a full day of training held in Washington the day before their actual Congressional visits.

#### “August is for Aerospace” Engaged a Record Number of AIAA Sections

August is for Aerospace (A4A) was started several years ago to enable the AIAA sections to organize local events involving elected policy leaders to build on the early-spring CVD results. In 2010, A4A included 35 events with participation by 34 sections. This marked a 75% increase in activities over the number held in 2009. The goal is to continue to increase the number of A4A events each year, and to extend the annual colloquia to all six of AIAA's U.S. regions.

#### Highlighting Public Policy at Our Technical Conferences

To increase the impact of our public policy efforts, AIAA members must be well informed about the important issues affecting aerospace, and must have easily accessible opportunities to interact on these issues. To help accomplish this, we have increased the number of dedicated public policy events at major AIAA technical conferences, with many of the events scheduled to maximize the opportunities for AIAA member participation. Various such events, including policy panels, luncheon presentations by national aerospace policy leaders, and interactive briefings by government agencies regarding aerospace policy planning, were held at the 2010 Joint Propulsion Conference, the SPACE 2010 Conference, and the 2011 Aerospace Science Meeting.

We hope to further build upon and to institutionalize these policy events at the major AIAA conferences, both to provide an opportunity for the AIAA membership to become better informed on the issues, and to expose the local and national media to substantive discussion of the major policy issues affecting our profession. We have now successfully institutionalized several of these sessions, so that they will be an integral part of the conference offerings, and are seeking to ensure that each of our largest technical conference will have integrated policy programs that provide added value to attendees.

# 2010 AIAA CONGRESSIONAL VISITS DAY



■ Some of the Pennsylvania CVD team with Representative Charlie Dent (PA-15).



■ AIAA members meet with Representative Chellie Pingree (ME-1).



■ AIAA's Western Region Public Policy Colloquium helped prepare participants for Congressional Visits Day. An insider's view of Capitol Hill was provided by AIAA's immediate past president, George Muellner, former chief of acquisitions for the U.S. Air Force (center of photo, in blue sweater), and insights on California issues and opportunities were offered by Stan Rosen, former AIAA vice president for public policy, and past chairman of the California Space Authority (third from right).

## Capitol Hill Public Policy Forums Inform Nation's Leaders on Critical Issues

One of the primary goals of AIAA public policy activities is to help assure that national policies affecting our profession are formulated with sufficient wisdom and a with thorough knowledge of the facts. While CVD and A4A help serve this purpose, AIAA also proactively addressing this challenge in other ways. Panel discussions presented on Capitol Hill provided a needed perspective on important aerospace issues. For example, a 13 April evening reception held by AIAA and the AIAA National Capital Section on Capitol Hill was highlighted by an address given by Dr. Annalisa Weigel, "On Engineering Students, Their Motivations, and Their Job Aspirations: How can we grow and retain the next generation of our engineering workforce." The discussion focused on observations of results from a multi-year survey of student attitudes performed by MIT.

AIAA also held a Capitol Hill panel forum on 20 May, "Ensuring Safe Manned Space Flight: A Roundtable Discussion on Human Rating Requirements," which focused on the need under the new national civil space policy to develop a human rating standard that enables public and private entities to understand the rigorous design requirements of new space launch vehicles to ensure safety in our exploration endeavors.

On 16 September, AIAA held a forum on Capitol Hill, "Space and the Biological Economy: Driving the Lift." This panel focused on how the space exploration program drives the United States' biological economy, and what advances in telemedicine and life and biological sciences gained from the space program mean to the nation's long-term economic and physical health.



■ The Los Angeles and Orange County AIAA sections jointly organized an "August is for Aerospace" event to discuss U.S. human space exploration. Moderated by LA section chair Dean Davis, the panel included Apollo 11 Astronaut Buzz Aldrin, XCOR Aerospace CEO Jeff Greason, National Space Society president Mark Hopkins, and Mars Society president Robert Zubrin.



## INSIDE AEROSPACE Highlights Aerospace Role in Climate Monitoring, Energy Efficiency

In May 2010 AIAA's "Inside Aerospace" forum brought together over 150 leaders from the international aerospace community for a candid discussion of how to make aviation more energy efficient and "green" and how to effectively use aerospace technology to understand and mitigate or adapt to climate change.

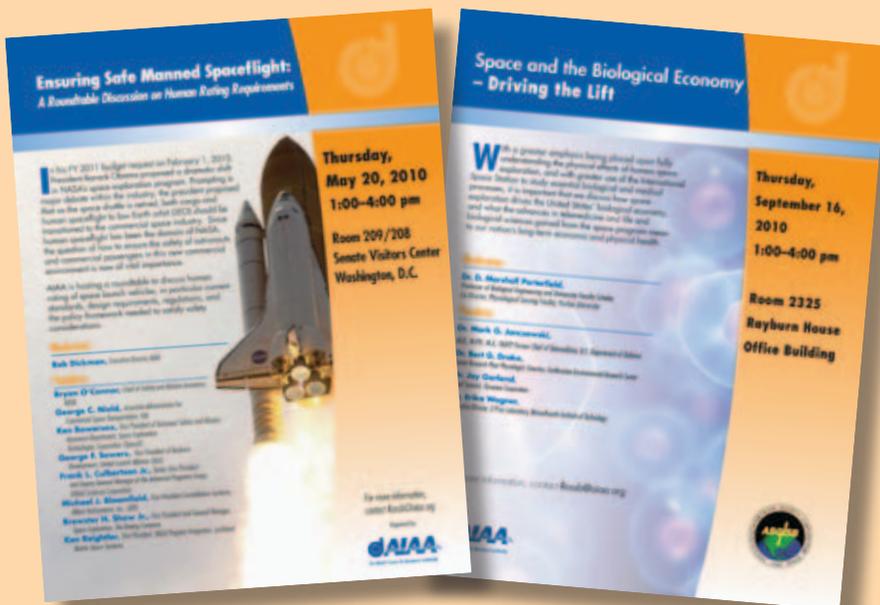
Recommendations by participants in the energy and "greening" of aviation session included international and domestic adoption of a policy framework for energy and the environment, with appropriate incentives, tax credits and rebates; advocating for alternative fuel sustainability; and positioning aviation as a "first adopter" of energy and environmental improvements.

In the sessions on climate change, participants recommended a global strategy of systems engineering and a requirements-driven approach rather than an evolutionary development approach, stressing the development of specific adaptation measures and mitigation of greenhouse gas emissions.

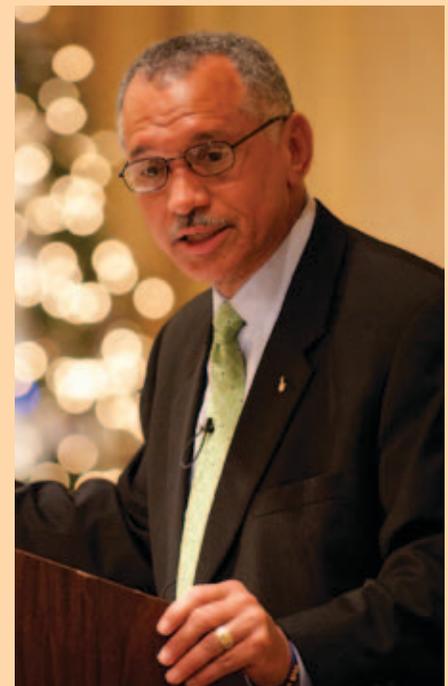
These recommendations were set forth in a report that was made available to the public and to decision makers, and that can be found online at [www.aiaa.org/pdf/public/2010\\_Inside\\_Aerospace\\_Report.pdf](http://www.aiaa.org/pdf/public/2010_Inside_Aerospace_Report.pdf).



At the 2010 Inside Aerospace forum, leaders from the international aerospace community met to discuss how to make aviation more energy efficient and "green" and how best to use aerospace technology to understand and to mitigate or adapt to climate change. The report is available to the public.



AIAA held a series of public policy panels on Capitol Hill to encourage discussion and improve understanding of important aerospace issues, including panels on human rating of commercial space vehicles and on what the advances in telemedicine and biological science gained from the space program mean to the nation's long-term economic and physical health.



NASA Administrator Charles Bolden addressed a luncheon co-hosted by AIAA and Women in Aerospace (WIA). (Photo Credit: NASA/Bill Ingalls)

## Our most popular courses in 2010 were:

- Best Practices in Wind Tunnel Testing
- Systems Engineering Fundamentals
- Introduction to Non-Deterministic Approaches
- Stability and Transition: Theory, Modeling and Applications
- Electric Propulsion
- Liquid Propulsion Systems
- NPSS: A Practical Introduction
- Advanced Solid Rockets
- Robust and Adaptive Control Theory
- System Identification Applied to Aircraft – Theory and Practice
- Advanced Space Vehicle Control and Dynamics
- Radar Principles and Applications

## PMEC added seven new courses to AIAA's course list in 2010:

- Basic Measurement Uncertainty
- Sustainable (Green) Aviation
- Systems Requirements Engineering
- Systems Engineering Verification and Validation
- Perturbation Methods in Science and Engineering
- Atmospheric Flight Dynamics and Control
- Guidance of Unmanned Aerial Vehicles



■ Prof. Peter Zipfel's "Modeling Flight Dynamics with Tensors" course at ASM 2010 in Orlando.

## PROFESSIONAL DEVELOPMENT

### Professional Development Program Expands and Diversifies

FY10 was an excellent year for the AIAA Professional Development Program. AIAA strives to offer the professional courses our membership wants, in a convenient format and at reasonable prices. Our success in that is directly attributable to our instructors, who develop and present cutting-edge courses across the range of aerospace disciplines. Reflecting significant growth over the past year, the program now offers 149 courses.

This year AIAA presented courses at our technical conferences, through our home study program, and at on-site training sessions for NASA and our corporate members, on a wide range of technical topics, from propulsion systems to structures design to missile guidance. Our courses are offered in an array of formats, including traditional short courses, webcasts, webinars, home study opportunities, online tutorials, and audio podcasts.

The Professional Member Education Committee (PMEC) launched seven new courses last year, and expanded AIAA's Education Partnership Program. Launched in 2009, the AIAA Education Partner Program continues to grow, and now includes programs at Auburn University, the University of Colorado, the Stevens Institute of Technology, the University of Tennessee Space Institute, the University of Illinois, NAFEMS, and Practical Aeronautics. All AIAA members taking courses through this partnership receive a 10% discount on tuition costs.



University of Colorado  
Boulder

THE UNIVERSITY of  
TENNESSEE **UT**  
SPACE INSTITUTE



## WORKFORCE DEVELOPMENT, CAREER DEVELOPMENT

### Networking, Up to Speed

AIAA works to enhance the connections among all its members, to catalyze the relationships that can lead to career advancement and technical breakthroughs. One example of this is a new initiative to help break the ice and encourage people to meet and interact with each other, through creative and entertaining "speed networking" events. For example, the Central Florida section, with support from AIAA member services, hosted a speed networking event at the Aerospace Sciences Meeting in January 2011. Open to local section members as well as conference attendees, the networking event was facilitated by Dutch Driver, who has over 25 years of experience in organizational development and change management. In his current role in change management at NASA's Marshall Space Flight Center, he is responsible for creating the infrastructure and support necessary to sustain a technical culture transformation in finance, procurement, and human capital.

