

## SECTION ANNUAL REPORT 2015-2016

Section Name: Greater New Orleans

Section Size Category: Very Small

### Section Organization

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

**Chair – Dr. Laurence (Larry) de Quay**

**Vice-Chair- Ms. Megan Harrington**

**Treasurer – Ms. Dawn Davis**

**Secretary – Dr. Carla Guzzardo**

**Membership – Mr. Mounir Sabbagh**

2. Number of council/officer meetings held during the year: **1**      Average attendance: **3**

3. Percentage of membership voting in last election of Section Officers: **4.5%**

4. List any activities targeted at officer training or development including attendance at the Regional Leadership Conference:

**The Section Chair, Dr. Laurence de Quay, and Section Secretary, Dr. Carla Guzzardo, will be attending the Regional Leadership Conference in June 2016.**

5. Estimated membership located within 1 hour of the meetings: **90 of 279**

6. Number of Chapters within the Section: **None**      Chapter Names: **N/A**

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

**The principle methods used to support and encourage participation of members outside the main local area are as follows:**

- a. **Use of social media as described under the “Communications” Section, Subsection 3.**
- b. **Survey was conducted via e-mail sent to membership distribution in August 2015 to select desired guest speakers from the current AIAA Distinguished Lecturer Manual (DLM).**
- c. **First ever GNO Section dinner meeting in which the guest speaker presented via teleconference from a remote location. (Details are provided later in this report.)**
- d. **Recording of GNO Section dinner meeting presentations so they can be distributed to members unable to travel to these events; done for all four dinner meeting presentations this year; one of these included audio recording with the slide show.**
- e. **Held two of four dinner meetings at universities this year to recruit new student members; promote participation of current student members; and increase interaction between student, Educator Associate, and professional members. One of the meetings was on the main campus of UNO (University of New Orleans) and the other was on the main campus of LSU (Louisiana State University). Further details are provided later in this report.**
- f. **Regular visits by the GNO Section Secretary, Dr. Carla Guzzardo, to the LSU and UNO main campuses as she has a strong interest and passion for college student outreach and is a former LSU student. [Since last year, Dr. Guzzardo has been serving as a member of the AIAA Student Activities Committee and she served as the “Scholarships and Awards” Chair this year.]**

## **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.

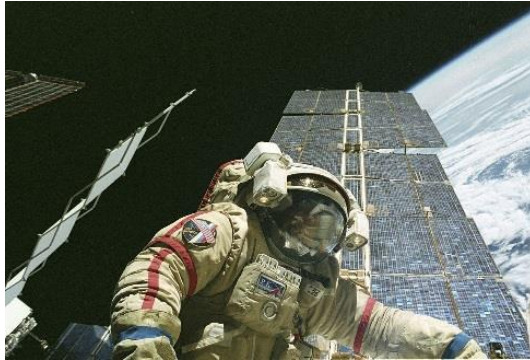
**One Executive Committee Meeting and four section dinner meetings were held during this reporting period. The number of dinner meetings held during this period was one more than the number of meetings held during prior reporting period, but the number of these meetings held during the past two reporting periods are still substantially less than those of preceding years for a number of reasons. Two planned dinner meetings were cancelled and one meeting was tentatively postponed to the fall of 2016, due to repeating schedule conflicts that could never be resolved, coupled with very busy regular work activities throughout the year for key members who have been the critical section sustainers over the past seven years. An increased focus and expansion of activities with college and precollege student outreach and STEM promotion has been sustained during this reporting period.**

**All of the dinner meetings were announced by e-mails, sent to the section membership distribution, with attached flyers and on the section webpage hosted by the AIAA SharePoint site. Also, the "Orbiter" electronic newsletter, issued weekly by the NASA Stennis Space Center Office of External Affairs to nearly all NASA, resident government agency, and contractor employees at the center, included AIAA GNO Section dinner meeting announcements.**

