

SECTION ANNUAL REPORT 2017-2018
Outstanding Section Award
Outstanding Activity Award

Section Name: Rocky Mountain Section

Section Size Category: Very Large

Section Organization

1. Section Officers and Council Members

- Elected Officers:
 - Chairman – Kay Sears, Lockheed Martin Space Systems
 - Chairman-Elect – Dr. Rusty Powell, Millennium Engineering & Integration Company
 - Secretary – Kevin Mortensen, BAE Systems
 - Treasurer – Roger McNamara, Lockheed Martin Space Systems

- Appointed Council Members:
 - Northern Vice Chairman – John Marcantonio, Lockheed Martin Space Systems
 - Southern Vice Chairman – Todd Nathaniel, United States Air Force Academy
 - Montana Vice Chairman – Erik Eliassen, ViaSat
 - Education & STEM Outreach – Brandon Walls, Lockheed Martin Space Systems
 - Honors and Awards – Taylor Lilly, Lockheed Martin Space Systems
 - Membership – Marshall Lee, Sypris Electronics
 - Member at Large – Pamela Burke, Red Canyon Engineering & Software
 - Newsletter Editor – Adrian Nagle, Ball Aerospace
 - Pre-College Outreach – Nicholas Zinner
 - Professional Development – Fred Slane
 - Programs – Christopher Zeller, Ball Aerospace
 - Public Policy Chair – Tracy Copp, Ball Aerospace
 - Public Policy Asst. – Arthur Hingerty, SAIC
 - Public Policy Asst. – Jason Kuchera, Ball Aerospace
 - Technical Committee Liaison – John Reed, United Launch Alliance
 - Webmaster – John Grace, Retired Lockheed Martin
 - Webmaster Asst. – Taylor Lilly, Lockheed Martin Space Systems
 - Webmaster Facebook – Joe Hackel, Ball Aerospace
 - Young Professionals – Brandon Tortorelli, Lockheed Martin Space Systems
 - Annual Technical Symposium 2017 Chair – Wesley Kenison, Metro State University

2. Number of council/officer meetings held during the year: 11 / Average attendance: 11

3. Percentage of membership voting in last election of Section Officers: ~4%

4. List any activities targeted at officer training or development including attendance at the Regional Leadership Conference: The RMS Chairman for 2017-2018, Kay Sears, attended the 2017 RLC in Washington DC. Experienced council members support new council members. A business meeting was held in May with both the out-going and in-coming council meetings.

5. Estimated membership located within 1 hour of the meetings: This section membership is distributed over 3 states (CO, WY, MT) with an approximate area of 350,000 square miles. It takes 3.5 hours to drive from Pueblo, CO to Laramie, WY, which makes participation challenging. The majority

(95%) of members reside along the Front Range; therefore, the location of events is rotated between “North,” “Central,” “South,” and “Wyoming” venues. This means at least one event is within an hour’s drive for more than 90% of our membership.

6. Number of Chapters within the Section: Although the RMS does not have professional chapters within the section, the council includes Vice-chairs who represent the membership in geographic areas outside the Denver metropolitan area. There are student chapters at the US Air Force Academy (USAFA), University of Colorado Springs (UCCS), University of Colorado Boulder (CU), Colorado School of Mines (CSM), and Metro State University of Denver.

7. Describe how your section supports members outside the main local area (if any):

- The RMS maintains a website (www.aiaa-rm.org) with links to pertinent news, posts of section announcements, section documents, photos, event calendar, as well as archived newsletters and minutes of council meetings. The website is accessible to members and non-members.
- Evening speaker programs and some events are open to non-members to introduce them to AIAA.
- RMS has reciprocal arrangements with other local organizations including the Colorado Space Business Roundtable (CSBR), INCOSE, Colorado Space Coalition, and the Space Foundation. We promote events for each other’s organizations, co-host some events, and provide sponsorship for selected events.

Meetings, Programs, and Events

1. Describe the Section’s general meetings.

Date	Topic	Event Type	Speaker	Area	Registered	Sponsorship	Links
June 2017	Buckley AFB	Morning Program	Colonel David Miller Jr. and Colonel Christopher Povak	Central	34	AIAA, 460 th Space Wing, Aerospace Data Facility	Link to Newsletter Coverage
August 2017	Teacher Aims High Over the Summer to Bring Rocketry to Students						
	AIAA-RMS Public Policy Events						
	BEST In Denver						
September 2017	TRAJECTORIES 2017: Aerospace Stories & Networking Event	Evening Program	Multiple	North	150	AIAA, Mines Aerospace Interest Group	Link to Newsletter Coverage
October 2017	High Precision Devices	Evening Program	Kevin Miller	North	18 (attendance impacted by snow)	AIAA, High Precision Devices, Inc.	
November 2017	AIAA RMS 6 th Annual Technical Symposium at MSU Denver	Daylong Event	See extended write-up within this Annual Report	Central	See extended write-up within this Annual Report	See extended write-up within this Annual Report	
	Colorado School of Mines: Colorado						