Some 35 people participated in the Florida event, and the overwhelming response was that the structure of the event helped them interact with people they might not otherwise have had the chance to meet.



# MEMBERSHIP

## Membership Trends

To no one's surprise, with a struggling economy and a long overdue increase in membership fees, our professional membership declined last year, although the decrease was only 3.4%, from a total of 29,121 to 28,131. Despite the amplifying effect of the sluggish economy, the membership downturn was smaller than after the previous dues increase a decade ago. Additionally, other areas of membership provide hope for a quick recovery and returning growth. Reflecting the value provided to our Corporate Members, our corporate membership has grown 11% over the past two years, from 85 to 94, with increases each year.

Even more promising, along with increasing aerospace enrollments across the nation, student membership leapt 14.7%, from 6,798 to 7,802 during the year. Continuously monitoring member satisfaction through surveys and other feedback mechanisms enables the Institute to stay in touch with the needs of all our members and actively provide benefits of value.

As always, we honor those stalwart AIAA members who have retained their membership in good times and bad, through recognition of important continuous membership anniversaries. More than 700 members celebrated significant membership anniversaries in the past year.

### 709 members were recognized for membership anniversaries



## Regional Leadership Conference Shares Tools for Success

AIAA's 2010 Regional Leadership Conference, a workshop to introduce new Section Officers and Deputy Directors to the Institute's resources and program as well as to share ideas among peers, was held in Nashville. A week which began with attendees scrambling to the hotel's storm bunker to avoid an approaching tornado, ended with a vibrant exchange of best practices, ideas, and tips for strengthening the Institute's local leadership. Attendees heard AIAA President Mark Lewis' thoughts on how strong section and regional leaders are critical to the Institute's continued growth, and from President-Elect Brian Dailey on his vision for AIAA both during his term and beyond. Among the topics covered over the RLC's nine learning sessions were: career enhancement through AIAA participation; a new web portal for sections and regions; and ideas for section member recruitment. RLC attendees from all seven of AIAA's regions returned home with a clear vision for AIAA's future and a solid understanding of why their strong leadership is so critical to making that vision a reality.



■ AIAA's annual Regional Leadership Conference promotes networking and helps develop leadership skills.

## CORPORATE MEMBERS

### Bringing Together Industry and Government Leaders

Despite the tough economy, AIAA corporate membership held steady in 2010, with more than 90 corporate members. AIAA continues to provide industry partners with valuable networking, advocacy, award recognition and access to the people and technical information defining the aerospace future.

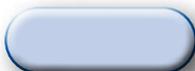
An example of our 2010 networking programs with industry and government leaders is the NASA Johnson Commercial Space Flight Symposium (13–14 October in Houston). This symposium cultivated relationships and partnership opportunities with those interested in the commercial crew program. The symposium consisted of a series of panel discussions plus tours and a variety of hands-on experiences and demonstrations, all involving NASA Johnson operations and engineering personnel (astronauts, flight directors, program leaders and engineers), commercial human spaceflight company representatives, spaceflight participants who have flown to the International Space Station, and other interested participants.

Also in 2010, AIAA corporate partners focused on the development of AVIATION 20XX, a technical program on specific issues facing the aviation industry.

### Executive-level Exchange with China focused on Space

Senior executives from AIAA Corporate Member companies travelled to Beijing and Shanghai for a week's worth of meetings and visits with the highest levels of Chinese leadership at some of the most important organizations in the Chinese space industrial base. The trip succeeded in establishing dialogue between U.S. and Chinese industry and in increased understanding of the goals and priorities of each nation in space.

■ AIAA leadership was pleased to have the opportunity to visit the Boeing Commercial Airplanes and the Museum of Flight in Seattle, WA and present William E. Boeing Jr. with a Certificate of Appreciation for his lifelong role in aviation, his dedicated support to education, and his significant commitment to the preservation of air and space history. Pictured: Terri Morse (Boeing), Larry Brase (Boeing), Dave Knowlen (Boeing), William Boeing Jr., Bob Dickman (AIAA), Merrie Scott (AIAA), Klaus Dannenberg (AIAA), Doug Ball (Boeing), Scott Eberhardt (Boeing) and Mike Lavelle (Museum of Flight).



## Supporting International Cooperation in Key Areas

AIAA helped support the Heads of Agency Summit of the International Academy of Astronautics (IAA) by sponsoring the breakfast for 22 agency leaders in November. The Summit gathered 30 heads of space agencies along with 500+ academicians, world leaders, and experts to address international cooperation across four topic areas to strengthen the effectiveness and support of global space activities. In the same vein, AIAA is partnering with the International Astronautical Federation to co-organize a Global Space Exploration Conference in May 2012 in Washington, DC. This conference will invite global participation from government, industry, and academia representatives and will include presentations on space exploration policy, science, and technology. This unique forum will bring together a full spectrum of participants in the space exploration community and provide opportunities to exchange views and information. The conference will play a key role in building and maintaining the international relationships that will enable meaningful space exploration.

## Collaboration on Vital Industry Issues

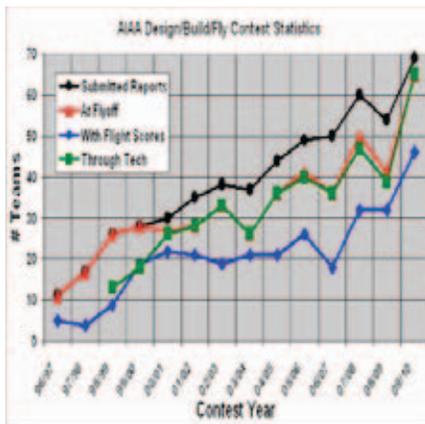
AIAA members come together to address strategic issues facing the industry. From ITAR to innovation, current topics are discussed by the companies leading the aerospace future. Aerospace Today...and Tomorrow...An Executive Symposium (1 June in Williamsburg, VA) is one event that provides a forum for executive discussions on how the aerospace industry is progressing from both government and corporate perspectives. AIAA partners gain valuable insight from key industry leaders who address current business and technical issues impacting the aerospace community.



■ On 4 May 2010, Werner Dahm, Chief Scientist of the U.S. Air Force, was our guest at a corporate member luncheon at the Ronald Reagan Building and International Trade Center, where he briefed our corporate representatives on Technology Horizons, a study to lay out technological opportunities that could produce useful applications for the service for the years ahead.

■ Alan R. Shaffer, Principal Deputy Director, Defense Research and Engineering, Department of Defense, stops by the Pratt & Whitney Rocketdyne (PWR) exhibit booth, at the AIAA Aerospace Sciences Meeting held in January 2011 in Orlando, FL, to meet with Jim Maser, PWR President and Chair of the AIAA Corporate Membership Committee, and Joaquin Castro, PWR Manager, Department of Defense, Strategy and Business Development.

# Serving the Profession: The Future



■ The Design/Build/Fly competition continues to grow. At top, Purdue University students load their plane with a payload for one part of the competition.

## UNIVERSITY

### Student Membership Shows Strong Growth

#### Design/Build/Fly Competition Gets Stronger Every Year

The Student Design/Build/Fly Competition—in which students build and fly a small electric-powered, remote-controlled airplane over a predefined course in a limited time—continues to grow in popularity, and is a tremendous success story for the Technical Activities Committee and the Education Committee. Held at Cessna Field in Wichita, KS 16–18 April 2010, the competition drew 69 teams that submitted written reports, of which 62 teams made at least one flight attempt, with a total of 179 flights taking place over the weekend. In a very close competition for the top three spots, first and second place prizes went respectively to Oklahoma State University’s Team Black and Team Orange, and third place honors went to Purdue University’s B’Euler Up team.

Another indication of the success of the Design/Build/Fly Competition is that accredited engineering schools increasingly use the competition as a way to meet ABET accreditation requirements.

#### AIAA Foundation Awards Over \$60,000 in Scholarships

The AIAA Foundation Scholarship Program, with the help of Student Activities’ Chair for Awards and Scholarships Randy Truman of the University of New Mexico and his army of judges, once again awarded 30 undergraduate and nine graduate student scholarships worth a combined total of over \$60,000. In the graduate category, nine \$5,000 graduate scholarships were awarded, and four graduate students received awards of \$10,000 each.

#### New Regional Competitions Initiated

In 2010, student membership grew to a historic 7,617 students, a 12% increase over 2009 membership numbers. Of these, 550 – 27% of those who were eligible – upgraded to professional membership. Our international student membership continues to be another success story, with over 1,400 international student members.

The Student Activities Committee, under the leadership of Chris Tavares of Boeing, launched two new regional competitions to attract more student members and to provide an avenue to present the freshman/sophomore engineering activities that are increasingly part of our universities’ aerospace curriculum. Students can now compete in regional conferences by presenting their freshman/sophomore engineering activities or by presenting their AIAA Student Branch STEM outreach activities. We are looking forward to the seven regional conferences in 2011 where these presentations will take place for the first time.





■ AIAA held the European Region Conference in Partnership with PEGASUS.



■ AIAA student conference attendees at an Airbus production facility in Seville.

## AIAA Hosts Nine Student Conferences

### International Conferences in Europe and Australia

The AIAA Regions hosted seven U.S. Regional Student Conferences and two International Student Conferences. The Australian Student Conference featured 24 students from around the Asia Basin presenting their work in person and via videoconferencing, allowing student participation from a larger geographic area. Forty-two other students also attended the conference, making it the largest conference in the Asian Basin to date.

The European Region Conference, held in Seville, Spain in partnership with PEGASUS (“Partnership of a European Group of Aeronautics and Space Universities”), continued its success with the presentation of over 25 graduate papers. This regional conference produced a larger number of graduate papers than ever before, by a substantial margin.

■ Attendees at the European student conference awards ceremony, at Alcázar Palace in Seville.





■ Engineers as Educators, a new program that debuted at the Aerospace Sciences Meeting, is being sponsored by AIAA's Institute Development Fund to help inspire students to pursue aerospace careers.

## STEM K-12 OUTREACH PROGRAMS

### Successful "Education Alley" Program Inspires K-12 Students "STEM" Subjects Make Careers Blossom

Education Alley is a program targeting K-12 students to help them ask probing questions and inspire them to think about the "STEM" subjects of Science, Technology, Engineering, and Mathematics. It encourages students to consider the possibilities of careers in the aerospace industry as they interact with aerospace professionals in a variety of occupations. Held in Anaheim, CA just before the start of the school year, Education Alley hosted over 2,000 students and teachers last year, presenting carefully chosen exhibitors who are dedicated to improving STEM education for K-12 students. Now in its tenth year, this signature program continues to provide students and teachers with out-of-this-world experiences through participating in hands-on activities and showcasing the space industry as an exciting place to work. Sponsors for the 2010 event included Lockheed Martin Corporation, The Boeing Company, Raytheon Company, and The Aerospace Corporation.

