**SECTION ANNUAL REPORT 2017-2018 – AIAA ORANGE COUNTY CALIFORNIA**

**Outstanding Section Award**

**Outstanding Activity Award**

The Annual Report is the Business Report for the Section and must be received before a Section can receive its rebate for the next year. It covers activities from June 1, 2017 to May 31, 2018. Even though any member can aid in filling out the report, submission can only be made by the serving chair of the section year listed above. Supporting materials such as newsletters, programs, advertising, etc. may be attached, but the total pages should be no more than 12 (excluding the outstanding section and activity awards which can be two pages each), and must all be in one document (it may mean that the entire report is submitted in pdf format). Larger or extra pieces of supporting material, such as newsletters, multiple flyers, banquet programs, etc. should be archived on the section’s SharePoint site with links in the report document as needed. This report must be submitted by June 1, 2018 in order to be considered for any section awards. The Orange County Annual Report covers activities from June 1, 2017 to May 31, 2018. Figure 1 shows AIAA Associate Fellow Bob Welge, Vice Chair for Membership, alongside AIAA Associate Fellow Gene Justin, Secretary for the AIAA OC section, during the 2018 Engineering Week Outreach at the Boeing Huntington Beach facility.

**Section Name:** Orange County

**Section Size Category:** Large

**  
Figure 1. 2018 Engineering Week Outreach**

**Section Organization**

1. *List the names of the Section Officers and any additional members of the section council*.

|  |  |
| --- | --- |
| Chair | Dr. Amir S. Gohardani |
| Chair Elect | Mr. Chase Schulze |
| Secretary | Dr. Joseph E. (Gene) Justin (Acting) |
| Past Chair | Mr. Chase Schulze |
| Treasurer | Pending Chase Schulze acting |
| Education | Ms. Jann Koepke |
| Programs | Dr. James Martin |
| Technical | Mr. Dino Roman |
| Communications/Web | Dr. Jody Hart/Dr. Omid Gohardani |
| Membership | Mr. Bob Welge |
| Young Professionals | Dr. Erol Kilic |
| Career & Workforce Enhancement | Dr. Erol Kilic |
| Honors and Awards | Dr. Lotfi El-Bayoumi |
| Public Policy | Mr. Kamal Shweyk, Mr. John Rose |
| Council-Members-at-Large | Mr. Bob Koepke |

1. *Number of council/officer meetings held during the year*: 12. Average attendance: 10.
2. *Percentage of membership voting in last election of Section Officers*: 2.5%
3. *List any activities targeted at officer training or development including attendance at the Regional Leadership Conference: Regional Leadership Conference*, RLC-4 RLC not held during this reporting period because of hurricane in September.
4. *Estimated membership located within 1 hour of the meetings*: Estimated 99%
5. *Number of Chapters within the Section: Two (*2). *Chapter Names*: (1) University of California Irvine (2) California State University Fullerton.
6. *Describe how your section supports members outside the main local area (if any):* Members outside the local area receive the Section activity updates and emails. Articles in Aerospace America. . AIAA OC Website/Newsletters for access by all. (Links provided below).

**Meetings, Programs and Events**

1. *Describe the Section’s general meetings. Include date, meeting type (e.g. dinner meeting, field trip, lunch and learn, etc.), speaker, organization, topic, location, and attendance. You may further break down your attendance if you would like (AIAA members, nonmembers, students, etc). Also include the focus (young professional, public policy, technical, workforce development, STEM K-12, etc. or just general), any publicity used for the event, and if it was jointly sponsored and if so, by whom:*

This information is contained in the Table 1 below. Also, see Figure 1 above. Publicity for events typically consists of flyers being inserted into emails to the membership, word of mouth, placing ads on corporate internal homepages when possible, and posting flyers.