	Space Resources Program						
January 2018	Importance of Space Weather	Evening Event	Gerald Murphy:	Central	70	AIAA, Metro State University, Design Net Engineering	Link
February 2018	AIAA-RM Continues STEM Outreach Support						
	CO Middle School Students Build and Launch Student Payload						
	Lucy to Explore Celestial "Fossils"	Evening Event	H. Levison & T. Halbrook	North	70	AIAA, Lockheed Martin	
March 2018	Congressional Visitors Day						
April 2018	Colorado Aerospace Day						
	CU Aerospace Summit						
	Congressional Visitors Day						
May 2018	Honors and Awards Banquet	Evening Event	Lt. Col. Hamilton Speaker to Discuss F-35 Flight Testing	North	75	AIAA, U.S. Air Force	
	Young Professionals Networking Event – Hidden Figures	Evening Event	Dr. Christine Darden	Central	187	AIAA, MAIG, HOLA, LMLA, AACE	
Total Events: 18			Total Registrants: Exact total unknow (600+ confirmed)				



Speaker Lt. Col. Hamilton Discusses F-35 Flight Testing at Honors and Awards Banquet



Membership Activities

1. Describe any membership recruitment/retention activities.

The Rocky Mountain Section of AIAA hosted an exciting Young Professionals networking event at the Alamo Drafthouse movie theater in Littleton, CO on the evening of May 10, 2018. The event consisted of food, drinks, networking, and a presentation by guest speaker Dr. Christine Darden. We then finished the evening with a screening of the film *Hidden Figures*, based on the book in which Dr. Darden is featured.

The evening began with some networking time during which professionals, students, and average citizens of all ages intermingled and bonded over their shared interest in Aeronautics and Astronautics. The Rocky Mountain Section Young Professionals Chair, Brandon Tortorelli, then gave some brief remarks thanking the various sponsors and urging everyone to learn more about the benefits of being an active member of AIAA and the other sponsoring organizations.



One of those sponsoring organizations was the Mines Aerospace Interest Group (MAIG), which operates under the Colorado School of Mines Alumni Association. MAIG works to expand the Colorado School of Mines' brand in Aerospace through connecting Mines alumni who are working, studying, and/or interested in the aerospace industry. MAIG encourages its members to stay connected with the university and with fellow alumni in the aerospace field to support Mines aerospace, STEM, and the industry in all forms.

The other sponsoring organizations included Lockheed Martin Space Systems Company, along with a few of its Employee Resource Groups (ERGs). The ERGs represented that evening were the African American Council for Excellence (AACE), the Hispanic Organization for Leadership and Awareness (HOLA), and the Lockheed Martin Leadership Association (LMLA). All these groups consist of hard-working individuals who donate much of their free time to promote diversity, inclusion, and leadership development not only in the Lockheed Martin workplace, but also throughout the communities of our entire aerospace workforce.

The keynote address was given by Dr. Christine Darden, a career mathematician, aeronautical engineer, and NASA researcher featured in the *Hidden Figures* book. She began her talk by pointing out that she is an AIAA Lifetime Associate Fellow affiliated with the Hampton Roads Section in Virginia. Dr. Darden then flashed back to her childhood to discuss the events that first got her interested in aeronautics and aerospace, such as the launch of Sputnik in 1957 when she was a 15-year-old student.

After discussing her own path through high school and college, as well as the extreme cultural changes that were occurring during that time, Dr. Darden ventured into her own journey as a Young Professional entering the workforce. She talked about the inspirational women from the *Hidden Figures* film, many of whom she met and worked with later in life. With her theme being "On Their Shoulders," Dr. Darden emphasized how Dorothy Vaughan, Katherine Johnson, and Mary Jackson paved the way for women like her to get through the door and be successful within the industry. However, the path was still not clear-cut for Dr. Darden, who had to work as a human computer – below her collegiate qualifications – for several years before confronting her supervisor and finally being transferred to an engineering job in 1973.

The second half of Dr. Darden's presentation described some of her various roles and projects at NASA during her nearly 40-year career. She especially emphasized her work on the science of sonic booms, where she played an important role in making advances on sonic boom minimization for supersonic aircraft. She then finished her presentation by answering some questions from the audience, many of which inquired more deeply about her personal struggles being one of the first African American women

to work in the industry. Dr. Darden's words were honest, insightful, and often coupled with a clever wit that seemed to touch and inspire everyone in the audience, regardless of age or profession.



After Dr. Darden's presentation, we wrapped up the event by watching the film Hidden Figures. The Alamo Drafthouse added extra enjoyment to the movie theater experience since attendants could order food and drinks directly to their seats. Of course, the film was even more exciting than usual since a real life Hidden Figure was in the room watching with us!

