

**Minutes**  
**National Council of Space Grant Directors' Spring Meeting**  
**Arlington, Va., March 2 – March 4, 2017**

**General Session: Day 1**

**Council Business**

1:00 Welcome - **U.J. Sofia** (DC SGC)

U.J. welcomed us and informed us of the status of the cherry blossoms.

1:10 Introduction and Executive Committee Update – **Stephen Ruffin** (GA SGC), Council Chair

Steve welcomed us and began with an Executive Committee update. He also discussed the agenda of this meeting. More interactive sessions this meeting, such as eclipse accessibility and the flipped session. He then discussed recent NASA successes. Since last year, Kepler mission, Juno, OSIRIS-X, X-Plane goes green. He mentioned that the Space Grant augmentation was a very good thing. Regional meetings were held. Steve's youngest child graduated college and his son got married.

Despite all the changes, the Space Grant mission continues.

Congratulations to Chris Koehler on his award NASA Exceptional Public Achievement.

Previous director Iowa, Dr. Sugu Suguraman, passed away.

Paul Johnson, Wyoming SGC, is retiring.

Terry Teays, longtime program coordinator of Maryland, retired. Matt Collinge is the new program coordinator.

Texas SGC director Wally Fowler has retired. Dr. Tim Urban is the new director.

Chris Brown, director of North Carolina SGC retired. Interim director is Susan White.

Oklahoma SGC director Victoria Snowden passed away. New director is Andy Arena.

Rich Wlezien is new director of Iowa SGC.

New coordinator at Pennsylvania: Susanne Sunday.

Mississippi has a new program coordinator: Earnest Stephens.

The new director of Minnesota SGC is Demoz Gebre.

North Dakota's new director is Jim Casler.

Mary Sandy gave a copy of the book Hidden Figures to Colleen Fava (LA SGC) for proposing Katherine Johnson for the Space Grant distinguished service award.

1:20 Nominating Committee Update - **Chris Koehler** (CO SGC), Nominating Committee Chair

Online elections were held last fall for Foundation vacancies and there was an 80% participation rate. Jim Casler (ND) and Ulysses Sofia (DC) were elected to terms that expire in December 2017 and Lynn Fenstermaker (NV) and Darren Hitt (VT) were elected to terms that expire in December 2019.

Chris mentioned the vacancies at ExComm, Nominating Committee, as well as all working group chairs.

**Collaborative Programs**

1:30 **Shane Mayer-Gawlik** (MT SCG) and **Angela Des Jardins** (MT SGC) - Eclipse Ballooning Session

Angela began by giving general information about eclipses. She discussed the clippers, the eclipse web site and efforts by NASA to explain the eclipse in a way that only NASA can. Goal is to reach one billion people worldwide. Non-ballooning activities include Mega-Movie Project and STARnet Libraries. Please see presentation slides for more details.

The idea for the SG eclipse project was launched in 2014. 54 teams nationwide are participating. High schools, community colleges, and four-year colleges are participating. There will be 24 Radiosonde stations. This project is all about students, all about partnerships. All about impacts. Unfortunately, 26%

of American public still thinks the sun revolves around the Earth. This project is all about technology. All about perspective. All about family. Challenges include: technology, weight, cost, regulations, bureaucracy.

1:45 **Cass Runyon**, (SC SGC) and **David Hurd** (Edinburgh University) - Eclipse Accessibility Training

Cass began by introducing her team. David Hurd distributed aids related to the Total Solar Eclipse to help people with visual disabilities. They demonstrated technology available for the visually disabled. Two presenters who are blind told their life stories and described the challenges they faced.

The speakers showed a document in Braille designed for teaching about the 2017 solar eclipse. Two tools to detect differences in density of atmospheres and effect of gravity in different planets. Also a Braille sky map, where one can ascertain how the sky appears. They conducted a small test with an Oreo cookie to understand the scales of diameters of the earth, moon and sun. Similar analysis of scale models of orbits with use of yarn.

### **Invited Talk**

2:25 **Penelope J. Boston**, (Director, NASA Astrobiology Institute (NAI)) - Astrobiology at NASA: Scope and Opportunities

Steve introduced the speaker, who received her undergraduate and graduate degrees from University of Colorado. The talk began with a discussion of major questions: how does life begin and evolve? Does life exist elsewhere in the universe?