**Table 1. OC Section Events and Activities**

| Date | Event | Location | Council Meeting | Section Activities | Total  Attendees |
| --- | --- | --- | --- | --- | --- |
| **6 June** | **Council Meeting** | **Dino’s Italian Restaurant, Huntington Beach** | **X** |  | **10** |
| **June to October** | **SPARC (Student Payload and Rocketry Challenge)** | **Orange County** |  | **X** | **6 teams (sponsored), 18 teams (mentored), helped 12 teams** |
| **11 July** | **Council Meeting** | **Dino’s Italian Restaurant, Huntington Beach** | **X** |  | **9** |
| **July-August** | **1st AIAA Aerospace America Article: A Section Within an Aerospace Hub** | **Dr. Amir Gohardani** |  | **X** | **AIAA National Magazine** |
| **8 August** | **Council Meeting** | **Dino’s Italian Restaurant, Huntington Beach** | **X** |  | **8** |
| **11 September** | **Orange County Engineering Council Leaders Forum (Dr. Amir Gohardani – Moderator)** | **Santa Ana** |  | **X** | **40, Multiple, YPs** |
| **12 September** | **Council Meeting** | **Dino’s Italian Restaurant, Huntington Beach** | **X** |  | **9** |
| **October** | **2nd AIAA Aerospace America Article: Building a Unique Tradition in Southern California** | **Dr. Amir Gohardani** |  | **X** | **AIAA National Magazine** |
| **October** | **SPARC Rocket Science Fair** | **Lucerne Dry Lake** |  | **X** | **6 teams, 1000+ younger visitors** |
| **14 November** | **Council Meeting** | **Dino’s Italian Restaurant, Huntington Beach** | **X** |  | **9** |
| **December** | **Council Meeting** | **Local restaurant** | **X** |  | **10** |
| **December** | **3rd AIAA Aerospace America Article: Sustainability in Engineering** | **Dr. Amir Gohardani** |  | **X** | **AIAA National Magazine** |
| **16 January** | **Council Meeting** | **Dino’s Italian Restaurant, Huntington Beach** | **X** |  | **9** |
| **February** | **Engineering Week at Boeing Booths** | **Huntington Beach** |  | **X** | **Multiple, YP** |
| **February** | **OCEC Awards Program** | **OC, Ms. Jann Koepke (STEM Service Award Award)** |  | **X** | **Multiple** |
| **13 February** | **Council Meeting** | **Dino’s Italian Restaurant, Huntington Beach** | **X** |  | **12 + 2 Guests** |
| **March** | **4th AIAA Aerospace America Article: ASAT 2018 To be Held in May** | **Dr. Amir Gohardani** |  | **X** | **AIAA National Magazine** |
| **6 March** | **Council Meeting** | **Dino’s Italian Restaurant, Huntington Beach** | **X** |  | **11** |
| **3 April** | **Council Meeting** | **Dino’s Italian Restaurant, Huntington Beach** | **X** |  | **9 + 1 Guest** |
| **18 April** | **Speaker Program, Joan Horvath and James Cameron** | **People Space, Irvine** |  | **X** | **8** |
| **8 May** | **Council Meeting** | **Dino’s Italian Restaurant, Huntington Beach** | **X** |  | **10 + 1 Guest** |
| **Multiple** | **STEM outreach, AIAA OC TARC Teams; NASA Student Launch Team, others** | **TARC--Mentored 22 teams** | **OC, Wash DC, Dry Lake Bed** | **X** | **Multiple** |
| **12 May** | **Annual ASAT Conference** | **Doubletree Club Hotel, Santa Ana, CA** |  | **X** | **61** |
| **12 May** | **Annual Awards Banquet** | **Doubletree Club Hotel, Santa Ana, CA** |  | **X** | **35** |

In addition, we had joint sponsorship activities this past year with AIAA LA and, OCEC, IEEE OC which included posting of events, posting to sharing site, and support to AIAA LA and IEEE OC events. OC AIAA provided representatives, booklets, and charts, and made contact with potential new AIAA members and volunteers at each of the events listed. OC IEEE, LA AIAA members and other local engineers are invited to local speaker meetings, social events and the AIAA OC Section’s annual Southern California ASAT (Aerospace Systems and Technology) Conference and the annual Awards Banquet.

The Section has provided donations and publicity to the local Team America Rocketry Challenge (TARC) teams, a hands-on STEM (Science, Technology, Engineering, and Mathematics) international competition. Student TARC teams present papers at the ASAT conference, and Poster standup-presentations to ASAT attendees. The Section has engaged with the University of California—Irvine (UCI) and California State University Fullerton (CSUF) . The University of California, Irvine team participated in the 2018 conference and presented during the conference. Section’s Council Meetings were held as indicated in Table 1.

This year’s Speaker Pizza-Dinner meetings were our main effort to foster the profession, career, and workplace and community new member outreach program. We had a variety of speakers and topics as delineated in Table 1. Pizza and drinks were served. See AIAA OC Website:

<https://info.aiaa.org/Regions/Western/Orange_County/default.aspx>

We supported 4 major events locally with a membership table and display. See Membership section.

**Membership Activities**

1. Describe any membership recruitment/retention activities (this section may be copied as needed for use in the Membership Award Form).

The Section promotes the following values of membership at (1) Meetings, Programs and Events, (2) Technical Activities and (3) Education/STEM Actives:

* Local Section Meetings—network close to home
* Technical and Program committees--bring together experts in their fields
* AIAA Career Center--Job Seekers
* Young Professions Member Programs--networking events
* Honors and Awards—gain recognition
* Voice in Congress—Congressional Visits Day
* Online news and research—Online Library and Aerospace America
* Engineers and educators—learn how to inspire K-12
* Membership discounts—Conferences, Publications and Partners

Through these promotions, we reached out to the membership community and their families to better engage them and serve their needs. In so doing, the Section provided opportunities for networking and membership recruitment, retention and personal and professional growth.