2. Membership Advancements. The following RMS members received advancements to Associate Fellow or Fellow:

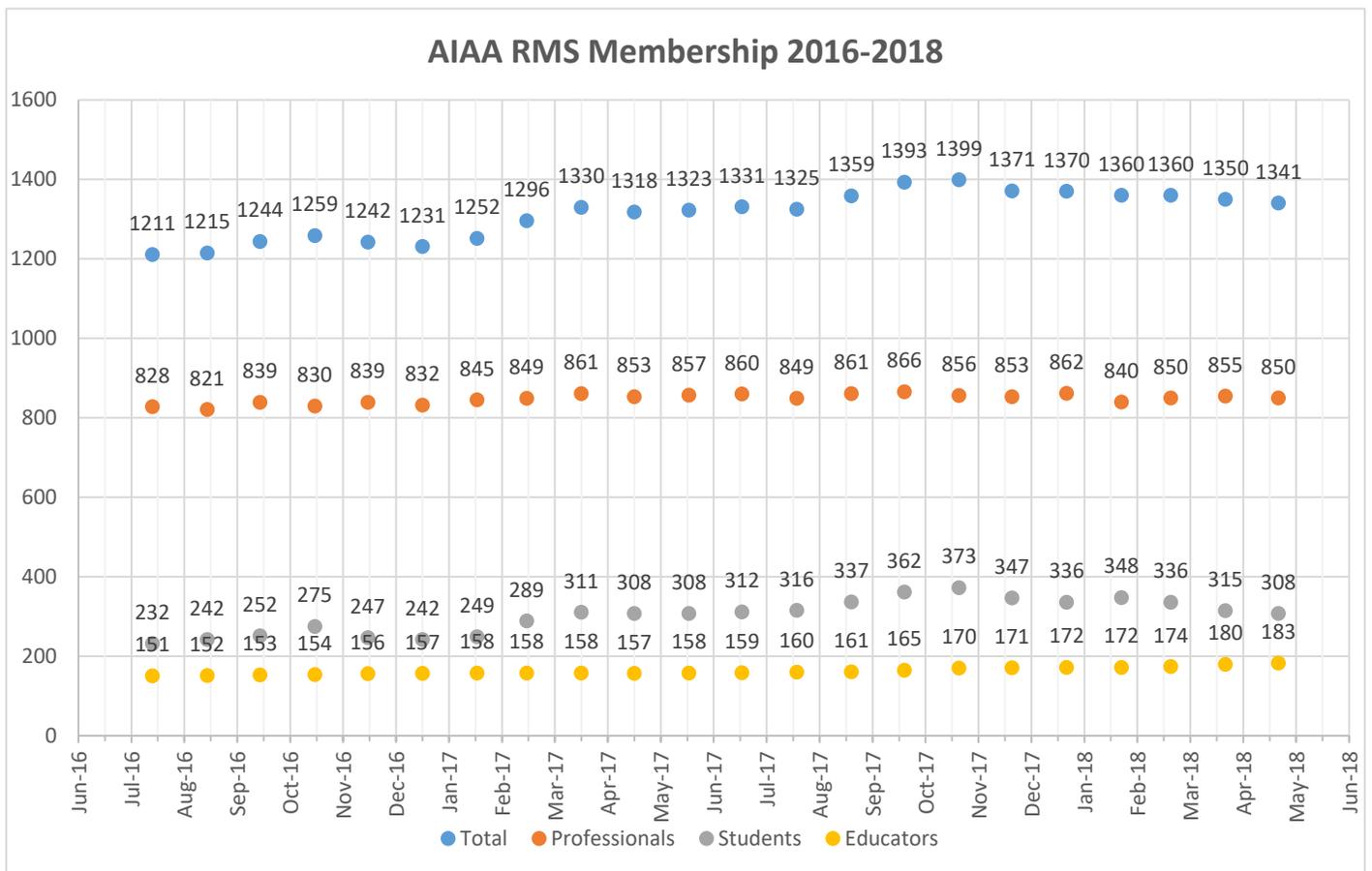
- **Fellows:** None
- **Associate Fellows:**
 - Arnold A. Barnes III
 - William P. Crisler
 - Taylor C. Lilly
 - Chris C McCormick
 - William C. Jackson
 - Gretchen M. Lindsay
 - Angela Suplisson
 - Bernard F. Kutter
 - Gary L. Wentz, Jr.
 - John G. Reed
 - Mark E. Peller
 - Melissa Sampson
 - Jay McMahon
- **General Members:**
 - July 2017 – 1,325
 - April 2018 – 1,341

Membership in total has grown slightly over the program year with a peak membership of 1,399. However, the majority of the increase is due to Educator Associates, which means paying members of Professionals and Students have remained flat from the previous program year. The peak in October was driven by interest generated during the TRAJECTORIES 2017 membership-networking event.

RMS collaborated with the Mines Aerospace Interest Group (MAIG), a Colorado School of Mines (CSM) Alumni group focused on promoting the CSM Aerospace program in the creation and delivery of TRAJECTORIES 2017. MAIG hosted the event at CSM on September 8, 2017 to provide inspirational

speakers and a forum for AIAA members, CSM Alumni and Students, along with members of the local Aerospace Community to mix and to connect with each other. Charlie Lundquist, NASA’s Deputy Program Manager for Orion was the keynote speaker describing this country’s efforts to return to manned spaceflight, eventually traveling to Mars. Erin Fischer of Boom Technologies spoke on commercial supersonic flight; Dr. Laoucet Ayari of Ball Aerospace talked about his work and book on the Lunar Cycle; and Dr. Angel Abbud-Madrid of CSM discussed the Center for Space Resources as well as aerospace at CSM. With close to 200 attendees, TRAJECTORIES was deemed highly successful, surpassing expectations. It was so successful, that MAIG and AIAA are planning TRAJECTORIES 2018 in October.

The Membership Committee attended and participated in RMS events throughout the year to promote membership value. Additionally, RMS had a table display at community events hosted by Colorado Space Business Roundtable (CSBR) and the University of Colorado.