### Touching the Future Through Teachers

In addition to honoring K-12 classroom teachers who go above and beyond in encouraging our children to pursue STEM related careers, the STEM K-12 Outreach Committee is also proud to collaborate with industry partners such as the Air Force, FAA, NASA, and the Navy to hold an annual teacher workshop. This "STEM Boot Camp" hosted by the U.S. Air Force Academy, empowers science and math teachers to share the revelations and rewards of aerospace related curriculum.

This event is augmented by classroom grants, "Ask an Engineer," and "Ask Polaris," a new Web site for high school students and their parents that provides details on aerospace as an educational choice, along with information about how to select a school and how to find possible sources for scholarships. Ask Polaris can be found at [www.askpolaris.org](http://www.askpolaris.org).

### Building Bridges for a Bright Outlook

A new initiative, the Engineers as Educators Workshop, was debuted at the ASM Conference in 2010. With three-year funding granted from AIAA's Institute Development Fund (IDC), this program assists aerospace professionals in working with K-12 students. This new program was immediately a great success, with 80 professional members participating in hands-on lessons that they can take into the classroom to help encourage students to pursue STEM-related careers.

■ K-12 teachers at the STEM Boot Camp at the U.S. Air Force Academy, building robots and Sea Perch submersible vehicles.



# INTERNATIONAL

## Delivering the Dream at the SpaceOps 2010 Conference

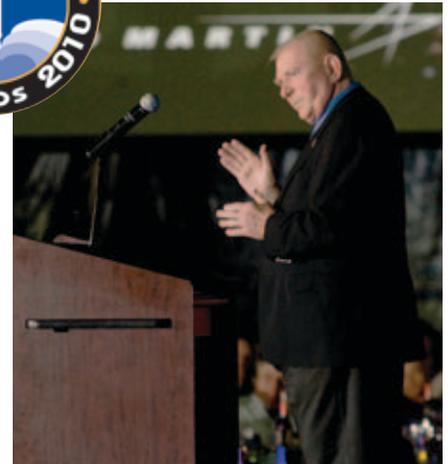
In April 2010 AIAA partnered with NASA Marshall Space Flight Center in Huntsville, Alabama to organize SpaceOps 2010: Delivering the Dream. The SpaceOps conference is the biennial international forum for space operators, who come together to discuss the current status and future direction of space operations.

The conference exceeded expectations in all areas, including the number of attendees, sponsors, and exhibitors. The five-day event featured a very strong technical program, along with 48 traditional poster presentations and 25 electronic posters, an innovative new feature for this conference. A NASA-hosted exhibit on 21st Century Technologies for Control Centers and Communications was a special feature within the exhibit. The opening session of the conference featured a video welcome from the International Space Station flight crew and real-time status updates from control centers around the world via videoconference. Retired NASA Flight Control Director Gene Kranz keynoted the conference Gala dinner, and the closing ceremony featured a keynote by Virgin Galactic President Will Whitehorn.

A new book entitled *Space Operations: Exploration, Scientific Utilization & Technology Development*, to be published in 2011 by AIAA on behalf of the SpaceOps Organization, will contain expanded versions of the most important and timely papers presented at the conference.

## IAC Strengthens AIAA Global Interactions

Approximately one sixth of AIAA membership, as well as of participants in AIAA activities, is international. AIAA's International Activities Committee (IAC) sees this as an extremely important component of the services that AIAA brings to the professional community. The IAC now has liaisons to 23 aerospace societies and organizations outside the U.S., including 10 with which AIAA has a formal Memorandum of Understanding.



■ Gene Kranz, Director of Mission Operations for NASA (retired), spoke at the SpaceOps 2010 Gala Dinner. He also received the International SpaceOps Exceptional Achievement Medal for his pioneering of the concepts and procedures that laid the foundation for human spaceflight operations, many of which are still in use today, and for his inspirational leadership that raised the awareness of the importance of spaceflight operations throughout the world.



■ The SpaceOps 2010 Gala Dinner was held at the Davidson Center for Space Exploration in Huntsville, Alabama. Attendees mingled under a Saturn V restored to its Apollo-era readiness and suspended horizontally within the building.



■ One of NASA's displays in the SpaceOps 2010 exhibit featured 21st century technologies for control centers and communications.

These liaisons develop opportunities to work together for mutual benefit. In 2010, for example, AIAA agreed to co-sponsor 16 conferences hosted by overseas societies, where the meeting was of possible interest to our own membership, and where AIAA might be of interest to other attendees. In a similar fashion, IAC members help arrange for site visits. For example, the liaison to the German Aerospace Center (DLR) arranged for IAC members to visit German space facilities in conjunction with the International Astronautical Congress that was held in September 2010 in Prague, Czech Republic.

Also in 2010, the IAC was invited by the Council of European Aerospace Societies (CEAS) to contribute to its quarterly newsletter. Although AIAA is not a member of CEAS, it is an organization with a formal and very active MOU for cooperation. After the IAC submitted its article, it was offered the opportunity to contribute articles on behalf of AIAA on a regular basis. The IAC will take advantage of this opportunity, as it continues to look for unique and innovative ways to leverage our relationships with other societies to enhance the international component of our own.

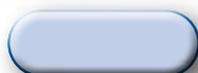
### AIAA Expanding Relations with China on Multiple Fronts

During this past year, collaboration and cooperation with China's professional aerospace community has stepped forward significantly on multiple fronts. China has separate professional societies for the space and aeronautical communities, and on the space side, in March 2010 AIAA formalized a Memorandum of Understanding (MOU) with the Chinese Society of Astronautics (CSA) to leverage one another's services to increase interaction, mutual understanding, and the growth of our profession. On the aviation side, the AIAA Board of Directors has approved a similar MOU with the Chinese Society of Aeronautics and Astronautics (CSAA), and a formal signing with CSAA will take place this year.



■ AIAA Executive Director Robert Dickman (right) signs translation agreements with Liu Xin, General Manager of China Aviation Publishing & Media. Back row (L to R): Wang Yingjie, President of the AVIC Economic & Technology Institute; AIAA Managing Director of Technical Activities Megan Scheidt; Edward "Ned" Allen, Lockheed Martin, editor-in-chief of AIAA Library of Flight; Zhang Xinguo, Executive Vice President of the Aviation Industry Corporation of China; AIAA Managing Director of Technical Publications Rodger Williams; Joseph W. Lee, International Consulting Services, associate editor, *Journal of Aircraft*; and John D. Anderson Jr., University of Maryland and the National Air and Space Museum, AIAA author.

■ AIAA Executive Director Robert Dickman (left) and Dr. Zhang Xinguo, Executive Vice President of the Aviation Industry Corporation of China.



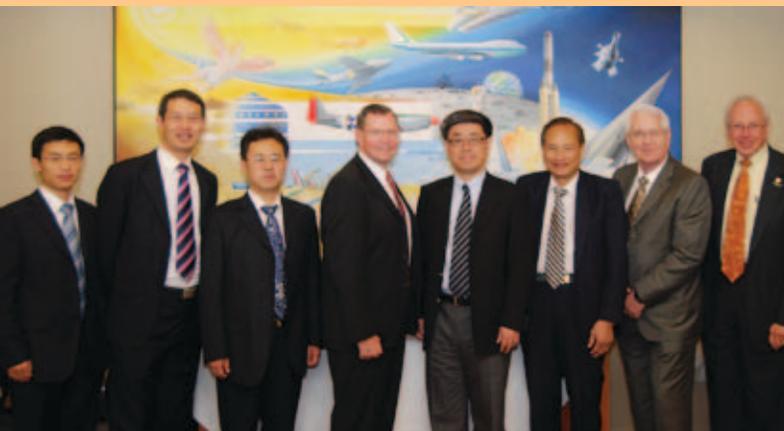
Expanding the customer base for our publications, AIAA has signed publication agreements with the Aviation Industry Press in China to allow selected AIAA books to be translated into Chinese and published in China. Thirteen AIAA book titles have been selected to date.

Professional society relationships are also opening doors for potential corporate opportunities. In October, a delegation of senior U.S. space industry executives visited China as part of AIAA's Corporate Member program, met with high-level representatives from Chinese industry, and visited many of the facilities responsible for designing, manufacturing, testing, integrating, and operating most of China's spacecraft and launch vehicles. In November, AIAA hosted a senior aviation delegation from China on a similar mission to open doors and explore opportunities. The feedback from the October visit was so positive that plans are underway for a similar corporate membership visit to China in 2011, for U.S. aviation executives.

### Supporting International Cooperation in Key Areas

AIAA helped support the Heads of Agency Summit of the International Academy of Astronautics (IAA) by sponsoring the breakfast for 22 agency leaders in November. The Summit gathered 30 heads of space agencies along with more than 500 academicians, world leaders, and experts to address international cooperation to strengthen the effectiveness and support of global space activities.

AIAA is also partnering with the International Astronautical Federation (IAF) to co-organize a Global Space Exploration Conference, to be held in May 2012 in Washington, DC. This conference will invite global participation from representatives of government, industry, and academia to focus on space exploration policy, science, and technology. Bringing together a full spectrum of participants in the space exploration community to exchange views and information, this unique forum will play a key role in building and maintaining the international relationships that will enable meaningful space exploration.



■ AIAA welcomes representatives of the Aviation Industry Corporation of China and China Aviation Publishing & Media. Left to right: Li Sunan; Liu Xin; Wang Yingjie; Robert Dickman; Zhang Xinguo; Joseph W. Lee; Edward "Ned" Allen; John D. Anderson Jr.



■ AIAA's corporate member delegation to China met with Dr. Ma Xingrui, President of China Aerospace Science and Technology Corporation (CASC), in Beijing on 26 October. Front row (L to R): Guo Lianping (CASC), John Sommerer (JHU/APL), Bob Lindberg (NIA), Ma Xingrui (CASC), Kevin Kremeyer (PM&AM Research), Brewster Shaw (Boeing). Second row (L to R): Mike Hamel (Orbital Sciences), Brad Perrett (AvWeek), Dennis Mills (Pratt & Whitney Rocketdyne), Hu Zhongmin (CASC), Yang Junhua (CSA), Xu Tong (CASC). Back row (L to R): Craig Day (AIAA), Craig Weston (U.S. Space LLC), Patrick Liu (AIAA), Mark Wilkins (ULA).



## AIAA FOUNDATION

### The AIAA Foundation Focuses on the Future

Founded in 1996, the AIAA Foundation is a tax-exempt nonprofit organization that seeks to enhance and support the viability of the future aerospace professional, practicing aerospace professionals, and organizations and institutions involved in aerospace.

To help shape the future of aerospace, the Foundation's primary focus is on education in the "STEM" subjects of science, technology, engineering, and mathematics, driven by a simple philosophy: *Make it exciting, make it empowering, and make it fun.*

At the K-12 and university level, and beyond, Foundation underwriting of scholarships, classroom grants, design competitions, student conferences, and professional recognition for outstanding achievement enhances scientific literacy and advances the arts and sciences of aerospace.

In 2010, the AIAA Foundation:

- Awarded scholarships to 43 outstanding undergraduate and graduate students;
- Presented 134 exceptional achievement awards to aerospace professionals and students;
- Hosted eight design competitions and 12 student conferences worldwide; and
- Provided 100 educator grants to promote STEM K-12 education to over 12,000 students across the nation.