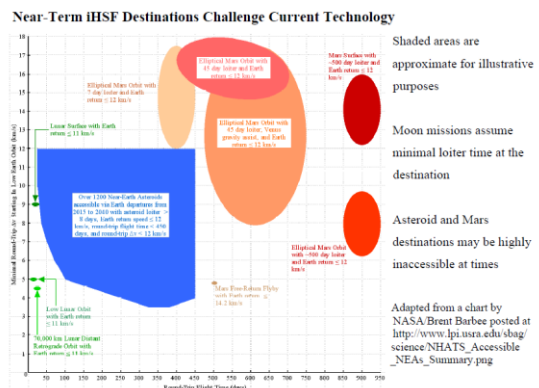
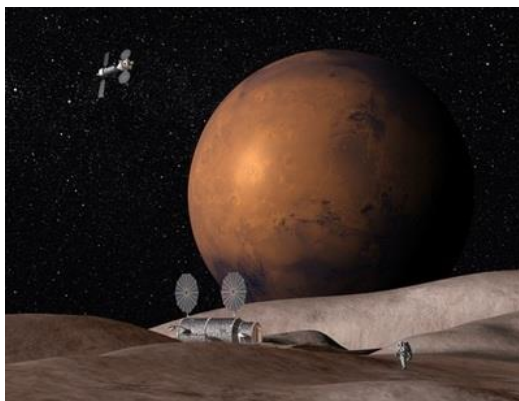
**The Executive Committee Meeting was held on 21 October 2015 in order to plan section activities for the AIAA year. Three of the four elected officers, Chair, Vice-Chair, and Secretary, were in attendance. The results of the guest speaker selection survey held in August 2015 (with selections from the AIAA DLM as mentioned above) was discussed. Increased emphasis on STEM outreach to college and precollege students was also discussed agreed to be a continued priority by the meeting attendees. Part of this plan included continuing to hold at least one of the dinner meetings each year on the LSU or UNO main campus as this would be the best opportunity to attract more students. Also, guest speakers who are employees of the rising entrepreneurial space transportation and exploration companies, such as SpaceX and Bigelow Aerospace, and who are current or former astronauts were deemed to be those most effective in attracting interest among college students and young professionals. Efforts would be focused on obtaining at least two guest speakers in one or more of these categories.**

**The first dinner meeting of the year was held on 2 September 2015 with Dr. Leroy Chiao, former NASA Astronaut and currently an Entrepreneur, Co-Founder and President of Black Moon Corporation, CEO of Diomics Corporation, and Motivational Speaker. The meeting was held at one of the conference rooms at the University Center at the UNO main campus in New Orleans. This was the first-ever section dinner meeting in which the guest speaker presented remotely via teleconference; presenting from a PC at his home in Houston, TX. (The original plan was for Dr. Chiao to fly his private airplane to a nearby New Orleans airport and bring him from there to the meeting location to present in person, but this plan was changed due to bad weather expected that evening.) His presentation, entitled**

“Innovation,” was very informative and thought-provoking as it introduced the concept of “meaningful disruption” as part of the necessary processes for companies and its employees to develop and adopt “game changing” technologies and the business opportunities that come with these. Although there were some difficulties getting the meeting set up with change in plans as described above, the meeting was a resounding success with much positive feedback from attendees and a number of students deciding to become members of AIAA. **Attendance: 43 Total; 10 AIAA Professional Members, EAs, & their guests; 8 non-AIAA Professionals; 18 AIAA Student Members; 8 non-AIAA Students**