The membership display and handouts of current AIAA information were included at selected events described in this report (Table 1) including a special handout created locally showing how to sign up online (shown below). A few highlights are:

* The membership promotion and retention activity for the year at the 15th Aerospace Science and Technology Conference (ASAT) on May 12 promoting membership to about 60 attendees organized by AIAA OC (see display photo below). Long standing members with 25, 40, 50, 70 and 75 years of service were acknowledged by name at the ASAT banquet. Membership value was exemplified by the achievement recognition awards for Student, Young Professional, Engineer of the Year and the Gohardani Presentation Awards presented at the ASAT Conference.
* The membership display was staffed for The Boeing Company during Engineers Week Feb 2018 (see image below).
* Mars Society Conference at UCI in September (See image)
* Mars Rover Event in Los Angeles in September (See Image)

Membership opportunities were also promoted through articles in Aerospace America written by the Chair of the section--see Communications Section. The value of membership was encouraged by the section’s presence on the Rocketry website (<http://aiaaocrocketry.org)> and continuous activity for Education/STEM. An active list of current members from DataMaker was maintained on Constant Contact for email distributions throughout the year. Programs and accompanying membership opportunities were jointly promoted with the LA/LV and San Gabriel sections adjacent to the Orange County Section boundary. The mailing lists include the student branches at the University California Irvine (UCI) and the California State University Fullerton (CSUF) in our email distributions. Additional details of the Membership report are contained in the separate Microsoft Excel based Membership Report submittal.

 

2018 ASAT Display

|  |  |
| --- | --- |
| OC Section Membership Sign Up | Boeing 2018 eweek Display    Mars Society Conf at UCI Mars Rover Event LA/LV |

**Education**

1. *List the student branches within the section, and describe any section activities related to these branches*.

University of California Irvine (UCI) AIAA Student Section and California State University Fullerton (CSUF) is within the AIAA OC Section area, and the AIAA OC Section is active in supporting both student sections.

1. *Describe actions taken to establish new student branches*. N/A Student branches already established and engaged.
2. *Describe involvement of the section with the Region Student Conference*. AIAA OC section has continuously encouraged students to participate in our annual ASAT conference and make presentation. Moreover, students are also eligible to be awarded the Gohardani Presentation Award in Aeronautics and Aerospace.
3. *Describe any professional continuing education programs (this section may be copied as needed for use in the Career and Workforce Development Award Form).*

The AIAA OC Section has an active Career and Workforce Development program which so far has been compilation of a list of aerospace companies in Southern. Erol Kilic which spearheads our Career and Workforce Development activities has developed a Career Development Survey which we hope to be able to use in the near future to enable various activities with CSUF and UCI.

1. *Describe any precollege outreach programs instituted/continued this year (this section may be copied as needed for use in the STEM-K12 Award Form).*

See the write up for Outstanding Activity Award for the AIAA OC Rocketry program including NASA Student Launch Team and Team America Rocketry Challenge (TARC) contained in Appendix A of this report. NASA Student Launch is an engineering experience open to the top 25 teams that compete in TARC. The program runs from September through the following April. Teams experience and engineering project similar to that found at NASA and industry. NASA sends out a Request for Proposal and teams respond. If their proposal is selected, they hold a Preliminary Design Review, Critical Design Review, and Flight Readiness Review via WebEx with engineers at Marshall Space Flight Center. They design build and fly a rocket to a mile with a scientific or engineering payload. At the end they travel to Huntsville, AL for a Rocket Science Fair and a Launch. TARC is an international rocketry contest where teams design, build & fly a rocket to 8oo ft. The rocket flight is timed and carries two raw eggs. It is open to 7th through 12th graders. The top 100 teams in the nation compete in Washington DC.

The AIAA OC Section financially sponsored six teams from OC cities and schools. The Section sponsorship helped additional teams in OC, Riverside, and Lake Elsinore areas. The teams hold meetings and perform local launches. Teams can qualify and compete in Washington DC, and there is a AIAA OC Section Co‑Sponsored TARC “Consolation Launch” in June, intended to give all West Coast teams the “finals experience” whether they qualified to compete in Washington DC or not.

In addition, the Section actively supported the AIAA OC Rocketry club. The rocketry club is for all ages but aimed at getting youth involved with science, engineering and technology through rocketry. The club meets once each month and has at least one launch outing each month. Students begin by building commercial kits, then go on to design and build rockets using a Computer Aided Design program. As they gain more confidence, the rockets get bigger and go higher on larger engines. Many go on to participate in the TARC contest and SPARC. The club has a web site at <http://aiaaocrocketry.org> covering the club as well as TARC and SLI. The Section supported the local TARC teams. The Section also supported the OC Science and Technology Fair and provided special awards in aerospace.