- **Events**

- TRAJECTORIES 2017 (September 8, 2017)
- Speaker Series
 - High Precision Devices (October 26, 2017)
 - MSU: Space Weather: 20 Years of Lessons from Advanced Composition Explorer (ACE) (January 31, 2018)
 - Lockheed Martin: Lucy “A Mission of Discovery” (February 21, 2018)
 - United Launch Alliance: Vulcan Launch Vehicle (April 4, 2018)
- Annual Technical Symposium (November 17, 2017)
- CSBR Roundup (December 6, 2017)

- CSBR Aerospace Day at the Capitol (March 19, 2018)
- 3rd Annual CU Aerospace Summit (March 22, 2018)
- Young Professionals Movie Night – Hidden Figures (May 10, 2018)

As a large section within AIAA, the Membership Committee has recognized the need to address the flat or decline membership and participation. Colorado is known as the second largest Space Economy in the country. Therefore, we are working on initiatives for the 2018-2019 program year to bolster and boost membership first focusing on Professionals. With analysis of our membership, we have come to understand that the larger aerospace companies in our section are not significantly growing the Professional group and driving active participation. Because of this finding, the Membership Committee will be implementing company-specific, targeted programs to address the no-growth of AIAA memberships within those organizations.

Other supplemental efforts such as section collateral marketing materials, regular membership expiration follow-up, more visible communications with the base, and active involvement with the area Student Branches will all help with membership recruitment as well as retention.

With TRAJECTORIES 2018, the aerospace company-specific membership drive programs, and the supplemental outreach initiatives, the Membership Committee is poised to continue growing our membership base with more members participating in the myriad of RMS AIAA activities, events and committees for the upcoming program year.

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Education

1. List the student branches within the section & describe any section activities related to these branches

Student Chapter	# of Students	Faculty Advisor	Email	Student Chair	Student Email
Colorado School of Mines	43	Dr. Angel Abbud-Madrid	aabbudma@mines.edu	Jacqueline Loerincs	jackieloerincs@gmail.com
Colorado State University	32	Dr. Xinfeng Gao	Xinfeng.Gao@colostate.edu	Taylor Morton	tmorton915@gmail.com
Metro State University	31	Jose Lopez	JLopez93@msudenver.edu	Wesley Kenison	wkeniso1@msudenver.edu
University of Colorado, Boulder	100	Dr. Donna Gerren	donna.gerren@colorado.edu	Tyler Roth	tyro4590@colorado.edu
University of Colorado, Colorado Springs	7	Julie Albertson, PhD.	jalberts@uccs.edu	E. Luther	eluther@uccs.edu
USAF Academy	34	Capt. Matthew J Satchell, USAF	Matthew.Satchell@usafa.edu	Cadet Jeff Layng	c17jeffrey.layng@usafa.edu

2. Describe actions taken to establish new student branches.

RMS did not add any new student chapters this year.

3. Describe involvement of the section with the Region Student Conference.

RMS was not involved in the Region Student Conference.

4. Describe any professional continuing education programs

RMS did not host any professional continuing education programs this year.

5. Describe any precollege outreach programs instituted/continued this year.

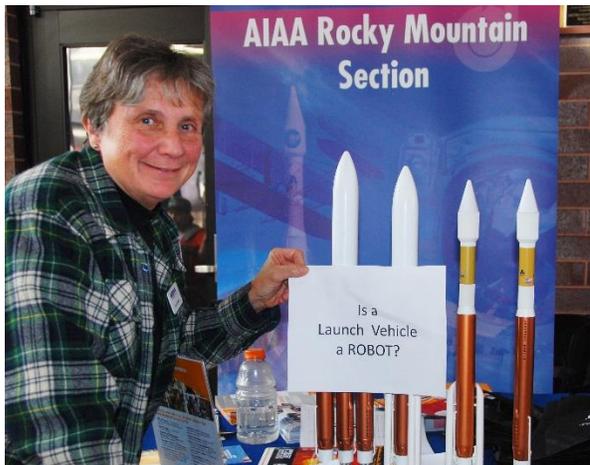
STEM Expo Eagle County Schools: (<https://www.vailvalleypartnership.com/2018/04/eagle-county-schools-hosts-first-stem-expo-for-students/>) RMS manned a table at the Expo to talk to high school students, along with teachers and parents, about aerospace careers and how professional societies such as AIAA can help in career development. This was the third time AIAA supported the event (aka Dream Big), centered around five key industries: Advanced Manufacturing, Aviation, Cybersecurity, Space Exploration, and Robotics. Sue Janssen led this effort, and educators were told of the resources available to Educator Associate members. AIAA “schwag” and Rocky Mountain Section stickers were given to students when they asked questions about aerospace careers. Many contacts were made and requests for classroom speakers, mentors and career information were received after the event. One educator requested help with a high-altitude balloon launch and about 8 AIAA members responded! Another educator is starting a STEM curriculum and hopes AIAA can help with many things.

Higher Orbits at Ft. Collins High School:

Rocky Mountain Section supported “Go For Launch!”, a 3-day program that uses space exploration as a platform to involve students in STEAM, Teamwork, Communication, and Leadership. The workshop provides hands-on activities and are presented by an astronaut and other human spaceflight professionals. The workshop culminates in creating a space experiment, and the winner of the space experiment contest will have their experiment launched into space.