### A Growing List of Donors Helps the AIAA Foundation Invest in the Future

#### Titanium Society

(\$100,000–\$250,000)

Vicki and George Muellner  
David and Catherine  
Thompson

#### Platinum Society

(\$50,000–\$99,999)

Brian and Paula Dailey  
Kent Kresa

#### Silver Society

(\$10,000–\$24,999)

Jane and Bill Ballhaus  
Klaus Dannenberg  
Bob, Barb and Tad  
Dickman+  
Harry H. and Lois G. Hilton  
Paul and Dottie Nielsen  
Roger and Darlene Simpson

#### Bronze Society

(\$7,500–\$9,999)

Laura McGill  
Suzanne Musgrave+  
Merri J. Sanchez  
Mary and Thomas Snitch  
Peter B. Teets  
Sheila and Bill Widnall

#### Patron Gift

(\$3,500–\$7,499)

Neal and Diana Barlow  
Carol Cash  
Michele Dominiak  
Aubrey E. Sanderson Jr.

#### Benefactor Gift

(\$1,000–\$3,499)

Lawrence Brase  
Bob and Pandora Crippen  
Wilson Felder and Laura  
Stottlemeyer  
Karman and Urmila Ghia  
Sivaram Gogineni  
Ferdinand W. Grosveld  
Basil Hassan  
Philip Hattis  
Mark and Jill Lewis  
Gordon Lowrey  
Jonathan Malay  
Loures and Mark Maurice  
Dennis Picard  
Joseph F. Pirola Jr.  
Donald W. Richardson  
Robert Schwinghamer  
Bill Seymore  
Chris Tavares\*  
Michael and Roxylyana  
Yarymovych

#### Contributor Gift

(\$500–\$999)

Michael and Rebecca  
Griffin  
Albert C. Lee\*  
The McGraw Hill  
Companies/Aviation  
Week  
Mastaka Nishi  
David Riley\*  
Shamim A. Rahman

#### Friend Gift

(\$25–\$499)

Juan Agui  
Mohanad Al-Hossieny  
Duleep Amarasinghe  
Ann Ames  
Eugene Arnold  
Brij Agrawal  
Allen Arrington  
Mihaiela Avram  
Casey Backes  
Lisa Bacon  
Andrew Bass  
Robert Bauer  
Ulrich Beck  
Marty Bradley\*  
George Beeler  
Rettig Benedict

Karen Bibb  
John C. Blanton\*  
J.R. Bowen  
David Bonorden  
Marty Bradley\*  
Michael B. Bragg  
Klaus Broichhausen  
Bobby Budde III  
Douglas Burkes  
Alpheus Burner  
Claudio Caceres  
Cynthia Calhoun  
Jeffrey Caplin  
John Cashman  
Sean Cebrian  
Nicholas Cernansky  
Donald Chappell  
Tat Yeung Chung  
Brandon Clarke  
Randall Clendenning  
John Clewett  
Malcolm Cohen  
Melvin Coleman  
Michael Connolly  
Bruce A. Conway  
Timothy M. Cooper  
In Honor of Karen Copper's  
Sustained Service Award  
Fabio Alonso Da Silva  
D. Stefan Dancila

Richard Danforth  
Edwin Davis  
Donald Davis  
Mark Dickerson  
Michael Disori  
Michelle Donegan  
Oisin Donnelly  
Adam Drobot  
John Dugundji  
Thomas E. Duerr  
John R. Ellison  
Bruce Emson  
John Falker  
Timothy Fennell  
John Finlay  
Jeffrey Forbes  
Thomas Gagnier  
Lawrence Garrett  
Robert Glaser  
Michael Gluck  
Judith Goldish  
Sharon Grace  
Michael Gregory  
Mark Gritton  
Anthony Gross  
Ashwani K. Gupta  
L. Jane Hansen  
John Hardtla  
Richard Harms  
James Harrill

To build upon existing programs and expand them to meet growing needs, the Foundation has set itself the goal of permanently endowing these programs, through tax-deductible gifts to its endowment fund.

## Student Wins AIAA New Horizons Challenge

An Ohio State engineering student was selected from more than 40 entries worldwide to the AIAA New Horizons Challenge, which asked the aerospace community to propose a prize contest that would spur solutions to issues impeding progress in aerospace. Rohit Belapurkar was selected from three finalists—all of them students—who presented their proposals at the Aerospace Sciences Meeting in Orlando to a panel of judges composed of prominent aerospace leaders.

Mr. Belapurkar won the Grand Prize of \$500 for his proposed contest, ORBITAL DEBRE Challenge (ORBITAL DEbris REmoval Challenge) which would require contestants to design a successful space debris removal device.

AIAA Executive Director Bob Dickman stated, “The results of The New Horizons Challenge drive home the fact that the game-changing ideas of the future will be created by today’s students. I congratulate the grand-prize winner and the two finalists, and wish them good luck in their studies and their future careers. I’d also like to thank the competition’s judges for taking the time to judge the contest, and for their continued interest in the evolution of the aerospace community.”



■ New Horizons Challenge winner Rohit Belapurkar (second from right) with finalists Leo Teeney of the University of Manchester (center) and Andrew Yatsko of Embry-Riddle Aeronautical University (left), and members of the judging panel.

Andrew Hart  
Christopher W. Horton  
Duane Hyland  
Anthony Iannetti  
Angelo Iasiello  
Nancy Insprucker  
Nick Itsines  
William Jacques  
Tom Jaquish  
Rhett Jefferies  
Thomas Jones  
Alexander Jones  
Atsushi Kurashiki  
Shinji Kuze  
Chad Larson  
Dominic Lapus  
George and Annie Lesieutre  
Barry Leslie  
Dietrich Lezius  
Yunqian Li  
Tony Lin  
Robert E. Lindberg Jr.  
Patrick Liu  
Susan Byrd Lubert  
Glenn Luke  
Kent Lyle  
Robert Lyons  
Robert Mabli  
Jeffrey Mach  
Stephen Mango

Tammy Marko  
Arber Masati  
W.J. McCroskey  
Daniel McCutcheon  
D. Milton  
Rinaldo Miorini  
In Honor of Joe Murano  
Amar Murthy  
Earl Murman  
Dora E. Musielak  
Jack E. Myers  
Arun Nadkarni  
James Neidhoefer  
George Nichols  
Paul Nordin  
David M. O'Brien Jr.  
Toru Okumura  
David J. Pabst  
Kishan Padakannaya  
Jean-Denis Parisse  
Paul Pillar  
Neal Pfeiffer  
Louis Pollack  
Scott Poynter  
Jon Protz  
Dave Quackenbush  
John Quarles  
Jurgen Quest  
Farid Rafla  
Nalin Ratnayake

Graham Reader  
John Reagoso  
Laura Richard  
Christoph Rixen  
Philip J. Robinson  
Mr. Raymond Rynearson  
In Honor of the St. Louis  
Section Tech. Spec.  
Committee: Brad Sexton,  
Frank Youkhana, Dan  
Johnson  
Kamil Samaan  
Megan Scheidt  
Brian Schletz  
Robert Schneider  
Christopher Schulz  
Merrie J. Scott  
Sanjeev Seereeram  
Richard Shearer  
Mark Sheldon  
Kevin Shepherd  
Kenneth Shimabukuro  
Takaaki Shizawa  
Sarah L. Shull  
Helene Skratt  
Carolyn Slivinski  
Philip Smith  
David P. Smith  
Clyde Smithson III  
Trevor C. Sorensen

Ronald Sostaric  
William Speed  
Michael Spishock  
Emily Springer  
Craig Stephens  
Robert Strite  
Franco Tao  
Shinichi Terashima  
Karen R. Thomas  
Nick Tongson  
Joshua Trisancho  
Lawrence Trupo  
John Tsucalas  
Eric Tuegel  
Felix Turcios  
Ilhan Tuzcu  
Raymond Tynearson  
Wolff Van Sintern  
Robin M. Vaughan  
William W. Vaughan  
Paul Vieira  
Antonio Viviani  
Louis Vosteen  
Scott Wadley  
Neil Walker  
James Walker  
Linda Walters  
Patrick Wayne  
Kevin Welch  
William Welsh

Robert Wetherall  
Marilee Wheaton  
Glen Whiteside  
Charles Wilkers  
Larry D. Williams  
Rodger and Christine  
Williams  
Bruce Wilson  
Byron J. Wing  
John Wong  
Peter Young  
Robert Young

List as of 4.15.11  
\*Indicates Matching Gift  
+Legacy Circle member:  
Donor has made a planned  
gift in addition to an  
immediate donation

# Publishing Essential Technical Information

*Still the #1 Source of  
Aerospace Information  
Worldwide*

## BOOKS AND JOURNALS

AIAA has been the leading technical publisher in aerospace for eight decades. We're the premier provider worldwide of information on aerospace technology, engineering, and science. Our titles document the most important developments and research in air and space history. During the past year, we published 14 new books in our three book series, as well as the peer-reviewed content of our seven scholarly journals. To modernize and streamline our efforts, we are transitioning to ScholarOne, a commercial off-the-shelf product, to modernize the peer-review process for paper submissions. The great majority of this effort occurred during FY2010, with a few journals remaining for transition during FY2011. In addition, we consummated an agreement with a Chinese publisher to publish and distribute selected AIAA titles in Chinese (described on page 23), and we signed a national licensing agreement in Germany. Both of these activities greatly increase the Institute's global reach, and establish precedents for comparable activities in other locales. AIAA Publishing is also aligning itself with the Institute's Public Policy resources to engage in the national debate over Public Access Publishing. This area is one that could influence our publishing practices and affect our revenue generating abilities in the future, so it is of great interest to all.



## AIAA Books Published in 2010

### AIAA Education Series

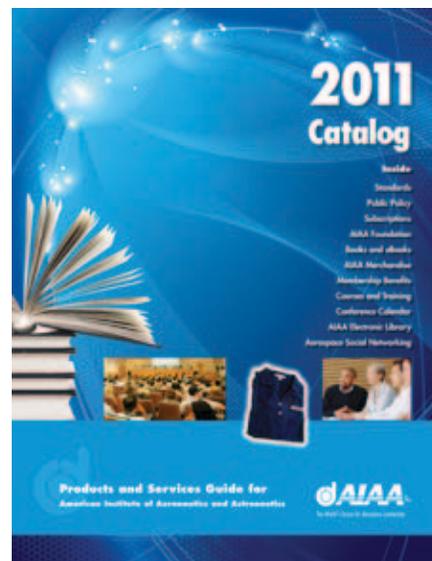
<i>Boundary Layer Analysis, Revised</i>	J. Schetz
<i>Design and Analysis of Composite Structures: With Applications to Aerospace Structures</i>	C. Kassapoglou
<i>Fundamentals of Aircraft and Airship Design, Vol. 1</i>	L. Nicolai and G. Carichn
<i>Multiple Scales Theory and Aerospace Applications</i>	R. Ramnath
<i>Optimal Control Theory and Aerospace Applications</i>	J. Ben-Asher
<i>Principles of Flight Simulation</i>	D. Allerton
<i>Test and Evaluation of Aircraft Avionics and Weapon Systems</i>	R. McShea
<i>Unmanned Aircraft Systems: UAVS Design, Development, and Deployment</i>	R. Austin

## The Public Access Publishing Debate

“Public Access Publishing” refers to the idea that an article accepted to a peer-reviewed journal should be made freely available to the public at no charge. While there several variations of this notion, the one most relevant to AIAA concerns legislative attempts to require free availability of peer-reviewed articles that result from research funded by specific federal agencies, including all those of interest to the aerospace community. So far this legislation has failed to pass, but the 2010 America COMPETES Reauthorization addresses it. However, America COMPETES also acknowledges potentially serious implications for publishers. The language adopted in America COMPETES mirrors a set of conclusions reached by the Scholarly Publishing Roundtable. Beginning in 2010, the AIAA Publications Committee began a series of interactive webinars on this subject. These will culminate in a workshop in Spring 2011 to assess possible AIAA positions and consequent policy oriented activities.