As a feature speaker, Jann Koepke (Education, Vice Chair) gives talks and leads activities throughout OC. Jann and Bob Koepke (at Large, Vice Chair) were consistently active with the TARC teams, participating in at least one launch, every weekend until the end of the year contest. OC AIAA has allocated funds for the TARC teams’ support, and the TARC Team “Field Boxes” which contain many of the tools and equipment needed to build and launch their rockets. One AIAA OC Section mentored team made it to finals this year. Finals were near Washington DC in May. The team placed 17th and will go on to NASA Student Launch Initiative. The AIAA OC Section mentored NASA Student Launch (SL) team travelled to Huntsville with AIAA OC Mentors for the Rocket Science Fair and Launch. The team did very well, however there are no prizes for performance for high school teams. AIAA OC Section also helped with the Reach For The Stars competition at Mendez Fundamental School. One team placed first and we travelled with them to Huntsville for a day at Space Camp and awards at the Space and Rocket Center

1. *Does your section have a scholarship fund?* (No.) *Describe how funds are raised, and how scholarships are awarded.* (N/A)

**Public Policy** (This section may be copied as needed for use in the Public Policy Award Form)

1. *Describe activities that inform the public and section members about public policy.*
2. *Describe activities that provided interaction with government officials.*
3. *Did your section participate in Congressional Visits Day or August is for Aerospace? If so, describe.* Yes.

Unlike in recent years, where the OC Section directly supported and participated in CVD, leading the California delegation, the Section assumed a lesser role. However, the section did provide support through the Public Policy Committee Chair, John Rose, who led the visit to the office of the California Senator, Dianne Feinstein, while assisting in the coordination of the other congressional visits. The California delegation, which represented 4 sections and conducted 10 visits on the Hill, helped convey the 2018 key issues, focusing on funding stability and competitiveness, research and development, innovation, and workforce development and enhancement.

**Honors and Awards**

1. *Describe any local section awards given to members and supporters. Please note if award is new this year.*

The Section’s Annual Awards banquet honored well-deserved individuals who contributed to field of Astronautics and Aeronautics, and the community. Award Winners and Honored Guests included (See for photos: at link below)

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

* 5 AIAA National Section Awards:
* AIAA OC Outstanding Section Award, 2nd Place Large Category, Chase Shulze, Past Chair, 2016-2017
* AIAA OC STEM K-12 Award, 1rd Place Large Category, Jann Koepke, Education, 2016-2017
* AIAA OC Membership Award, 1st Place Large Category, Bob Welge, Membership, 2016-2017
* AIAA OC Public Policy Award, 3rd Place Large Category, Kamal Shweyk, Public Policy, 2016-2017
* AIAA OC Young Professional Activity Award, 2nd Place Large Category, Daniel Thompkins, 2016-2017

OC Council Section awards given:

* Student of the Year—Mr. Amir Rezaei, UC Irvine
* Young Professional of the Year: Dr. Haithem Taha, Assistant Professor, UCI
* Engineer of the Year: Mr. James French, Blue Origin (Consultant)
* OC Section members made AIAA Associate Fellows this year: Dr. Amir S. Gohardani
* A joint sponsorship event this past year included the nomination of an award winner to the local Orange County Engineering Council (OCEC) for their annual Engineers Week banquet. AIAA OC members who won awards were:
* Ms. Jann Koepke, STEM Service Award
* Chase Schulze was elected to the Atmospheric Flight Mechanics (AFM)Technical Committee.
* Mr. John Rose serves at the National AIAA Board of Directors as the VP of Public Policy. He also served as the Deputy Director of Public Policy Region 6, Deputy to the AIAA Public Policy Committee (PPC) and Chair of the National Security Subcommittee.
* Dr. Amir S. Gohardani serves as the Chair of the Society and Aerospace Technology Integration and Outreach Committee.

**Technical Activities**

1. *How many local members are members of an AIAA Technical Committee?* Not known. *Describe how they interacted with the local section or local technical committee(s)*. Not known. Section reaches out to all members to be active members of the Section and attend the local events.
2. *Describe local technical committees, their function and activities for this year*. There are no local technical committees.
3. *Describe any technical symposia or short courses not described in detail elsewhere in this report*. No short courses.

An outstanding technical activity was the OC Section Southern California Aerospace Systems and Technology Conference (ASAT) and evening Awards Banquet. In regards to publicity for the event, there were numerous flyers, emails, and posting within companies, with the LA-Las Vegas-China Lake-San Diego Sections, and with the local IEEE sites. Newspapers were contacted, but no postings were seen in the newspapers. The Section website was also used to promote the event. The Aerospace Systems and Technology Conference is in its 15th successful year this year. It is unique each year and shows how the AIAA OC Section is building a significant working relationship with professionals, academia, students, and their community and families while also emphasizing STEM education. It provides a Section outreach to the future generation and getting them interested in STEM, while leveraging and bridging to the present generation in the form of technical interchange and networking with technical experts and leaders as well as students.

The Section’s ASAT Conference is locally presented for the Orange County Aerospace community. ASAT 2018 was held on the 12 May 2018 at the Doubletree Club Hotel, in Santa Ana, California. Each year it has a variety of speakers and topics

Distinguished Speakers at this years Conference were:

* Mr. Steve “Hooter” Rainey, F-22 Chief Test Pilot
* Dr. Anita Sengupta, SVP Systems Engineering, Virgin Hyperloop One
* 31 Papers in 3 Tracks
* 61 Attendees

Participants included individuals from all of LA-OC, a testament to the interests in the goals and value of the ASAT program. ASAT and the Banquet help foster relationships between past, current, and future generations of the engineering community. It gives back to the retirement-age workers, the new young professionals, and the young, up-and-coming students. ASAT stirs the interests of the young and old. The ASAT conference allows members to network with one another, gain insight into other aerospace specialties, and foster opportunities otherwise unexplored. These opportunities including joining AIAA and taking a more active role in its events, activities and future both nationally and within the local OC AIAA community.