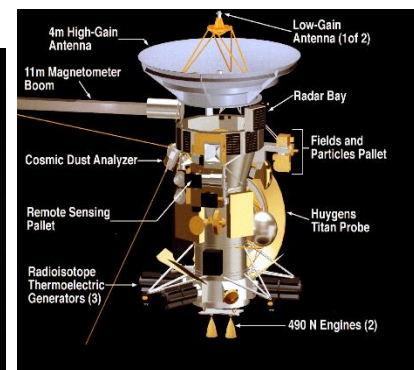
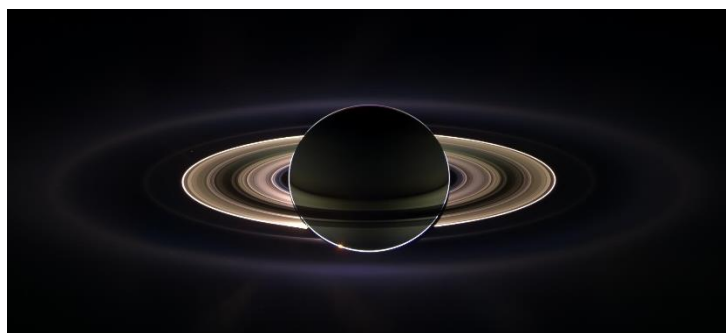
The second dinner meeting was held on 2 December 2015 with Mr. Daniel Adamo, an AIAA Distinguished Lecturer and an expert consultant in astrodynamics and space flight trajectories. Mr. Adamo’s presentation, entitled “Questioning The Surface Of Mars As The 21st Century’s Ultimate Pioneering Destination In Space,” was very well received by meeting attendees that resulted in a very lengthy (about 90 minute long) question and answer session following his presentation. In the presentation, Mr. Adamo stated his doubts and reservations about NASA’s current plans for sending humans to Mars and he proposes an alternative plan to land humans on one of Mars’ moons, Deimos, and have them remotely explore Mars from there using remote control and telepresence technologies. He also proposes the NASA plans to send humans to a near-Earth asteroid as a better alternative for the initial steps in transporting humans in space beyond the Moon’s orbit. Although the presentation is likely to be somewhat controversial among people in the human spaceflight community, Mr. Adamo provides very compelling and thoroughly thought-out insights and rationale to support his alternative proposals. (Mr. Adamo was the second choice from the membership guest speaker selection survey held in August 2015. He also spoke at a prior section dinner meeting held during the prior AIAA fiscal year in March 2015; being the first choice from a survey conducted in 2014.) **Attendance: 15 Total, 9 AIAA Professional Members & their guests, 2 non-AIAA Professionals, 3 AIAA Student Members**



The third dinner meeting was held on 10 February 2016 with Dr. Mark Whorton, AIAA Region II Director and Director of Systems Development and Operational Support with Teledyne Brown, as the guest speaker. Dr. Whorton made two presentations, the first being the proposed new AIAA governance model and the other being a technical presentation entitled “Earth Imaging from the ISS.” The presentation about the new governance model was part of AIAA’s effort to inform all AIAA members about why this new model, through a revised AIAA Constitution, is being proposed, the problems this new model is intended to address and correct, and to convince AIAA members to vote as no less than 15% of the members need to vote and 2/3 of voting members need to vote “yes” in order to approve the revised AIAA Constitution. Dr. Whorton’s technical presentation was a very informative and interesting one providing an overview of the technical challenges in imaging places on Earth from orbit. The presentation also provided a very interesting historical summary of past projects imaging human activities and human-made objects on the Earth’s surface from orbit. An overview of the requirements and technical aspects of getting imaging equipment into Earth orbit was also presented. *Attendance: 16 Total; 11 AIAA Professional Members, EAs & their guests; 2 non-AIAA Professionals; 2 AIAA Student Members; 2 non-AIAA Students*



The fourth dinner meeting was held on 12 April 2016 with Mr. Todd Barber, and AIAA Distinguished Lecturer and Senior Propulsion Engineer at the NASA Jet Propulsion Laboratory, as the guest speaker. This dinner meeting was jointly coordinated and held with the LSU Student Branch at the Engineering Laboratory Annex Facility on the LSU main campus in Baton Rouge, LA. Mr. Barber’s presentation topic, entitled “Lord of the Rings: The Cassini Mission to Saturn,” was a resounding success with a room filled to near capacity and active engagement between the speaker and his audience.



A large amount of detailed and interesting information about the Cassini mission to the planet Saturn; including trajectory planning and execution; spacecraft development; evaluation of propulsion system options; the descent and landing of the Huygens lander on Saturn’s moon, Titan; data about the atmosphere of Titan in comparison to Earth’s and other planetary atmospheres; and other surprising and unexpected discoveries about Saturn’s rings

and moons; was presented. Mr. Barber also told some very interesting and entertaining personal stories about his career, relationships with close friends who are or were scientists and astronauts, and his personal learning and growth experiences. The question and answer session following the presentation was an active interchange with Mr. Barber providing a lot of detailed information covering a wide variety of topics. The feedback received from meeting attendees was all positive and the dinner meeting was a total success. *Attendance: 57 Total, 7 AIAA Professional Members, 32 AIAA Student Members, 19 non-AIAA Students*

### **Membership Activities**

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

GNO Section officers have made multiple attempts to acquire guest speakers for dinner meetings that will attract and inspire high and increased interest in prospective members, especially the younger professionals and college students. From survey results and conversations, it seems that current and former astronauts, employees of rising and highly active and publicized commercial space exploration and transportation firms, and government leaders in key decision-making roles and having access to information about U.S. Presidential and Congressional activities and plans are the types of guest speakers who attract the larger audiences.