## AIAA Establishes Library Advisory Council

Following best practices of the publishing community, AIAA is exploring establishment of a Library Advisory Council (LAC) to serve the Publications Committee as “the primary body for AIAA to solicit and receive feedback and input about AIAA’s electronic services.” The LAC’s scope will cover existing product offerings, proposed new product offerings, and current and proposed functionalities of the services. In addition, a positive fringe benefit will be fostering better understanding and customer relations with a critical customer segment. This group will also help the Publications Committee understand perspectives on complex issues such as those mentioned in this Annual Report: public access, new business models (such as ebooks and ebook archives), and new market forces (including social media). Delivery of content is more and more the consumer’s choice. Librarians specialize in helping information consumers select the best method to find what they need. Thus, they can also help AIAA navigate debate regarding media delivery options.



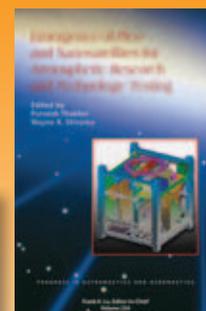
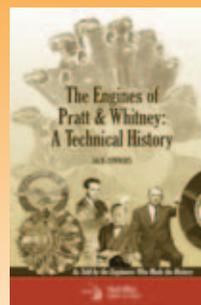
■ AIAA’s extensive catalog of its products and services is now available online.

## Progress in Astronautics and Aeronautics

<i>Advances in Collaborative Civil Aeronautical Multidisciplinary Design Optimization</i>	E. Kessler and M. Guenou
<i>Cooperative Path Planning of Unmanned Aerial Vehicles</i>	A. Tsourdos et al.
<i>Emergence of Pico- and Nanosatellites for Atmospheric Research and Technology Testing</i>	P. Thakker and W. Shiroma

## Library of Flight

<i>Encyclopedia of Aerospace Engineering</i>	R. Blockley and W. Shyy
<i>The Engines of Pratt &amp; Whitney: A Technical History</i>	J. Connors
<i>Eleven Seconds into the Unknown: A History of the Hyper-X Program</i>	C. Peebles
<i>German Development of the Swept Wing: 1935-1945</i>	H.-U. Meier



## Archival collections available to the German National Library Agreement

AIAA Meeting Papers  
(1963–2007)

*AIAA Journal*  
(1963–2007)

*Journal of Aircraft*  
(1964–2007)

*Journal of Guidance, Control, and Dynamics*  
(1978–2007)

*Journal of Propulsion and Power*  
(1985–2007)

*Journal of Spacecraft and Rockets*  
(1964–2007)

*Journal of Thermophysics and Heat Transfer*  
(1987–2007)

*Journal of Aerospace Computing, Information, and Communication*  
(2004–2007)

*Journal of Energy* complete collection  
(1977–1983)

*Journal of Hydronautics* complete collection  
(1967–1981)

## AIAA Reaches Licensing Agreement with German National Library of Science and Technology

AIAA Publications recently consummated a national licensing agreement with the Technische Informationsbibliothek (TIB), successfully concluding several years of discussion and negotiation. A first for AIAA, national licenses of this nature are becoming a key part of the publishing business. AIAA is also experimenting in this area with a Turkish national consortium, ANKOS, and is considering how best to engage with the Brazilian national consortium, CAPES, for both subscription and archive sales.

The German agreement allows TIB to license segments of AIAA conference paper and journal content from 2007 back to 1963 (or to the beginning of each journal's publication). TIB, the German National Library of Science and Technology at Leibniz Universität Hannover, is the world's largest library specializing in science and technology. Founded in 1959, TIB is the German national library for all areas of engineering as well as other technical subjects and is chartered to acquire and archive literature from around the world pertaining to engineering and the natural sciences, and to provide national licenses to electronic archives for university and non-university research institutions. Currently, TIB is jointly funded by the German federal government and the German federal states. Access to the content will be through a mix of traditional online access from AIAA servers as well as, in some instances, local hosting provided by institutions affiliated with TIB.

## Peer Reviewed Submissions Transition to ScholarOne

In FY 2010, two AIAA internal systems were transitioned to a commercial off-the-shelf (COTS) product, ScholarOne. AIAA's legacy WriteTrack system, which supported the Journal peer-review process for over a decade, began the transition to ScholarOne Manuscripts. Five of the seven journals have fully transitioned onto the ScholarOne Manuscripts system. The remaining two journals will transition during FY 2011.

Additionally, AIAA's Conference Admin System (CAS) transitioned onto ScholarOne Abstracts to support the peer-review process for conference papers. All AIAA conferences completed their first year on ScholarOne Abstracts. While there has been a learning curve during this first year, suggestions and improvements continue to be made in order to better support our members.

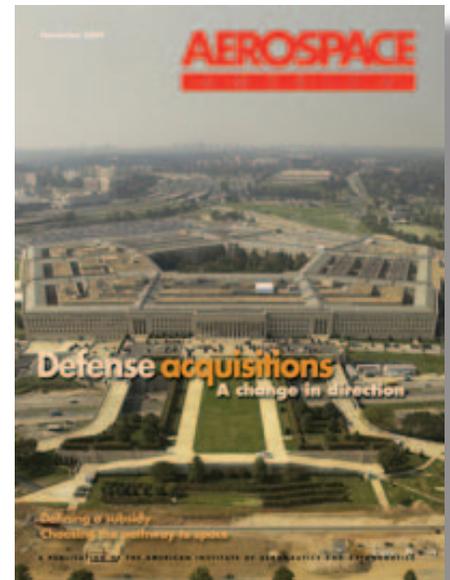
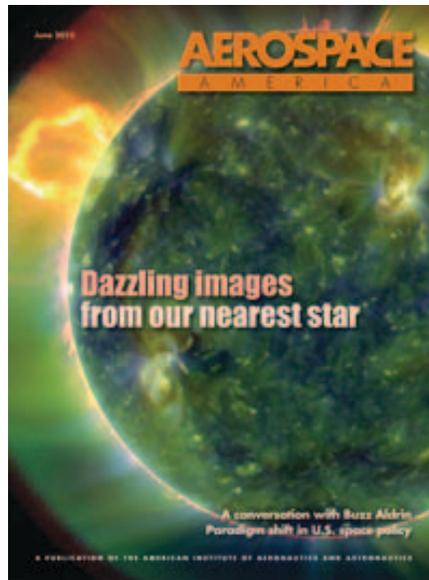
### Special Journal Sections

#### *Journal of Spacecraft and Rockets*

- "Space Environmental Effects on Materials III," organized by Richard Briet.
- "Atmospheric Entry of the Stardust Sample Return Capsule," organized by Dean Kontinos and Michael J. Wright.

#### *Journal of Aerospace Computing, Information, and Communication*

- "Autonomous and Autonomic Space Exploration Systems," organized by Roy Sterritt.



## AEROSPACE AMERICA

### *Aerospace America* Expands Online, Explores Top Issues

AIAA's flagship magazine went digital in 2010. The digital magazine provides members with a searchable, timely, accessible-anywhere option that is also environmentally friendly. Its content is the same as the print version and it is available to members only. *Aerospace America* also had an updated Web site developed which offers added features such as a Virtual Town Hall and video.

The magazine continued to explore top issues such as green aviation, the UAV sector, and growing international markets such as China. In addition, *Aerospace America* hosted a roundtable which brought together industry and government leaders to discuss the ramifications of human rating spacecraft for commercial space transportation. Providing members access to such unique insights and information remains a top priority for the magazine and offers a valuable member benefit.

■ At a roundtable organized by AIAA, aerospace experts discuss the processes necessary to ensure human safety on commercial space transportation.



# AIAA SETS THE STANDARD

## AIAA Standards Program Serves the Aerospace Profession

AIAA's Standards Program functions under the auspices of the AIAA Standards Executive Council (SEC) to provide an open forum to discuss standardization issues of importance to the aerospace profession. AIAA serves the aerospace profession at the national and international standards level by facilitating consensus among government, industry, and academia, through its 17 Committees on Standards (CoS) as assisted and overseen by the SEC. These activities include development of new standards, updating current standards, and setting the overall direction for the standardization work of the Institute. Internationally, AIAA provides the Secretariat for the ISO Committee on Space Systems and Operations (TC20/SC14) and administers the Technical Advisory Group (U.S. TAG), which guides U.S. participation in TC20/SC14. AIAA also administers the U.S. TAG to ISO TC20/SC13 on Space Data and Information Transfer Systems.

## New Standards Procedures Under Development

The Institute's Standards staff determined that the *Standards Program Procedures* (July 2008) should be improved to benefit the Committees on Standards (CoS), the Standards Executive Council (SEC) members, and other in-house users. These changes incorporate feedback from an American National Standards Institute (ANSI) special audit and comments from CoS and SEC members. The updates provide clarifications and new insights, improve the standards development process, and make it easier to understand.

Once completed, the revised *Standards Program Procedures* will undergo a process similar to any other Standard: the draft must be reviewed and resolved by the SEC; the final draft must be posted for public review, with comments collected and resolved by the SEC; the final version must be submitted to ANSI as a revision to AIAA's accredited procedures; and approval must be received from ANSI for AIAA use. The target is to have the final draft of the *Standards Program Procedures* resolved during FY 2011 and submitted to ANSI in late 2011 for approval and accreditation.

## AIAA Committees on Standards

Aerodynamic Decelerator

Atmospheric and Space Environments

Astrodynamics

Computational Fluid Dynamics

Ground Testing

Hydrogen

Mission Assurance

Modeling and Simulation

Orbital Debris

Pressure Vessels

Software Systems

Solar Cells/Solar Panels

Space Logistics

Space Plug-and-Play Architecture

Space Systems Cost Analysis

Structures

Systems Engineering

## Special ANSI Audit Renews Accreditation

In late 2010, the Institute passed a required special ANSI audit review of corrective actions addressing a temporary suspension of accreditation during 2008. With the satisfactory development of a revised *AIAA Standards Program Procedures* (July 2008) and the restructuring of Standards staff, ANSI found that the original audit and special audit recommendations were all addressed and that the "documentation for the audit was readily available and well organized." AIAA has been reaccredited and is again submitting proposed ANSI documents to the Board of Standards Review and the ANSI Executive Standards Council. AIAA is scheduled for its regular five-year audit cycle in 2012 and anticipates no further issues.