The Section’s Annual Awards banquet is an evening dinner event immediately following ASAT that honors well-deserved individuals who contributed to field of Aerospace and the community (mentioned above under Honors and Awards). The ASAT-Banquet is an outstanding event for building a lasting relationship with and highlighting the contributions of the Southern California aerospace community with outreach to members in OC, San Diego, Los Angeles, and the Desert Counties.

* Speaking this year at the Banquet was Chief Richard Fields IV, Battalion Chief, Los Angeles Fire Department with his interesting talk *LAFD Unmanned Aircraft Systems (UAS) Unit*

35 attendees for the banquet

AIAA OC Year-In-Review briefing was presented at ASAT and highlights the Section’s accomplishments this year. See below:

<https://info.aiaa.org/Regions/Western/Orange_County/ASAT%20Conference%202018/AnnualReviewSlides-ASAT-ASG-12May2018.pdf>

For additional details on the day and evening event please see:

<https://info.aiaa.org/Regions/Western/Orange_County/ASAT%20Conference%202018/Forms/AllItems.aspx>

**Communications:**

*Number of newsletters published this year: What article received the most attention or interest this year?* *Describe any section publications other than a newsletter, including content, frequency and distribution.*

No newsletters were published this year, but we have used our SharePoint website <https://info.aiaa.org/Regions/Western/Orange_County/default.aspx> for posting items of general interest to our membership. In addition, we used multiple communications tools provided by Constant Contact, including event-hosting web pages and bulk emailing, as well as their Survey tool. A summary of Aerospace America articles is detailed in Table 1.

*How does the section utilize electronic communication, such as email notification, social media (such as Facebook, LinkedIn or Twitter), etc?* OC AIAA Communications posts all events and emails for the OC AIAA using Constant Contact software.  OC AIAA tries to sponsor a presentation about once a month, but this year has been especially difficult, and we have only been able to sponsor five presentations. For each event, a registration web page is created, and a series of email announcements go out to all OC and LA-LV AIAA members.  For example, please see:

<http://events.r20.constantcontact.com/register/event?oeidk=a07ee67lt0nf97db61d&llr=vitem6fab&showPage=true>

OC AIAA coordinates with similar organizations, such as the local chapters of ASME, IEEE, and AESS, to post email event notices for those organizations if the events are deemed to be of interest to OC AIAA members. These emails are sent only to OC AIAA members using the list maintained by the Membership chair.  In addition, OC AIAA Communications posts its event notices, announcements, minutes, conference proceedings, photographs, and other documents of interest on its own SharePoint website. Numerous non-AIAA events deemed interesting to our members are also posted on our SharePoint website, including events sponsored by the Southern California Pilots Association, the Experimental Aircraft Association, and the Society of Women Engineers. We have also begun using the AIAA Engage website.

1. *The following questions are for those sections with active websites*.
2. *Do you use the AIAA SharePoint site to host your section’s homepage? If not, do you host a website elsewhere?* The AIAA SharePoint site is used to host our section’s homepage. We have also begun using the AIAA Engage website. We post event notices, announcements, minutes, conference proceedings, photographs, and other documents of interest. In addition, we have also begun using the AIAA Engage website. The most utilized feature of the SharePoint website is its promotion of upcoming section activities. Nonetheless, we rely on Constant Contact much more than SharePoint to host event websites, as we have found it much easier to use. All registrants are able to sign up via Paypal.
3. *How often is the site updated, and do you have a webmaster*?
   1. Yes, our Communications Vice-Chairs update and maintain postings on the website. The website is updated as necessary with council meeting minutes, postings of new activities, etc.
4. *What is the most utilized feature of the website?*
   1. Event notifications/information and signup for events.
5. *Do you use it to promote upcoming section activities*?
   1. Yes. Section activities are promoted on the website as well as synergistic activities that are put on by the local aerospace community.
6. *Describe any new or unique features added this year.*
   1. We have begun using the AIAA Engage website.

The “audience” of the Communication Activities is primarily the current AIAA OC professional. It also includes AIAA student (UCI and CSUF) members, and education-associate members (STEM, Rockets Programs, TARC, Science Programs, and Rocket Scientist, RST). The professional membership includes Youth Program and traditional members as well as retirees. It also includes their families and the network in the community and schools, and STEM programs. Also, the audience to a lesser degree includes potential prospective AIAA members, members of similar groups, societies, and associations (we are very active with IEEE). In addition, civic, industrial, and education leaders are served by the AIAA OC section.