BEST Robotics: (<http://www.rockymountainbest.org/>). Rocky Mountain Section sponsored the Regional BEST Robotics Competition and supported the event. The sponsor table polled students and parents of whether launch vehicles are robots, to encourage discussion and consideration of the aerospace field. 84% of respondents believed they were, while some believed launch vehicles had too few functions to be considered robots. The event saw hundreds of STEM involved students and parents, and AIAA “schwag” and Rocky Mountain Section Stickers were given to poll respondents.



State Science Fairs: RMS sponsored AIAA RMS prizes in the Wyoming and Colorado State Science Fairs. Each winner received a certificate of recognition, an Arduino Microcontroller Starter kit, and a free one-year student membership to AIAA. Judges were AIAA members or colleagues, and Mark Kettles led the AIAA support.

Girls STEAM Day at Wings Over the Rockies: (<https://wingsmuseum.org/events/eventphotos/girls-steam-day-2017/>) RMS supported the event which features a day of hands-on activities related to empowering young women toward STEAM. The event provides a comprehensive overview of the role of STEAM, how to get involved, along with personal and professional development. John Marcantonio led the support for this event.

AIAA SSTC’s Annual Essay Contest: RMS sponsored the AIAA National SSTC’s essay contest this year. Several RMS members read and reviewed all essays. Three 7th grade and two 8th grade students were awarded certificates of recognition and checks. All authors were given posters to recognize their efforts. The first-place entries were forwarded to the SSTC essay contest.

Good Vibrations: RMS held a workshop at “Girls Exploring Science, Technology, Engineering and Math” (GESTEM) (<http://www.swe-rms.org/gestem.html>) for about 90 7th grade girls. The 50-minute workshop is titled “Good Vibrations” and introduces girls to basic concepts of sound and vibration and why “rocket scientists” consider S&V in design. They watch demonstrations and perform experiments to understand the factors that affect natural frequency (mass, stiffness, material and geometry). Then they assemble wind chimes that have been “engineered” to sound pleasing. Workshop Presenters include Karolyn Evans, Brendan Coyne, Jane Mattson, Carolyn Overmyer, Alison Petruska, and Brandon Walls.

6. Does your section have a scholarship fund? Describe how funds are raised, and how scholarships are awarded.

The Rocky Mountain Section started a scholarship in 2016 from surplus funds collected from the Annual Technical Symposium. The AIAA Foundation receives, judges, and awards from this annual Scholarship, and the scholarship is targeted for RM Undergraduate Student Members and the scholarship is awarded annually. The 2017-2018 RM AIAA Scholarship recipient is Brandon Saunders from Colorado School of Mines. The 2018-2019 RM AIAA Scholarship applications have been received and are in process of being reviewed and awarded.

Public Policy

1. Describe activities that inform the public and section members about public policy.

Throughout 2017-2018 the Public Policy Committee, the committee hosted or participated in seven events:

1. Colorado Space Business Roundtable (CSBR) – Beers, Brats, and Burgers – August 16th, 2017
2. Trajectories 2017 – Sept. 8th, 2017, event co-hosted with Mines Aerospace Interest Group (MAIG)
3. RMS Annual Technical Symposium – Nov. 17th, 2017
4. Colorado Space Roundup – Dec. 6th, 2017
5. Colorado Aerospace Day – March 19th, 2018
6. Congressional Visits Day (CVD) 2018 – March 21st, 2018
7. CU Boulder’s 3rd Annual Aerospace Summit – March 22nd, 2018



New Members Added:

In the summer of 2017, the public policy committee welcomed two new members: Jason Hopkins – who previously worked for Masten Space Systems in FL, on the Hill in DC, and now works at Ball Aerospace - and Chris Pumford who is a recent Mines graduate that interned at the UN and now works for ULA.

2. Describe activities that provided interaction with government officials.

Fall events:

In the fall of 2017, the Public Policy committee again supported the RMS Annual Technical Symposium and we were excited to secure the participation of Congresswoman Diana DeGette at ATS, who gave a talk on “STEM: Workforce Development and Securing Colorado’s Economic Future”.

Spring events:

This year (2017-2018), the timing of Colorado Aerospace Week (March 19th through March 23rd) and AIAA’s CVD all took place during the third week of March – in two separate states. This represented a logistical and planning challenge for the committee, but the events were executed successfully – with no issues – by the members of the policy committee along with tremendous support from the entire RMS council. This scheduling/logistical challenge is expected to continue in the future which will make for a lively spring policy season for the members of the Public Policy committee.

As part of the planning for the spring, the policy committee instituted a new plan for recruitment and representation of RMS members at CVD. With over 188,000 space related employees in Colorado alone and key space research occurring in all three represented states, the Rocky Mountain Section has many interests to advocate for on the Hill during CVD.

Colorado has a unique and internationally recognized prestige, courtesy of the aerospace programs and research offered by universities in the RMS which has created a rich and passionate constituency of students and young professionals. The first ever Space Resources Program at the Colorado School of Mines, the 20 research centers and over 400 professionals and faculty dedicated to space, science, and atmospheric research at the United States Air Force Academy, and the proven training ground for future space scientists and engineers, the Laboratory for Atmospheric and Space Physics at CU-Boulder are just a few examples.