## AIAA Renews Support for Consultative Committee on Space Data Systems (CCSDS)

Since 2006, AIAA has provided secretariat support service to the Consultative Committee on Space Data Systems (CCSDS) for NASA. During the year we worked with our CCSDS and NASA partners to extend the contract through January 2012 with options for four successive years, potentially taking the relationship through January 2016. Founded in 1982 by the major space agencies of the world, CCSDS provides a multinational forum for development of communications and data systems standards for spaceflight. Users



of this service include spacecraft overcoming space communications challenges, as reflected in the recent press coverage for NASA's MESSENGER spacecraft returning data from Mercury, which used CCSDS protocols. The secretariat is the administrative arm of the CCSDS and ISO/TC20/SC13. In this role, the Standards staff supports meeting facilitation, management of document development and publication, and the general business of the organization.

CCSDS and AIAA are natural partners in this endeavor because of AIAA's position as the main ANSI accredited standards development organization (SDO) for space activities in the United States and as an ANSI U.S. Technical Advisory Group to ISO/TC20/ subcommittees 13 and 14. One of the stated goals of CCSDS is to maintain harmony among these interrelated standards activities and bodies. AIAA remains uniquely positioned to do so.

## AIAA Presents Newly Developed Workshop on Standards

To increase awareness of standards and to educate members interested in or already participating on Committees on Standards, a workshop on "Domestic and International Standards: Procedures and Processes" was developed and presented. The materials developed are provided to CoS Chairpersons for distribution to committee members to streamline the development process for new or revised standards and ensure compliance to procedures (which will be reviewed by ANSI). Workshops are available for CoS leaders who meet at AIAA conferences or in conjunction with interested Technical Committees and who are interested in discussing AIAA Standards at their meetings. In addition to these efforts, standards-related announcements such as document availability for public review have been increased in the *Daily Launch*, *Momentum*, and the *AIAA Bulletin*, as well as in e-mail notifications to TCs about AIAA standards activities.

## New Standards Pricing Structure Implemented

The Institute implemented a new comprehensive pricing structure late in the year that was applied to all standards, including previously published and upcoming standards. Although some prices decreased and other prices increased, all electronic versions of AIAA standards remain completely free to AIAA members, a much appreciated and significant benefit of membership.



AIAA supports CCSDS, which developed the communication protocols used on NASA's MESSENGER spacecraft to Mercury.

### Recently Published Standards

AIAA G-003C-2010	Guide to Reference and Standard Atmosphere Models
AIAA S-117-2010	Space Systems Verification Program and Management Process
ANSI/AIAA S-131-2010	Astrodynamics: Propagation Specifications, Technical Definitions, and Recommended Practices
ANSI/AIAA S-119-2011	Flight Dynamics Model Exchange Standard

### Standards Under Development

AIAA G-129-201X	Nomenclature for Aerodynamic Wind Tunnel Test
AIAA G-095-201X	Guide for the Safety of Hydrogen and Hydrogen Systems
AIAA G-043-201X	Guide for the Preparation of Operational Concept Documents
AIAA G-133-10-201X	SPA: System Capabilities
AIAA S-133-4-201X	SPA: Physical Interfaces
AIAA S-133-6-201X	SPA: System Timing Standard
AIAA S-133-8-201X	SPA: Test Bypass
ANSI/AIAA S-102-1-6-201X	Critical Risk Item Management
ANSI/AIAA S-102-2-1-201X	Functional Diagram Modeling
ANSI/AIAA S-102-2-3-201X	Component Reliability Predictions
ANSI/AIAA S-102-2-13-201X	Maintainability Predictions
ANSI/AIAA S-102-2-15-201X	Software Reliability Predictions
ANSI/AIAA S-102-2-17-201X	Event Tree Analysis

# Creating Value – Networks and Information Exchange

**Representing over 80 disciplines comprising the aerospace enterprise, AIAA's Technical and Program Committees include**

Aerospace Design and Structures Group  
*(8 Technical Committees)*

Aerospace Sciences Group  
*(13 Technical Committees)*

Aircraft and Atmospheric Systems Group  
*(10 Technical Committees)*

Engineering and Technology Management Group  
*(7 Technical Committees)*

Information Systems Group  
*(7 Technical Committees)*

Propulsion and Energy Group  
*(12 Technical Committees)*

Space and Missiles Group  
*(13 Technical Committees)*

Program Committees  
*(14 Program Committees)*

## TECHNICAL ACTIVITIES

### Technical Activities Define AIAA

AIAA's technical activities remain the heart and soul of the Institute. The exemplary efforts of more than 2,200 energetic members of our 70 Technical Committees (TCs) and 14 Program Committees (PCs) are integral to building and maintaining AIAA's reputation as "The World's Forum for Aerospace Leadership." The scope of AIAA technical activities encompasses events of many types where information is exchanged and business connections are developed and nurtured.

Ranging from forums for peer-reviewed papers, to symposia with invited speakers and panels, to government-sponsored workshops incorporating industry and academic feedback, AIAA sponsors high quality technical programs spanning the latest developments in aerospace technologies, systems, methodologies, and applications. The Technical Activities Committee (TAC) provides the underlying infrastructure for organization of these activities into seven Technical Specialty Groups, each headed by an elected Group Director, and further complemented by a Program Committee Coordinator.

Through the exceptional leadership of our seven Group Directors and our Program Committee Coordinator, our committees also provide the framework for increasingly active development of public policy papers, new aerospace standards, and projects to further AIAA's educational outreach and to engage early career professionals. The introduction of the TAC Newsletter in 2010 serves to communicate these activities as well as the availability of new tools and policies to the members of our Technical and Program Committees. We are confident that the momentum and innovation of this dedicated group will continue to serve and exceed the expectations of the aerospace community.

### AIAA's Flagship Technical Conferences

AIAA's legacy technical events included 22 conferences held at 10 distinct sites during FY2010. Overall full paid attendance was up from FY2009 by 3.8%, from 8,941 to 9,287 attendees. The five major events continued to be the Aerospace Sciences Meeting (ASM), the Joint Propulsion Conference, SPACE 2010, the Missile Defense Conference, and the Ballistic Missile Defense Conference. As the economy began its gradual recovery, our exhibits and sponsorships rebounded by small amounts, thereby adding interest and value to attendees. In addition, the New Horizons Forum, introduced during the 2009 Aerospace Sciences Meeting, continued to provide a platform for notable speakers to highlight topics of broad interest to our industry. Distinguished keynote speakers addressed critical aerospace issues, including the following: Space Shuttle Era – Early Days; Space Shuttle Era—Results and Way Ahead; Energy & Environment—Role for Aerospace; and Hypersonics—Moving Forward. An interactive panel comprised of national and international experts followed each keynote presentation to explore the issues and opportunities in depth.



Space community executives discussed the theme of “Space – Imagine, Innovate, Collaborate” at AIAA SPACE 2010. From left, Space Foundation CEO Elliot Pulham, NASA JPL director Dr. Charles Elachi, Space and Missile Systems Center commander Lt Gen John T. Sheridan, Roger Krone, president of Network and Space Systems for The Boeing Company, and Joanne Maguire, executive vice president of Lockheed Martin Space Systems Company.

AIAA is also expanding its reach as well as the formats by which technical interchange can be provided to the aerospace professional. For example, at SPACE 2010, live webcasts of the keynote addresses supplemented the extensive technical program. The program also attracted 24 members of the media, a high in AIAA history.

Through the co-location of complementary forums, AIAA often provides a more rewarding experience for the attendees. In 2010, this included the well received first union of the Aviation Technology, Integration and Operations (ATIO) conference with the Multidisciplinary Analysis Optimization (MAO) conference, which also offered a Value Driven Design Workshop and Educational Outreach for 500 local students.

## Expanding Technical Activities and Events

In 2010, AIAA for the first time organized the International Conference on Environmental Systems (ICES) in Barcelona, Spain. Adding to our array of annual conferences to meet the diverse needs of the global aerospace community, this event addresses the challenging issues of humans living and working in space. Although AIAA has co-sponsored ICES for several decades, the primary role in organizing the event was acquired from the Society of Automotive Engineers (SAE), which organized and hosted the event in the past, as SAE sharpened their focus on their core technology areas. The first year of ICES under AIAA hosting was special since it was held in Barcelona, Spain and coincidentally occurred during the soccer World Cup, when Spain won. This provided a special experience for attendees, who eagerly got into the spirit of things.

In 2010, AIAA also organized and hosted the FAA Commercial Space Transportation Conference in Washington, DC in February. The timing was not as fortuitous as ICES however, since the event occurred during “Snowmageddon,” one of the worst snowstorms in the Washington’s history. But the event went forward, since travelers were already there. Modern day technologies were used to bring video and/or audio of the speakers to the audience. Despite the blizzard conditions, the event was well attended and the attendees formed a special bond from being there in this unique situation.

Emphasizing AIAA’s positive image in the professional community, NASA asked AIAA to host an Exploration Enterprise Workshop in May in Galveston, TX. The first day of this event provided an overview of NASA’s “point of departure” plans for technologies and missions, as a starting point for further refinement. Breakout sessions on the second day of the conference focused on specific plans for maturing technologies, conducting flight demonstrations, and building commercial capabilities. In preparation for the event, several requests for information (RFI) were released for discussion at the conference.

Additionally AIAA formed two new Program Committees (PCs) during the year: the Green Engineering PC and the Space Environmental Systems PC, to address these areas of increasing importance for the aerospace community.





## **AIAA SECTIONS ENGAGE AND INSPIRE WITH LOCAL ACTIVITIES**

Throughout the year, AIAA's local sections across the country and around the world network and exchange information, build professional relationships, and reach out to students and the community at large with interesting activities. A small sampling from the six domestic regions suggests the variety of activities that enliven the work of the sections. (For a complete list of sections, along with contact information, visit [www.aiaa.org/sections](http://www.aiaa.org/sections).)

### **Region 1**

#### **Rockets for Delaware**

The Delaware AeroSpace Education Foundation, in conjunction with other state agencies, sponsored Delaware's fourteenth "Rockets for Delaware" program in Cape Henlopen State Park, Lewes, Delaware. The AIAA Delaware Section sponsored a display booth with ATK for this event and awarded nearly \$400 in prizes for the various student competitions. Rockets designed and constructed by Delaware students were launched all day.

### **Region 2**

#### **Stuart Air Show**

The AIAA Palm Beach Section organized a member event at which 30 AIAA members and friends enjoyed the Stuart Air Show. The air show features historic and current aircraft in both static displays and fly-by performances. The section uses the event each year to promote aerospace interest, AIAA membership, and camaraderie among aviation enthusiasts.

■ Spectators enjoying a demonstration at the Stuart Air Show.



## Region 3

### Rocket Science for Educators Workshop

In fall 2010 the Wisconsin Section of AIAA held workshop for fourteen K–12 educators, at ORBITEC, in Madison. Hands-on demonstrations, visual aids, and real-life spaceflight examples provided a foundation for bringing precollege students face-to-face with space-related science, designed hardware, technology, and its potential benefits, to increase interest in the space-related fields that can lead to university level study and a rewarding career.



■ Wisconsin Chair Mike Fidler (left) and Outreach Chair Todd Treichel hold rockets as they gather with some of the educators participating in the workshop.