***Financial Summary*** *(this portion of the report does not satisfy the requirements for an audit report):*

Beginning Total Balance of all cash on hand as of June 1, 2017: $10,469.86

Checking Account: $ 10469.86

Savings Account: $ 0

Other (please specify): $ 0

Section Rebate: $ $9,887.25 CAT I & II for 2015-16 and 2016-17

Other Income

(please specify – advertising, etc): $4500 ASAT and Speaker Dinner Meetings

Expenses: $9600

Estimated Ending Balance as of May 31, 2017 $15,300

What corporate donations were received? None

Were any meetings or functions underwritten or financially supported?

* Yes, partial support
  + ASAT
  + Speaker Dinner Meetings
  + Dinner Council meetings

**Outstanding Section Award (Limit to Two Pages)**

1. *Statement of the mission and goals of the section. How is your section functioning within the mission and goals of the AIAA?*

The mission and goals of the Orange County Section are closely aligned with those of the Institute at large. We agree that we are a service organization focused on creating tangible value for our members. 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 our global society. To support this mission our four primary goals are:

* To advance the aerospace profession by keeping our members and community well informed through programs that address technical as well as critical issues facing our community and that encourage information flow and creative interchange;
* To sustain and strengthen the profession by providing opportunities and programs that stimulate workforce development through lifelong learning for today’s professionals, that enhance the development of future professionals through support of students, faculty, and academic institutions, and that enhance retention of aerospace workers;
* To stimulate progress in the state of the art of aerospace science and technology by promoting communication and personal interaction among students, engineers, and scientists as well as with other professional groups, and by recognizing outstanding professional accomplishments; and
* To serve as an advocate for the profession by highlighting the tremendous societal contributions of aerospace systems and technologies, by focusing the scientific and technical capabilities of the profession on areas of international importance, and by representing the local professional community in public policy discussions at local, national, and international levels.

The OC Section has been active this past year in every one of the stated goals from supporting of STEM education and programs to honoring our members. Our year-in-review presentation at <https://info.aiaa.org/Regions/Western/Orange_County/ASAT%20Conference%202018/AnnualReviewSlides-ASAT-ASG-12May2018.pdf> is evidence of the many varied activities the section sponsors in support of our goals. The section also aims to transform regional impacts to national benefits for the section. Examples of these activities are AIAA OC section members that serve as Chairs on Integration and Outreach Committees.

1. *Statement of philosophy of use of funds (both through rebates and other means). How are financial resources used by the section? How do you think the funds are best utilized?*

The Section’s philosophy regarding the use of funds is twofold. One is to provide AIAA educational/technical events for the membership and community at large. The second is to support worthwhile external activities and participate with other organizations that are closely aligned with our goals. We as a Section feel that, so long as the financial requirements of the Section are met and there is a reasonable reserve for unforeseen expenses, funds should be allocated to any AIAA member-family focused project with merit and a plan for fiscal responsibility. We believe in making all our events as affordable as possible to our members and non-members by subsidizing part of the costs for participation (with preferential terms reserved for members only).

The Section uses its funds to sponsor various events including outreach programs, technical meetings, a yearly local technical conference, the Aerospace Systems and Technology (ASAT) Conference and Banquet (in its fifteenth year this year), as well as provide travel assistance to members wishing to participate in AIAA events such as CVD and RLC.

The Section also uses funds to support events sponsored by its Student Branches, and to support other local events such as Science Fairs, University of California – Irvine and California State University – Fullerton, AIAA Design Build-Fly program, TARC, RST, and other education programs. Furthermore, the Council discusses ideas for new events (proposed by the membership or by council members) and determines how much monetary support can be allocated to each in our yearly budgeting activity.

For any event where the Section has expended funds, it is generally agreed and expected that the organizer will provide something back to the Section. This may include a re-cap/report of the event/activity at the ASAT conference, a mention of AIAA sponsorship, or participation in a Section event. This is a simple means of giving back to other members.

We rely on CAT I and II funds for most of our activities and apply for Cat III funding where appropriate.

1. *Please describe any challenges or problems that arose during the year (or that are ongoing) and how the section dealt with them*.

The primary obstacle remains the changing interest in the local aerospace community, and the low turn-out and semi-apathy among our members in regards to section activities. It is a challenge to motivate people to come to events when there is uncertainty regarding employment and the future. This past year, attendance at dinner events has been a challenge but we have done well. In addition to offering value and content in our programs and activities, there is a small percentage decline in the number of the members in the Section, consistent with the national average. We have followed up with dropped membership in an effort to get renewal. This year’s attendance at the ASAT Conference and Awards Banquet was down this year perhaps reflecting the national trend but still brings professionals, students, and academia together for stimulating conversations.

As mentioned earlier, the section subsidizes many of our programs to encourage participation and we provide many outstanding STEM related activities such as our Rockets Program to engage our future workforce and instill a sense of teamwork and continued involvement.

1. *Please describe how your section is responding to its unique circumstances and how it is making a difference. In other words, why should this be an Outstanding Section?*

The Section is an Outstanding Section because of the excellence and reach of its programs. We have decided that to make the most impact and reach the most people, from professionals to pre-college students to the community at large, our resources are best utilized to support interesting, low cost speaker programs, our yearly conference and banquet, and family-centered STEM programs. These programs allow members and non-members to network with one another, learn new interests, and possibly find opportunities they would not have otherwise. This includes encouraging younger professionals and students to join AIAA, and continue their relationship with the AIAA OC Section. Moreover, our council members take an active role in all section activities.