Overall membership has grown by ten during this reporting period due to a very large increase in the number of student members from 90 to 112 that was partially offset by a decrease in the number of professional members, 69 to 65, and a decrease in Educator Associate members, 110 to 102.

### **Education**

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

The LSU Student Branch of the GNO Section held a number of activities during this reporting period. They held or participated in the following specific events during this reporting period:

- a. First meeting of Fall 2016 semester (first meeting during this reporting period) held on 26 August 2015,
- b. Rocket Candy demonstration of how to make rocket fuel held on 16 September 2015,
- c. Highland Road Observatory Sky Viewing and LSU Professor Brad Schaeffer presentation on the history of Lunar Eclipses held on 18 September 2015,
- d. Kickoff meeting to form an LSU team for SpaceX Hyperloop Pod Design Competition (that was followed by subsequent team meetings during the Fall 2015 and Spring 2016 semesters),
- e. AIAA LSU Student Branch fundraiser at Chipotle Restaurant on 8 October 2015 (part of sales during that day donated to the student branch),
- f. LSU Professor Dr. Kooima presentation on his work in recreating Mars in virtual reality held on 20 October 2015,
- g. Louisiana Engineering Society's annual jambalaya dinner held on 12 November 2015,

- h. Lunch N' Learn on 18 November 2015, research presentations by professors and graduate students mainly covering work with shockwaves and heat flow mapping,
- i. AIAA LSU Student Branch online sales of T-Shirts & other merchandise held on 20 January through 2 February 2016,
- j. Textron Networking Event on LSU main campus on 2 February 2016,
- k. Highland Road Observatory Sky Viewing held on 4 March 2016 and 14 May 2016 (the latter date being International Astronomy Day).

2. Describe actions taken to establish new student branches.

The number of student members in the AIAA GNO Section has increased by nearly 25% during this reporting period, from 90 to 112. The majority of student members are enrolled at Louisiana State University and Mississippi State University.

UNO has a student club comprised of five individuals who have attempted to recruit new members in order to form a student branch.

Dr. Carla Guzzardo, the GNO Section Secretary, serving as a member of the AIAA Student Activities Committee, has been very active in promoting and setting up activities with college students at UNO and LSU (Louisiana State University) during the past three years. Her participation in this AIAA committee has enhanced her influence and abilities in recruiting students to join AIAA.

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

The GNO Section secretary, Dr. Carla Guzzardo, serving as the "Scholarships and Awards" chair of the AIAA Student Activities Committee was the principal coordinator who managed the evaluation of submitted papers for the AIAA Region II Student Conference held in Huntsville, AL this year. A few GNO Section members performed on-line judging and evaluation of papers submitted for this conference.

4. Describe any professional continuing education programs (this section may be copied as needed for use in the Career and Workforce Development Award Form).

The GNO Section did not hold any continuing education programs during this reporting period.

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

The GNO Section was very involved with precollege outreach programs this year. Members from this section served as judges in three science fair competitions in January and February 2016; including the East Hancock Elementary School Science Fair, Einstein Charter Middle School Science Fair, and the Greater New Orleans Science and Engineering Fair (GNOSEF). As described in the "Honors and Awards" Section below, awards in the form of certificates and cash were presented to winning entries in the GNOSEF.

Four GNO Section members participated in the BIG (Believe in Girls) STEM Girl Scout event held at the Southeastern Louisiana University campus on 12 September 2015. The AIAA GNO Section had an assigned room in which elementary school girls participated in interactive science learning activities with section members that included making and flying paper airplanes (some with elaborate designs), making parachutes with dead weight loads



and testing them in a vertical fan-powered wind tunnel, making supporting bridge truss structures with spaghetti and marshmallows and load testing them. This was an all-day activity with groups of girls rotating in and out of the AIAA GNO Section classroom and many other classrooms and meeting rooms.