## Region 4

### FAA Certification of UAVs

The Oklahoma AIAA Section hosted a talk by Billy Robinson, the founder and CEO of Cyber Aerospace, headquartered in Tulsa, which designs and manufactures unmanned aerial vehicles and has extensive experience in certifying UAVs through the FAA. The company provides services to law enforcement, military, and commercial operations around the world.

## Region 5

### The Story of Miss Lend Lease

The Twin Cities Section of AIAA hosted a Distinguished Lecture presentation, “The Story of Miss Lend Lease,” by Hugh Neeson, about recovering a Bell P-39Q Airacobra aircraft lost in Russia during World War II. The largely intact aircraft – which had been provided to Russia as part of the Lend-Lease program – was retrieved in 2004 from the bottom of an arctic lake and brought to western New York, where it had been built. The logbook and other artifacts were found, as well as engraved names of two women inside the aircraft structure – two “Rosie the Riveters” who had helped build the plane in 1943.



■ Twin Cities Section Chair Andrew Carlson (left) presents a commemorative plaque to Distinguished Lecturer Hugh Neeson.

## Region 6

### Reach for the Stars Breakfast

The AIAA Point Lobos Section hosted a three-hour breakfast at which astronauts in their uniforms described the excitement of space exploration to over a hundred people, primarily young boys and girls from local schools, along with their parents, to help inspire interest in science and engineering.

*“The AIAA Daily Launch is a great way to start the day, and a tremendous service to all AIAA members.”*

– from an AIAA member

## **KEEPING MEMBERS INFORMED AND CONNECTED**

### **Daily Launch**

In their e-mail inbox every weekday morning, AIAA members receive the AIAA *Daily Launch* – a digest of the most important aerospace industry news, selected from thousands of sources by the editors of Custom Briefings. It has grown to be one of the most popular AIAA member benefits.



### **Momentum**

Members also receive the monthly *Momentum* e-newsletter to keep them up to date on AIAA-related happenings. A member spotlight section was added in 2010 to highlight the achievements and positive impacts of individual AIAA members.



### **Social Networking**

AIAA also has a growing presence in social media networks. Our Facebook page has nearly 6,000 fans and the number of interactions, comments, etc. continues to expand. Members and others can follow AIAA news and public policy, plus updates from conferences, via a number of AIAA Twitter accounts. Linked In connects AIAA members only, providing a professional network and the AIAA YouTube channel hosts numerous AIAA video.



## IT/INFRASTRUCTURE

### New Tool Simplifies Searches for Products and Services

AIAA launched the *Industry Guide for Aeronautics and Astronautics Professionals*, a new product that will help aerospace industry professionals cut through the clutter of traditional search engine results. The guide enables professionals to conveniently perform targeted searches for industry-related products and services using either a user-defined keyword search, or an alphabetized directory search by product categories. Both methods produce the most industry-relevant results on the web. This new product, a valuable tool for researching, selecting and purchasing industry resources, can be found at [www.aiaaindustryguide.com](http://www.aiaaindustryguide.com).

### Evolving IT Infrastructure Enables Expanded Capabilities for Institute Core Business

This past year has provided many IT improvements both for AIAA members and for AIAA staff. From an internal perspective, the virtual systems that support numerous AIAA applications have been upgraded. There is now more redundancy and failover built into our architecture. A web-based virtual private network (VPN) was implemented to allow AIAA staff to access the internal network from any web browser. This has been a significant improvement, particularly for those who travel for our conferences and events. A SharePoint Intranet has been established to provide a document repository for internal AIAA documentation.

For AIAA members, SharePoint was implemented as the backbone of our Extranet, the external-facing site housing all committee portals. This includes portal sites for Technical Committees, Program Committees, Standards Committees, and Standing Committees. This has been extremely well-received by the committees that utilize these sites to keep their committee participants well-informed.

The Extranet can be found at <https://info.aiaa.org>.

## INDUSTRY GUIDE FOR AERONAUTICS AND ASTRONAUTICS PROFESSIONALS



# Expanding the Reach of the Profession



## RAISING OUR PROFILE

### Raising Our Profile

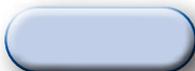
Our efforts to raise the visibility of AIAA as the “World’s Forum for Aerospace Leadership” made significant progress in 2010. AIAA’s media outreach program is building momentum, as evinced by a record number of members of the media at AIAA SPACE 2010 and a 50% increase in press citations. The number of expert requests from world-class national and international media outlets continues to grow, as AIAA was contacted by media outlets such as the BBC, *The Wall Street Journal*, *The Los Angeles Times*, Associated Press International, *Inc. Magazine*, German Financial Times, and Bloomberg News. Representatives of AIAA appeared on The Space Show with Dr. David Livingston, an internationally broadcast radio/web program focusing on aerospace issues, to discuss AIAA conferences and space exploration alternatives.

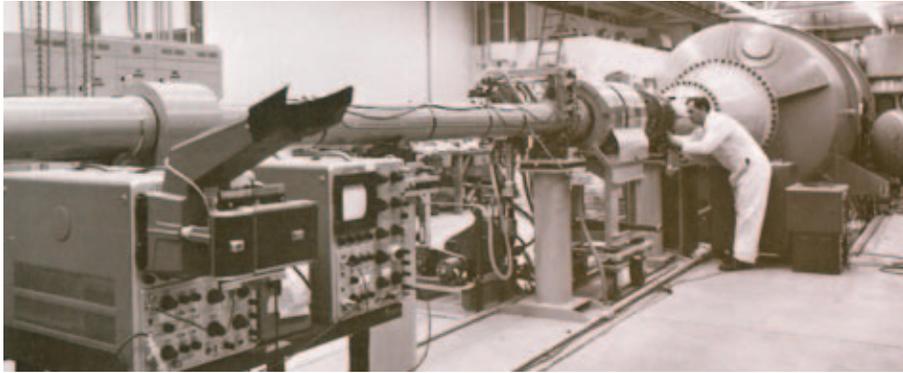
### Reaching Out to the Community at Large

For the second year, AIAA supported TEDx NASA, an inspiring interactive conference designed to engage its participants and promote the exchange of ideas worth spreading. The theme of the 2010 event, “What Matters Next,” reflects the same forward-looking view as AIAA’s new campaign, “How Far Can You See?” Our “When Did You Know?” campaign showed how an inspirational moment could spark an aerospace career. “How Far Can You See?” looks to the future, to the important breakthroughs yet to come. What discoveries are beyond the horizon? What benefits will they offer humanity? Members and others are invited to share their vision at [www.aiaa.org/imaginelt](http://www.aiaa.org/imaginelt).



AIAA continues to enhance its marketing and communications outreach. AIAA was recognized by the marketing community, winning five MarCom Awards for 2010. The MarCom Awards is an international creative competition held by the Association of Marketing and Communication Professionals to recognize outstanding achievement by marketing and communication professionals.





■ Cornell Aeronautical Laboratory in Buffalo, New York.

## THE AIAA HISTORIC AEROSPACE SITES PROGRAM

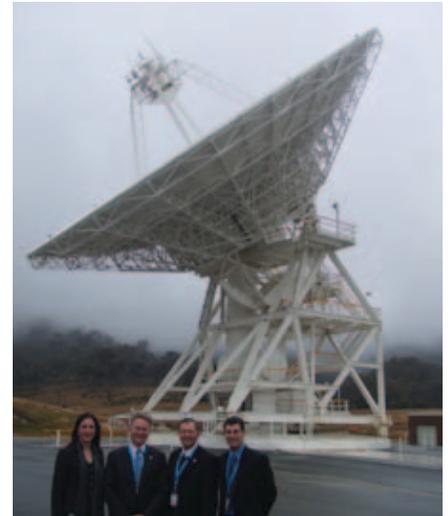
### Recognizing the Contributions of our Predecessors

In 2000, AIAA began officially designating as historic those sites that have played a significant role in the aerospace community. This recognition is an effort to ensure that these important sites, some of which are not well known, will not be forgotten.

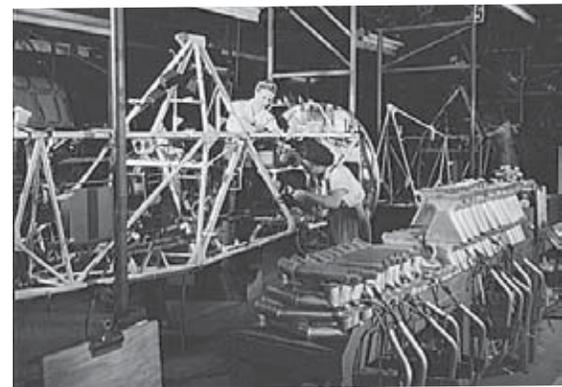
Up to five sites are chosen each year by the AIAA Historic Sites Committee, and ceremonies marking these designations are scheduled periodically throughout the year.

This year, AIAA held four ceremonies to present plaques at newly designated historic sites:

- The Tidbinbilla, Honeysuckle Creek, and Orroral Valley Tracking Stations in Canberra, Australia, built in the 1960s to support NASA's Deep Space Network, Manned Space Flight Network, and Spacecraft Tracking and Data Acquisition Network. Among other notable achievements, these stations played a key role in supporting the Apollo 11 moon landing, with the Honeysuckle Creek station providing the first historic pictures of man walking on the moon on 20 July 1969 (21 July 1969 in Australia).
- NASA North American Aviation/Boeing Downey Site in Downey, California, the birthplace of a variety of aircraft and spacecraft that have contributed greatly to aviation and spaceflight, including the X-15, the B-1 Lancer, the Navajo, the Apollo capsule, and the Space Shuttle.
- The Central Yacht Basin, St. Petersburg, Florida, where the world's first regularly scheduled commercial airline began on 1 January 1914, with the inaugural flight of the St. Petersburg-Tampa Airboat Line.
- The Cornell Aeronautical Laboratory in Buffalo, New York, established as the research laboratory for the Curtiss-Wright airplane company on 1 January 1946, and later donated to Cornell University as "an instrument of service to the aircraft industry - to education - to the public at large." Cornell Aeronautical Laboratory conducted pioneering research that led to revolutionary changes in the conception, understanding, and treatment of the stability and control of aircraft. In 1972, the name was changed to Calspan.



■ Australian tracking stations played a key role in supporting the 1969 moon landing of Apollo 11.



■ A wartime production line at the Downey Site in Downey, California.



■ Central Yacht Basin, St. Petersburg, Florida.