Our STEM and educational outreach programs including our very own Rocket Programs and Team America Rocketry Competition (TARC) sponsorships, University of California Irvine (UCI) Design Build Fly (DBF) aircraft team support, Cal State University Fullerton (CSUF)supprtsupport, and other educational programs the section participates in and sponsors are all detailed in this annual report. We are constantly engaging with students to shape the future of aerospace alongside AIAA. In fact many aspects of our Rocket Programs are the blueprint for other programs around the country.

Educational Outreach Slide Slow**:**[**http://aiaaocrocketry.org/SlideShowWebGalleries/AIAAOCSection2017-2018/index.htm**](http://aiaaocrocketry.org/SlideShowWebGalleries/AIAAOCSection2017-2018/index.htm)

**Appendix A**

**Outstanding Activity Award**

**NASA Student Launch (SL), Team America Rocketry Challenge (TARC), Amateur Radio on the International Space Station (ARISS), and AIAA OC Rocketry Club**

*Date of Event*: Year Long Activity   
         *Name of Event*: NASA Student Launch (SL) activity, OC Section Sponsorship of the Team America Rocketry Challenge (TARC), Amateur Radio aboard the International Space Station (ARISS) and Rocketry Club  
         *Speaker:* OC Section Aerospace Professionals and Volunteers   
         Speaker Affiliation: SL, TARC, ARISS and Multiple Affiliations  
         *Meeting type*: Multiple types: School Programs, Weekend Launches, and National Competition  
         *Attendance*: Attendance varied for each event.  Total attendance was well into the 100s.  
         Description of Event: see the write up below  
         *Joint Sponsorship? With what group(s)?*  Multiple Joint Sponsorship, AIAA OC Rocketry Club, schools, NAR (National Association of Rocketry), TARC  
         *Describe any publicity for the event:* There were numerous flyers, emails, and posting within companies, and with the LA-Las Vegas Section, and with the local IEEE sites.  The Section website was referenced.   
         *What makes this event an outstanding activity? See below, See* SPARC Photos

The OC section joint activity with Jann and Bob Koepke’s outreach and mentorship with kids under these programs is outstanding.  Jann serves as Vice Chair of Education and Bob serves as a Member at Large. The AIAA OC Section has created a STEM education through rocketry program that this year continued with the NASA Student Launch (SL) program as a follow-on to TARC (Team America Rocketry Challenge) to encourage students to do more complex projects. The SL program is sponsored by NASA and Marshall Space Flight Center (MSFC). It puts emphasis not only on the rocket design but also the payload. Students build a scientific or engineering payload and fly it to one mile high. The entire project follows a product life cycle from proposal through multiple design reviews with engineers from MSFC. SL further inspires kids in Science, Technology, Engineering and Math (STEM). It inspires AIAA members and others to get involved and give back to their profession, their community, and the next generation and the following generations of kids.  Plus, SL and TARC educate and inspire teachers and schools, other kids, and citizens in general in regard to the value of AIAA and STEM education.

This year’s Student Launch team designed and built a scale, then full sized rocket to carry their payload to one mile. The rocket was 4” in diameter and nearly 12 feet tall to carry their payload of a Magnus Effect UAV. The Magnus Effect payload used rotating cylinders to provide lift during descent from its deployment at 400 feet. It was tested by dropping from a Helium filled weather balloon tethered at 400 ft. Safety concerns required the replacement of this payload with a simpler one for the final flight at Huntsville, AL. TARC is a national contest from the AIA and NAR (National Association of Rocketry).   Its goal is to inspire kids in STEM and to get others involved as mentors to the students.  Students in 7th through 12th grades design, build & fly a rocket to 850 ft in timed flight carrying two raw eggs.  The top 100 teams compete in Washington, DC.  The AIAA OC Section mentored 26 teams with members from 16 cities and 18 schools, including teams in OC, Riverside, Los Angeles, and even Lake Elsinore areas.

The AIAA OC Section participated in multiple team meetings and summer camps and attended or held over 20 launches.  One team qualified to go to finals with scores as low as 10 for a single flight – well below the 32-point cutoff for two flights (like golf, lower is better) and one competed in Washington, DC. The team placed 17th and will go on to participate in the NASA Student Launch Project.  In April of 2018, AIAA OC Section co-sponsored the 6th annual T-CON (TARC Consolation Launch).  T-CON attempts to bring some of the excitement of the finals in Washington, DC to all TARC teams whether they qualified to go to finals or not.