The third week in March was designated as “Colorado Aerospace Week” and the Public Policy Committee participated in two events that week, Colorado Aerospace Day on March 19th, and CU Boulder’s 3rd Annual Aerospace Summit on March 22nd. During Colorado Aerospace Day, a proclamation was made by Governor Hickenlooper that the third Monday in March would be permanently designated as “Colorado Aerospace Day”. The full proclamation and tribute are included, courtesy of the Colorado Space Business Roundtable, and Christie Lee from Lockheed Martin.

3. Did your section participate in Congressional Visits Day or All Aerospace Is Local? If so, describe.

In December, the Public Policy Committee proposed sending a minimum of five representatives to CVD, focused on student, academic, and young professional members within the RMS aerospace community.

For the actual CVD event on March 21st, 2018, the RMS section was proud to have 12 people in attendance either from Colorado or associated with Colorado. Of the 12 participants, 9 were current college students at the Colorado School of Mines, 2 were active professionals from the RMS section, and 1 person represented the Secure World Foundation – an NGO policy organization headquartered in Colorado and Washington. Despite snowy weather, the 12-person team met with staff from 6 out of 9 Colorado Congressional Offices (Sen. Bennet, Sen. Gardner, Rep. Polis, Rep. Tipton, Rep. Coffman, and Rep. Perlmutter). The team also briefly met Rep. Polis during the visit. Not only was CVD a successful advocacy event, but it fostered connections between the RMS Public Policy Committee and other organizations, such as the Secure World Foundation, with whom the committee would like to co-sponsor future events that are of interest to the Colorado aerospace community.

Honors and Awards

1. Describe any local section awards given to members and supporters.

K-12 Educator of the Year Award:
College Educator of the Year Award:
Young Engineer of the Year Award:
Engineer of the Year Award:

Charles Sprague
Todd Nathaniel
Christopher Allison
Michael Drews



*College Educator of the Year Winner
Todd Nathaniel*



*Young Engineer of the Year winner,
Christopher Allison*

2. List members nominated by the section for AIAA or regional honors and awards. Please include nominee, award, and status.

Communications Award: Brian Gulliver, Section Chair; John Grace, Webmaster; and Adrian Nagle, Newsletter Editor

Technical Activities

1. How many local members are members of an AIAA Technical Committee? Describe how they interacted with the local section or local technical committee(s).

The number of RMS Members who are on technical committees is unknown.

2. Describe local technical committees, their function and activities for this year.

RMS does not have specific local technical committees.

3. Describe any technical symposia or short courses not described in detail elsewhere in this report.

Annual Technical Symposium (see next page)

AIAA Rocky Mountain Section 6th Annual Technical Symposium

by Wesley Kenison

On 17 November, the AIAA Rocky Mountain Section hosted its 6th Annual Technical Symposium (ATS) at Metropolitan State University (MSU) of Denver. This was the first year that the event was held at MSU Denver, and through generous university support, the event went fantastically well.

The symposium broke with tradition and separated its formerly unified technical theme into four tracks, giving attendees the ability to select aeronautics, astronautics, unmanned aircraft systems, or advanced manufacturing as the focus of their day's events. In addition to the separate tracks, plenary sessions, expert panels, and an exhibit hall filled with booths and interactive displays from 17 event sponsors were also available to attendees. In addition to its section website, aiaa-rm.org, the Rocky Mountain Section also added a new website (www.aiaa-rm.tech) dedicated to the symposium.

Some of the highlights of this year's symposium included: a presentation by Congresswoman Diana DeGette (D-CO 1st District), a drone delivery demon-

stration by the AIAA Colorado School of Mines Student Branch, a 3D fly-through of the Lockheed Martin-designed Deep Space Gateway, and a keynote presentation on the development of the Mars Base Camp by DSSL President Stephen Bailey.

Each track also featured a panel of industry experts giving attendees the chance to ask questions and take a deeper dive into the policies and programs shaping these industries. Panel topics included The Effects of Advanced Additive Manufacturing on Engineering Development Cycles, Airport Mapping and Maintenance using UAS, and a Young Professionals Panel highlighting the challenges and opportunities for young people just starting their aerospace careers. A new feature this year, certification testing for AGI's Systems Tool Kit (STK) software, was also conducted, giving attendees the chance to add an industry certification to their resumes.

One of the things that continues to set this event apart from so many similar events throughout the industry is accessibility to a broad range of industry

participants, from Fortune 500 vice presidents and congressional delegates to collegiate students and eager new hires. ATS has a history of strong planning and close ties to the community, which was highlighted this year by the partnership between AIAA and MSU Denver. ATS Committee Chair Wesley Kenison was able to bring together nearly 100 students, faculty, and staff from across the university to help make the event successful. University organizations for Aviation and Aerospace, Hospitality Tourism and Events, Brewing Science, Restaurant Management, Events Management, The Advanced Manufacturing Sciences Institute, Marketing and Communications, and The Center for Advanced Visualization and Experiential Analysis all participated to turn this event into a truly unique experience for attendees and event sponsors.

In addition to the symposium activities, the event organizers held a sponsor recognition dinner the evening prior. This event featured five beers specially crafted for the event to celebrate the partnership between AIAA and MSU as



Figure 1. A boxed lunch arriving via drone. Photo by A. Pickett



Figure 2. One of the many interactive booths in the Exhibit hall. Photo by A. Pickett

well as their shared love for all things aerospace. The culinary program prepared dozens of amazing treats and paired these to the small batch brews, taking guests on a taste extravaganza demonstrating the university's top-notch programs. "This is the first time in the history of the department that three major programs – brewing science, restaurant management, and event management – came together to plan and produce an event," said Andrea Peterson, affiliate faculty.