The GNO Section also had four members involved with U.S. FIRST (Foundation for Inspiration and Recognition of Science and Technology) which holds national and world robotics competitions between high school teams. One member served as a judge, one member served as a referee, and one member served as a robot inspector for the Bayou Regional FIRST Robotics Competition held on 17 through 19 March 2016 near New Orleans, LA. The GNO Section Chair, Dr. Laurence de Quay, was and continues to be a mentor for one of the teams competing in this competition, Slidell High School Tiger Robotics Team No. 3946, founded in 2011. (Dr. de Quay is a founding mentor of the team and served as the lead mentor from 2011 thru 2013.)

In March and April 2016 the GNO Section held a regional competition for the AIAA 2016 Space Systems Essay Contest for 7<sup>th</sup> and 8<sup>th</sup> graders. This is the third year that the GNO Section has held this contest with this year having more than twice as many submitted essays as compared to last year. Awards were presented to the first, second, and third place winners and certificates of participation were presented to all remaining participants as described under the "Honors and Awards" section of this report. The selected first and second place 8<sup>th</sup> grade entries were submitted to AIAA Headquarters with the first place winner entered to compete in the national competition.

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

The GNO Section does not have a scholarship fund. However cash awards at one regional science fair and for the section's regional competition under the AIAA 2016 Space Systems National Essay Contest were provided by the section. Further details are provided under the "Honors and Awards" Section, Subsection 1. below.

**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.

Presentations at the GNO Section dinner meetings described above in this report have been open to section members and non-members alike. Each of these meetings included attendees who are not AIAA members and decided to attend after seeing publicity announcements. The guest speakers at these meetings informed meeting attendees about

**the current activities and future plans with regard to some of the significant world events and programs related to aerospace.**

2. Describe activities that provided interaction with government officials.

**A large number of GNO Section Professional Members are employees of NASA and NASA contractors who have access to information about federal government activities in areas related to space exploration and aerospace. These members, in which some are executives in leadership roles at NASA Stennis Space Center and NASA Marshall Space Flight Center's Michoud Assembly Facility, provide other Professional Members, Educator Associate Members, and Student Members access to information about these activities, including directions and plans under consideration or set in motion by the U.S. President and Congress.**

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

**AIAA GNO Section did not have any members participating in Congressional Visits Day this year. (\$500 was allocated to subsidize travel expenses for one or more Student Members to attend, but no one was willing or able to attend the event; so this was reimbursed back to the section bank account.)**

#### **Honors and Awards**

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

**GNO Section awards in the form of certificates to all awardees and cash to first and second place winners were presented to elementary, junior high, and high school students at the following events or for the following activities:**

- a. **Greater New Orleans Science and Engineering Fair, 24 and 28 February 2016; judging on 24 February, Awards Ceremony on 27 February 2016; \$100 cash awards to each of the two 1<sup>st</sup> place winners in Junior and Senior Divisions; \$50 cash awards to each of the two 2<sup>nd</sup> place winners in Junior and Senior Divisions.**
- b. **2016 AIAA Space Systems National Essay Contest, GNO Regional; Awards presented to first and second place winners (plus \$50 and \$25 cash awards to these winners respectively) at their school award ceremonies on 11 and 20 May 2016; Participation certificates presented at one of the school award ceremonies; 3<sup>rd</sup> place award and other participation certificates hand delivered or mailed to teachers for presentation to participating students.**





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

**There were no GNO Section members nominated for AIAA or regional honors and awards during this reporting period.**

### **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).

**Six GNO Section members are also members of AIAA Technical Committees (TCs). A GNO Section member serves on each of the following TCs: Test Practices & Standards panel, Space Transportation, Liquid Propulsion, and Intelligent Systems. Two members serve on the Ground Testing TC. Mr. David Coote, a member of the Liquid Propulsion TC, chaired and co-chaired sessions at the P&E (Propulsion & Energy) Conference jointly held by AIAA and other professional associations. Dr. Fernando Figueroa, a member of the Intelligent Systems TC, is leading the development of the committee's "Technology Roadmap" in the area of Integrated Systems Health Management. Four of the six TC members from the GNO Section have also participated in TC teleconferences held during this reporting period.**