New this year is AIAA OC Section’s involvement with ARISS (Amateur Radio on the International Space Station). While attending the AMSAT (Amateur Satellite Corporation) symposium we learned the details of ARISS. Mendez Fundamental School seemed a perfect fit for ARISS as we have already been working with them in rocketry for years. Schools submit their application to ARISS for a contact with the ISS where students can ask questions directly to astronauts via Amateur Radio and receive an answer in real time. This is all during an approximately 10-minute pass of the ISS over the school. Mendez had applied before and failed, with our help and commitment their application was accepted. ARISS wants to see a space and communications program that includes Amateur Radio leading up to the contact (which for Mendez will be late September 2018). We have started an Amateur Radio Club at Mendez where students learn electronics and experience Amateur Radio; we now have the beginning of the curriculum for this that can lead students to an Amateur Radio license. Students have talked to other Amateur Radio operators all over the world. They have built antennas and tracked satellites. We now have the lab and Amateur Radio equipment and antennas to carry this into other schools.

For our educational outreach program, we helped a 6th grade student design, build and fly a water bottle rocket for maximum duration. This was for the Science Olympiad. We also helped with his Science Fair entry using deployable grid fins to control the rocket’s descent. He placed 1st in his school and went on the county competition. In addition, the Section actively supports the AIAA OC Rocketry club.  The rocketry club is for all ages but aimed at getting youth involved with science, technology, engineering and math through rocketry. The club meets once each month and has at least one launch outing each month. Students begin by building commercial kits, then go on to design and build rockets using a Computer Aided Design program. As they gain more confidence, the rockets get bigger and go higher on larger engines.  Many go on to participate in the TARC contest as well as SPARC.  Top teams can also participate in the NASA Student Launch Initiative.  The TARC team that placed 5th will go on to do the NASA Student Launch Initiative. The club has a web site at [http://aiaaocrocketry.org](http://aiaaocrocketry.org/) covering the club as well as TARC, SPARC and SLI. Slideshow (Educational Outreach):

<http://aiaaocrocketry.org/SlideShowWebGalleries/AIAAOCSection2017-2018/index.htm>

The AIAA OC Section’s TARC, SL, and STEM and Educational Outreach program, sponsored multiple student interactive build & launch (air, bottle, foam, and black powder rockets) programs as delineated below:

**Team America Rocketry Challenge**

•       Int’l Rocketry Contest over 850 teams   
•       Design, build & fly a rocket to 800 ft  
•       Timed flight carrying two raw eggs  
•       7th through 12th graders  
•       Top 100 teams compete in Washington DC

**AIAA OC Section**

•      Mentored or helped mentor 26 teams  
•      From 16 cities & 18 schools  
•      Helped 12 teams in OC, LA and Riverside area   
•      Attended multiple meetings and 20 launches  
•      1 teams qualified to go to Washington DC  
•      That team placed 17th and will go on to NASA   
 Student Launch Initiative  
•     T-CON TARC Consolation Launch Co-Sponsor  
•     Work with HBO Europe on Girls in STEM Activities

NASA Student launch

* SL implements Engineering product lifecycle
* Teams respond to Request for Proposal
* Hold Preliminary, and Critical Design reviews
* Hold Flight Readiness review
* Reviews are with MSFC engineers via WebEx
* Students design and build a rocket & payload
* Rockets designed to fly 1 mile high
* Payload must be engineering or scientific
* Results and documents posted on web site
* Teams travel to Huntsville for launch

Teams attend a Rocket Science Fair  
  
**Events including Build & launch (air, bottle, black powder rockets)**

•       Quest Therapeutic Camp (about 36 attendees)

•       Girl Scout Build (over 60 attendees)

•       Girl Scout launch

•       OC Fair Imaginology (3 days, built and launched   
 over 2,400 air rockets)  
•       Orange County Model Engineers (2 days, built and   
 launched over 200 air rockets)   
•      Mendez  Science Summer Camp (5 weeks, 60   
 students)   
•       Meeting with HBO Europe  
•       St Margaret’s Science Night (over 200 attendees)  
•       Ivy Max Stem Club – now three locations (weekly)  
•       Monthly club meetings and launch outings  
•       Booth at IEEE Rover Update promoting AIAA, TARC,   
 and SPARC (manned by Bob Welge)  
•       Orange County Science and Engineering Fair  
•       Helped 6th grade student design, build, and fly his   
 project

* STEM Event at Cal State Long Beach for Junior High students (Nearly 1000 visited our air rocket launch0
* TARC Summer camp at the Chinese School – part of Student launch Outreach (35 students)
* Young Engineers in Action STEM Summer Camp rocket build and launch (25 students)
* Booth at Huntington Beach Air Show
* Work with Mendez for Reach for the Stars competition (80 students)
* Booth at AIAA LA Section Student Mini Conference
* Booth at Huntington Beach STEM Event for teachers
* ARISS participation with LA Academy and set up for Mendez Fundamental School (Entire school and part of the district is involved)  
    
  Started ARISS Amateur Radio club (10 students)  
  •       Orange County Science and Engineering Fair  
  •       Helped 6th grade student design, build, and fly his project

•       Judging for AIAA OC Section Awards Web site:[**http://aiaaocrocketry.org**](http://aiaaocrocketry.org/)