# Financials

## AIAA FINANCIAL POSITION STRENGTHENS

*Careful Stewardship,  
Improving Economy  
Combine for Good Results*

A copy of the Institute's complete audited financial statements may be obtained by writing to:

**Angelo M. Iasiello**  
AIAA Treasurer  
1801 Alexander Bell Drive, Suite 500  
Reston, VA 20191

With the overall improvement in the general economy, and our continuing careful stewardship of AIAA's financial resources, the Institute's financial position improved considerably during FY10. The year was highlighted by several financial accomplishments:

- Both the Endowment and Pension Fund Portfolios recovered significantly from their loss in value during the market's fall that began in 2008. Beginning FY10 with a portfolio value of \$21,980K, the Endowment ended the year with an increase of \$980K to a value of \$22,910K. This 4.2% positive increase for the year, even after cash withdrawals to support Strategic Initiatives, was definitely welcome after several years of declining value. The Pension Fund portfolio increased 12% from \$8,474K at the beginning of FY10 to \$9,526K at the end of the year. The gain in the Pension Fund had the added benefit of reducing the institute's unfunded pension liability, keeping us well below the government mandated limits. The net result, as indicated in the Consolidated Statements of Financial Position, was an increase in total assets to \$27,622K at the end of FY10 from \$25,954K in FY09 and an increase in net assets for FY10 to \$9,271K from \$7,735K in FY09.
- A major milestone accomplished during FY 2010 was planning and maintaining a balanced budget for continuing operations, i.e., without the use of portfolio funds to support activities such as the Information Infrastructure upgrade. Furthermore, the Institute's results from continuing operations ended the year with a surplus of \$154K in FY10. After the operating budget has been supplemented for several years through use of the portfolio, a combined effort of the volunteer leadership and the staff began several years ago to identify and implement more efficient and effective ways to manage the Institute's business without impacting our key products and services. These efforts have now paid off and will continue to remain in force.
- A key initiative implemented during FY10 by the Board of Directors was the adoption of an Endowment Portfolio Fund Use Policy. This policy defines processes for standardizing the request and review process for use of the portfolio funds and provides a strengthened peer review process for approval of Strategic Initiatives.

Despite these positive accomplishments, as a result of the continuing fragility of the economy, combined with the uncertainty of the near term aerospace business environment, we must continue to refine and improve our budgeting, operating and financial management processes. We are also approaching the point where we will have to refine our process for prioritizing Institute programs, since funds are not available to continue to add services without offsets in other areas. Nonetheless, thanks to the dedication of our volunteers and staff, AIAA will continue to have the resources to meet the Institute's priorities and to fully serve its mission to provide our individual and corporate membership with the services they desire and need.

Both AIAA and the AIAA Foundation are tax exempt under Section 501(c)(3) of the Internal Revenue Code. AIAA received an unqualified opinion from Johnson-Lambert in our Audit Report concerning the business and accounting practices. Key elements of our combined audited financial statements are found on the following pages.



Angelo M. Iasiello  
AIAA Treasurer

## Consolidated Statements of Financial Position

Year ended September 30, 2010 (in thousands)

Year ended September 30, 2009 (in thousands)

	Institute	Foundation	Eliminations	Consolidated	Institute	Foundation	Eliminations	Consolidated
<b>Assets</b>								
Cash and cash equivalents	\$ 1,494	\$ 76	\$ —	\$ 1,570	\$ 608	\$ —	\$ —	\$ 608
Investments	22,910	4,831	—	27,741	21,980	4,987	—	26,967
Accounts receivable, net	824	4	—	828	764	3	—	767
Pledges receivable, net	—	153	—	153	—	150	—	150
Due from Foundation	181	—	(181)	—	150	—	(150)	—
Prepaid expenses and other current assets	518	3	—	521	536	1	—	537
Inventory	92	—	—	92	68	—	—	68
Fixed assets, net	1,603	—	—	1,603	1,848	—	—	1,848
<b>Total assets</b>	<b>\$ 27,622</b>	<b>\$ 5,067</b>	<b>\$ (181)</b>	<b>\$ 32,508</b>	<b>\$ 25,954</b>	<b>\$ 5,141</b>	<b>\$ (150)</b>	<b>\$ 30,945</b>
<b>Liabilities and net assets</b>								
Accounts payable and accrued expenses	\$ 3,124	\$ 107	\$ —	\$ 3,231	\$ 2,885	\$ 85	\$ —	\$ 2,970
Due to Institute	—	181	(181)	—	—	150	(150)	—
Deferred member dues	2,687	—	—	2,687	2,537	—	—	2,537
Deferred subscriptions	5,303	—	—	5,303	4,446	—	—	4,446
Deferred other	872	—	—	872	974	—	—	974
Other liabilities	142	—	—	142	124	—	—	124
Capital lease obligation	115	—	—	115	146	—	—	146
Defined benefit pension liability	6,108	—	—	6,108	7,107	—	—	7,107
<b>Total liabilities</b>	<b>18,351</b>	<b>288</b>	<b>(181)</b>	<b>18,458</b>	<b>18,219</b>	<b>235</b>	<b>(150)</b>	<b>18,304</b>
<b>Net assets</b>								
Unrestricted net assets	9,271	3,881	—	13,152	7,735	4,027	—	11,762
Temporarily restricted net assets	—	62	—	62	—	43	—	43
Permanently restricted net assets	—	836	—	836	—	836	—	836
<b>Total net assets</b>	<b>9,271</b>	<b>4,779</b>	<b>—</b>	<b>14,050</b>	<b>7,735</b>	<b>4,906</b>	<b>—</b>	<b>12,641</b>
<b>Total liabilities and net assets</b>	<b>\$ 27,622</b>	<b>\$ 5,067</b>	<b>\$ (181)</b>	<b>\$ 32,508</b>	<b>\$ 25,954</b>	<b>\$ 5,141</b>	<b>\$ (150)</b>	<b>\$ 30,945</b>

## Consolidated Statement of Activities

Year ended September 30, 2010 (in thousands)

	Institute	Foundation	Eliminations	Consolidated
<b>Revenue</b>				
Member services	\$ 2,067	\$ —	\$ —	\$ 2,067
Education	635	—	—	635
Technical publications	5,489	—	—	5,489
International	47	—	—	47
Technical activities	12,315	—	—	12,315
Corporate membership and institute outreach	1,667	—	—	1,667
Public policy	1	—	—	1
Standards	936	—	—	936
Strategic plan initiatives	1	—	—	1
Other program services	—	23	—	23
Revenues before investment return, contributions and net assets released from restriction	23,158	23	—	23,181
Investment return	1,378	246	—	1,624
Contributions	60	321	(100)	281
Change in discount and allowance	—	6	—	6
Net assets released from restriction	—	44	—	44
Total revenue	24,596	640	(100)	25,136
<b>Expenses</b>				
Program services:				
Member services	2,259	113	—	2,372
Education	1,347	366	—	1,713
International	191	—	—	191
Technical publications	4,569	—	—	4,569
Technical activities	9,464	—	—	9,464
Corporate membership and institute outreach	3,123	—	—	3,123
Public policy	626	—	—	626
Standards	1,422	—	—	1,422
Strategic plan initiatives	722	—	—	722
Fundraising	100	274	(100)	274
Other program services	194	—	—	194
Total expenses before investment expenses	24,017	753	(100)	24,670
Investment expenses	152	22	—	174
Total expenses	24,169	775	(100)	24,844
Expenses in excess of earnings - temporarily restricted net assets	—	11	—	11
Change in unrestricted net assets	427	(146)	—	281
Change in temporarily restricted net assets				
Investment return	—	52	—	52
Contributions	—	—	—	—
Net assets released from restriction	—	(44)	—	(44)
Transfer of expenses in excess of earnings to unrestricted net assets	—	11	—	11
Change in temporarily restricted net assets	—	19	—	19
Change in net assets from operations	427	(127)	—	300
Pension related changes other than net periodic pension cost	1,109	—	—	1,109
Net change in net assets	1,536	(127)	—	1,409
Net assets, beginning of year	7,735	4,906	—	12,641
<b>Net assets, end of year</b>	<b>\$ 9,271</b>	<b>\$ 4,779</b>	<b>\$ —</b>	<b>\$ 14,050</b>

## Consolidated Statement of Activities

Year ended September 30, 2009 (in thousands)

	Institute	Foundation	Eliminations	Consolidated
<b>Revenue</b>				
Member services	\$ 2,112	\$ —	\$ —	\$ 2,112
Education	645	—	—	645
Technical publications	5,452	—	—	5,452
International	50	—	—	50
Technical activities	10,888	—	—	10,888
Corporate membership and institute outreach	1,762	—	—	1,762
Public policy	12	—	—	12
Standards	730	—	—	730
Other program services	—	21	—	21
Revenues before investment return, contributions and net assets released from restriction	21,651	21	—	21,672
Investment return	(118)	54	—	(64)
Contributions	71	236	—	307
Change in discount and allowance	—	(28)	—	(28)
Net assets released from restriction	—	45	—	45
Total revenue	21,604	328	—	21,932
<b>Expenses</b>				
Program services:				
Member services	2,500	192	—	2,692
Education	1,288	330	—	1,618
International	141	—	—	141
Technical publications	5,230	—	—	5,230
Technical activities	9,462	—	—	9,462
Corporate membership and institute outreach	2,961	—	—	2,961
Public policy	657	—	—	657
Standards	1,215	—	—	1,215
Strategic plan initiatives	941	—	—	941
Fundraising	252	—	—	252
Other program services	120	—	—	120
Total expenses before investment expenses	24,767	522	—	25,289
Investment expenses	138	20	—	158
Total expenses	24,905	542	—	25,447
Expenses in excess of earnings - temporarily restricted net assets	—	19	—	19
Change in unrestricted net assets	(3,301)	(233)	—	(3,534)
Change in temporarily restricted net assets				
Investment return	—	14	—	14
Contributions	—	—	—	—
Net assets released from restriction	—	(45)	—	(45)
Transfer of expenses in excess of earnings to unrestricted net assets	—	19	—	19
Change in temporarily restricted net assets	—	(12)	—	(12)
Change in net assets from operations	(3,301)	(245)	—	(3,546)
Pension related changes other than net periodic pension cost	(2,079)	—	—	(2,079)
Net change in net assets	(5,380)	(245)	—	(5,625)
Net assets, beginning of year	13,115	5,151	—	18,266
<b>Net assets, end of year</b>	<b>\$ 7,735</b>	<b>\$ 4,906</b>	<b>\$ —</b>	<b>\$ 12,641</b>

## Consolidated Statements of Cash Flows

<i>(in thousands)</i>	Years ended September 30,	
	2010	2009
<b>Cash flow from operating activities</b>		
Net change in net assets	\$ 1,409	\$ (5,625)
Adjustments to reconcile change in net assets to net cash provided by operating activities:		—
Depreciation & amortization	389	337
Loss on disposal of furniture and equipment	41	223
Net realized and unrealized (gains) losses on investments	(966)	982
Changes in operating assets and liabilities:		—
Accounts receivable, net	(62)	(33)
Pledges receivable, net	(3)	(150)
Prepaid expenses and other current assets	17	173
Inventory	(24)	93
Accounts payable and accrued expenses	260	(33)
Defined benefit pension liability	(999)	2,441
Other liabilities	18	(51)
Capital lease obligation	(31)	135
Deferred income	906	798
Net cash provided by (used in) operating activities	955	(710)
<b>Cash flow from investing activities</b>		
Proceeds from the sale of investments	22,588	17,146
Purchases of investments	(22,396)	(16,397)
Purchases of furniture, equipment and leasehold improvements	(185)	(620)
Net cash provided by investing activities	7	129
Net change in cash and cash equivalents	962	(581)
Cash and cash equivalents, beginning of year	608	1,189
Cash and cash equivalents, end of year	\$ 1,570	\$ 608

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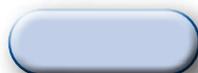
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