The decoration and event management for both days was handled by the Hospitality, Tourism, and Events Program's Advanced Planning and Risk Management class, who also provided a 50+ page risk management plan to ensure the safety and security of all guests.

Not only did this year's symposium turn out great, MSU Denver is excited to apply the lessons learned this year to making next year's symposium even bigger and better.



Figure 3. MFG panel

Communications

1. Describe the audience and frequency of the communications.

AUDIENCE	May 2018	Year Change
AIAA Professional Members	860	+7
AIAA Student Members	309	-1
AIAA Educator Associates	183	+25
Prospective members	At RMS events	
Members or leaders of similar groups, societies or associations	Yes, reciprocal arrangement with other societies	
Government officials, elected or appointed	At ATS 2017 and other public Policy events	
Key civic, industry or other leaders	Yes, participation in Colorado Space Business Roundtable	
Radio, TV, newspaper and journalists	No	
Other: Annual Technical Symposium	216	
Young Professionals Move: Hidden Figures	197	

FREQUENCY

How many "touches" has each section member received from your section in the past 12 months?

Direct USPS mailings: none

Telephone calls: For 4 months, membership committee chair called members whose membership had lapsed.

Electronic mailings: 64 (including 6 emails with hyperlink to the Section Newsletter)

Rocky Mountain Section maintains three major email lists:

AIAA-RM – All section members that have elected to receive email correspondence from AIAA (updated monthly on the 1st)

Council – All section officers (updated as officers are added)

ATSInfo – For prior registrants of our Annual Technology Symposium

Young Professionals – Professional Section Members under 35

Email messages sent to these lists:

To Section Membership: 64

Council Officers: 314

ATS Info- 6th Annual Technology Symposium professionals & students: 5

Young Professionals: 5

2. Describe any section publications other than a newsletter, including content, frequency and distribution.

Articles about RMS events and members are periodically published in Colorado Space News:

- <https://www.coloradospacenews.com/aiaa-rocky-mountain-sections-annual-technical-symposium-nov-17/>
- <https://www.coloradospacenews.com/ball-aerospaces-arnold-chip-barnes-iii-and-michael-ohara-elected-aiaa-associate-fellows/>

3. How does the section utilize electronic communication, such as email notification, social media (such as Facebook, LinkedIn or Twitter), etc?

The webmaster maintains several email distribution lists including section membership and others who subscribe to the general distribution, council members, and ATS registrants. We also have a Facebook page for sharing news and events photos. Ballots for council elections are cast as an online survey. Social media: We have maintained a presence on Facebook for over four years
<https://www.facebook.com/AIAA-RM-755480171153974/>

4. Do you use the AIAA SharePoint site to host your section's homepage? If not, do you host a website elsewhere? Yes

5. How often is the site updated, and do you have a webmaster? The website is updated weekly by our webmaster, John Grace. Officers and subcommittee chairs update the calendar, add announcements, and upload documents as needed.

6. What is the most utilized feature of the website? Registration for programs and document storage. We also accept online payment (PayPal) and EventBrite for event fees.

7. Do you use it to promote upcoming section activities? Yes, all invitations to section activities contain a flyer, that is also saved on the website. Registration for programs are via a link in the flyer and directs the member to website.

E-MAIL

What percentage of your section membership has active e-mail addresses?

98.7%

Describe what effort has been made (if any) in the last 12 months to update your section e-mail distribution list (i.e. to improve on this percentage). (max 500 words)

While the 98.7% is exceptional and represents 14 members with an average age of 78, the primary Rocky Mountain Section email list (aiaa-rm@aiaa-rm.org) is maintained on a commercial server owned and operated by Webintellec in St. Petersburg, FL. using Mailman 2.1.5 opensource software. It is updated monthly on the 1st by the Webmaster from a Datamaker download. The Datamaker download is scrubbed to remove non-Section Member names, names without email addresses, and names of members that checked "Do Not Email" in their member profiles. Since members occasionally change their email addresses, a compare routine is run using MS Excel to delete the "former" email addresses (averages 41 per month). Non-members may SUBSCRIBE to our list at any time and receive correspondence. List members may also UNSUBSCRIBE themselves by following the instructions at the footer of an email or simply email the Webmaster.

WEBSITE

Does your section have a Web site? Yes.

URL: <http://aiaa-rm.org> (redirects to AIAA Rocky Mountain Section SharePoint)

How often is it updated? Verified weekly, as a minimum

Number of hits in last year (if known):

12,466 (estimated) based on an average 1,039 hits/month. Hits are recorded monthly, but the SharePoint counter was erroneous in May 2017 thru October 2017 and January 2018.

Number of web pages on site:

91 with the following SharePoint breakdown:

Parent site – Rocky Mountain Section: 54 (in the following distribution)

Document Libraries: 12

Picture Libraries: 9

Lists: 27

Surveys: 9 (7 are Annual Elections)

Workspaces: 12 (no longer used due to inconvenience)

Sub-Sites: 2

Educator Associates: 11 (in a similar breakdown as the Section)

Annual Technology Symposium: Was 26 (in a similar breakdown as the Section), but now redirects to <https://aiaa-rm.tech>

Used for financial transactions?