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

**The GNO Section does not have any local technical committees.**

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

**There were no symposia and no short courses held by the GNO Section during this reporting period.**

### **Communications** (this section may be copied as needed for use in the Communications Award form)

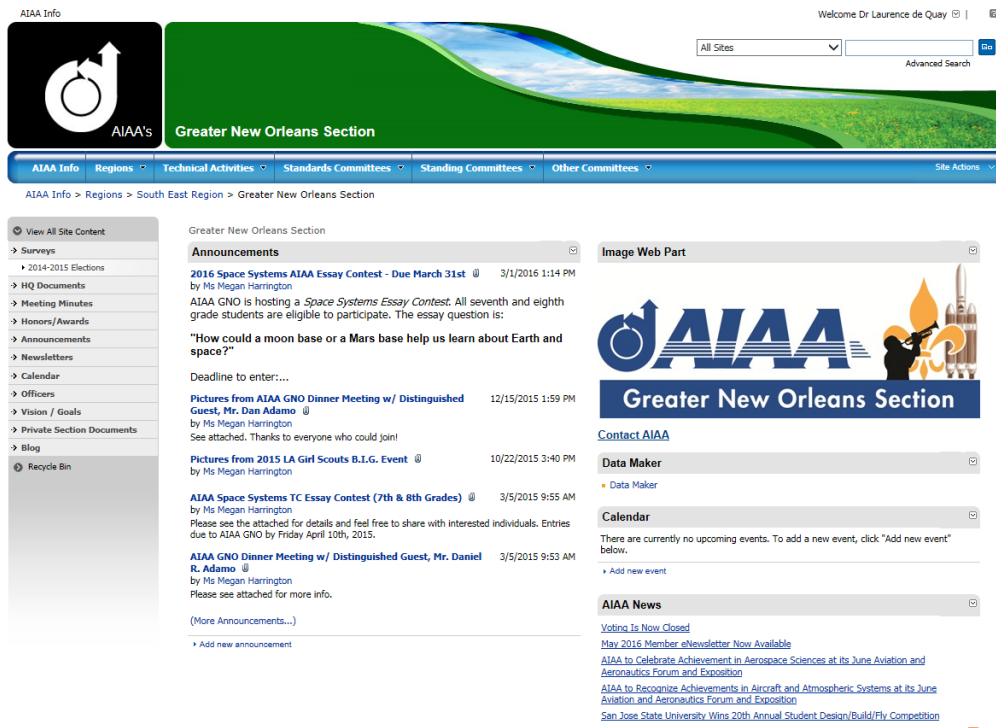
1. Number of newsletters published this year: What article received the most attention or interest this year?

**There were no newsletters published this year.**

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

**Our main communication resources this year were the e-mail distributed event announcements, generally containing flyers, as well as posted and accessible files on the AIAA GNO Section internet address. Event announcements and photographs, generally contained within MS PowerPoint<sup>®</sup> or printed digital format (pdf) files, were posted on the website.**

3. How does the section utilize electronic communication, such as email notification, social media (such as Facebook, LinkedIn or Twitter), etc?
  - a. E-mails continue to be our primary source of electronic communication.
  - b. Twitter account, opened in late spring of 2013, used to share photos from section events (Twitter handle is @AIAAGNO)
  - c. AIAA GNO LinkedIn group page, initiated in early 2014, is up and running
  - d. A Facebook group was established during the fall of 2014



The following questions are for those sections with active websites.

4. Do you use the AIAA SharePoint site to host your section's homepage? **Yes**  
If not, do you host a website elsewhere?
5. How often is the site updated, and do you have a webmaster?

**The site is updated every two to three months depending on events schedule, the frequency of needed updates, and time availability of the officers. The elected section officers all have access to the homepage.**

6. What is the most utilized feature of the website?  
**The announcement section continues to be the most utilized feature.**
7. Do you use it to promote upcoming section activities? **Yes**
8. Describe any new or unique features added this year.  
**No new or unique features were added during this reporting period.**

**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, 2015      \$ 2730.93

Checking Account: \$ 2730.93

Savings Account: \$ 0.00

Other (please specify): \$ 0.00

Section Rebate: \$ 598.44

## Other Income

(please specify – advertising, etc):      \$ 2510.00      (AIAA Funding for Regional Leadership  
Conference Travel, Dinner Meetings)

Expenses: \$ 3502.89

Estimated Ending Balance as of May 31, 2016	\$2336.48
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What corporate donations were received? **None**

Were any meetings or functions underwritten or financially supported? **No**