Yes, we direct Annual Technology Symposium registration fees, Sponsorships, and Awards Banquet reservations to our PayPal account. We also confirm that PayPal transaction. Registrants receive payment confirmation in a separate email from PayPal. In Spring 2018, we transitioned to Eventbrite for our Annual Honors and Awards Dinner and a major Young Professionals Movie Event so we no longer use SharePoint for registrations or to point to PayPal.

If Yes, volume (\$) in last year:

\$5,240 via PayPal, \$4,30 via Eventbrite.

Visitor feedback solicited/captured?

Feedback link available on the homepage

Describe any unique features about your section Web site that you feel make it a useful communication resource to your members.

SharePoint has many features for our Section Members to learn what the Section has done in the past and what is planned in the future using Announcements, Calendar, Past Events, Pictures, etc. Rocky Mountain Section has exploited other SharePoint features.

- 1) We have two Subsites:
 - Annual Technology Symposium (<http://aiaa-rm.org/ATS>) which redirects to: <https://aiaa-rm.tech>
 - Education: https://info.aiaa.org/Regions/MW/Rocky_MNT/EO/
- 2) Annual elections are conducted via the website (SharePoint Surveys) for the last seven years.
- 3) Monthly program registrations are collected on our website which drives some of the monthly hits. These registrations are collected in a single database which provides visibility of which members AND non-members that register and attend programs.

- 4) We have used the Slide Show capability, but bulk picture upload can be tedious, so we now link to FLICKR, upload pictures, and use that Slide Show function.
- 5) Private Section Documents: We track the location of Section Publicity material and have a separate Council Calendar.

NEWSLETTER

Does your section publish a periodical newsletter? Yes

Mail a paper version to members: No
Number of issues in the last year: N/A

E-mail an electronic version to members: Yes
Number of issues in the last year: 6
Post an electronic version on our Web site: Yes
Number of editions posted: 6

Describe any unique features about your newsletter:

The content of the newsletter varies from month-to-month; however, the goal has been to highlight different committees each month and provide an opportunity for the different committee chairs to provide updates on what their committee is doing. The newsletter also provides an outlet to advertise other AIAA events (ie: Aviation 2017) and provides an opportunity for the current section chair to provide updates on the Section. Articles also include events in STEM, public policy (CVD, Colorado Aerospace Day) participation in schools (science fairs, BEST robotics) and local AIAA recognitions.



OUTREACH

Does your section utilize other communication outreach vehicles (check all that apply and describe how they are used)?

AIAA Section Banner: During most events, AIAA Banners and posters and provided. During signature events such as the AIAA RMS Annual Technical Symposium, Colorado Space Business Roundtable (CSBR), Colorado Aerospace Day at the State Capitol, AIAA RMS has a booth/table with standup banners, AIAA branded giveaways, and are staffed by AIAA Council Members.

AIAA-developed promotional materials: Yes, as most events and signature events.

Commercial media (Newspapers, Magazines, TV, Radio): No

Internal member company media (Newsletters, Web sites, bulletin boards, etc): Unknown

Please provide URL for any supporting material for this award.

Website: <http://www.aiaa-rm.org>

Newsletters: https://info.aiaa.org/Regions/MW/Rocky_MNT/Newsletters/Forms/Newsletter.aspx
[June 2017 Newsletter](#)
[August 2017 Newsletter](#)
[October 2017 Newsletter](#)
[January 2018 Newsletter](#)
[February 2018 Newsletter](#)
[April 2018 Newsletter](#)

Facebook: <https://www.facebook.com/AIAA-RM-755480171153974/>

Colorado Space News:

<https://www.coloradospacenews.com/three-ball-aerospace-engineers-elected-aiaa-associate-fellows/>
<https://www.coloradospacenews.com/call-for-abstracts-aiaa-rm-annual-technical-symposium/>

Financial Summary:

Beginning Total Balance of all cash on hand as of June 1, 2017:	<u>\$ 32,859.94</u>
Checking Account:	\$ 17,720.00
Savings Account:	\$ 15,139.94
Other (please specify):	\$ 0.00
Section Rebate:	\$ 8,742.26
<u>Other Income</u>	
ATS Sponsorship:	\$ 13,000.00
ATS Registration:	\$ 5,515.00
YP Movie Night Event	\$ 2,332.64
Awards Dinner	\$ 1,743.88
Expenses:	\$ 31,702.74
Estimated Ending Balance as of May 31, 2018:	<u>\$ 32,356.00 (est.)</u>

What corporate donations were received? Yes, as follows:

Analytical Graphics	\$ 1,000.00
Red Canyon	\$ 500.00
Ball Aerospace	\$ 1,000.00
State of Colorado	\$ 500.00
Deep Space Systems	\$ 1,000.00
ISYS Technologies	\$ 500.00
Lockheed Martin	\$ 3,000.00
Teledyne Brown	\$ 1,000.00
Metro State	\$ 2,500.00
Roccor	\$ 1,000.00
EyaSat	\$ 500.00
Zeiss	\$ 500.00

Were any meetings or functions underwritten or financially supported? Yes, the 6th Annual Technical Symposium 20171