Dr. Boston showed places on earth with very unique characteristics, including caves with poisonous gases. Mars is of tremendous interest. Habitability of Mars is an ongoing question. How about very icy worlds? Can there be life in them? First thing to find to sustain life is water.

Astrobiology is included in several strategic programs (narrower scope) and core programs (broader scope). Room for lots of collaboration. See slides for details. NAI has five elements in its mission statement and one of the five is education and outreach. Others: train the next generation, leadership for space missions, information technology and research, and collaborative and interdisciplinary research.

NAI is a virtual institute without walls. 12 teams, 600 members at 100 institutions. New cooperative agreement notice (CAN) coming up. Release date is scheduled to be 2/27/17. CAN 7 is the SETI Institute. See slides for details on what search is being conducted at which locations. Several international partners: Spain and Australia are the main partners.

Other NAI programs include minority institution research (for faculty), postdoctoral fellowships, fund for exploration for students, early career collaboration award, several programs to educate the next generation (see slides for details). Also, minority institution research support program, postdoctoral program with 100 post docs for now, Native American program, astrobiology graphic novels, FameLab USA encourages scientist to become public speakers. Integrating research teams. Information Technology Working Group. NAI workshops have become very popular. NAI also has a Blumberg Astrobiology Chair at Library of Congress.

3:05 **Student Poster Session**

Steve gathered all the students who presented posters and we all thanked them. The poster session was very well attended.

### **Collaborative Programs**

3:50 **Anthony Choi** (*Mercer Univ.*)- Open Lab Run by Students for Students & Eclipse Ballooning

Steve introduced the speaker. Student-led laboratory on machine intelligence. Lab has rapid prototyping, laser cutter 3D printers, pub milling, machine shop, sensing and actuating equipment, workstations, also stable programming environments.

The Open Lab has several synergistic projects. Projects involve robots as well as quadcopters. Over 50 students participate annually. Primarily undergraduate students. Surveying projects, including collaborating with Georgia Narcotics. For example, the UAS technology was being used by narcotics people to figure out if there were at a location they wanted to raid.

Outreach activities involve First Robotics workshops, other robotics workshops for K-12, development of UAV platforms, agricultural applications. Interesting opportunities associated with the Eclipse project. Also, outreach activities involving partnership with KSC, and Museum of Aviation.

### **Council Business**

4:10 Council Elections – *Chris Koehler* (CO SGC), Nominating Committee Chair

No floor nominations were made. Officer voting was by acclamation (Vice-chair: Angela Des Jardins, Secretary: Haim Baruh, Treasurer: Majid Jaridi). Ballots were distributed and then collected for elections to ExComm and to the Nominating Committee. Working groups will hold their own elections on Saturday.

4:25 *Darla Jones Kimbro, Sonya Greene, and Frank McDonald* NASA Office of Education

One Stop Shopping Initiative (OSSI) Training

Please see presentation for details. Improvements are coming for OSSI, ASTIE, as well as enhanced recruitment and two factor authorization. ASTIE is a new initiative. Application and selection through implementation and evaluation.

5:10 **Adjourn**

### **General Session: Day 2**

8:40 Announcements and Updates

There still is some material left for the visually impaired. Can pick up by noon, today. USA Today special edition on space has a full-page ad by Space Grant. A few copies left in the lobby. Luke Flynn thanked Chris Koehler for making a significant impact on Hawaii Space Grant and he gave Chris a gift from Hawaii.

### **NASA Education Updates**

8:45 *Donald James*, NASA Associate Administrator for Education

Steve introduced the speaker. Don James started at NASA in 1982. He has served at several roles at NASA facilities nationwide. He is retiring at the end of March, 2017.

At this stage, he does not know who the new leadership of NASA will be. He recommended that we keep doing what we are doing. People have been interviewed to replace Don James. He enjoyed a wonderful career at NASA for 35 years.

He talked about an experience where he almost resigned from NASA but did not, based on the encouragement he received from NASA colleagues. He is very thankful to the people who kept their promises and made sure that the glass ceilings above him would break. Mr. James thanked SG people for their loyalty to NASA. He showed a clip from Prof. Michelle Manuel, whose NASA support propelled her to a career in academia. He discussed the experiences of a NASA intern supported by Oregon SGC.

The Office of Education is working on a new reporting system: NASA education activity repository. Will have more data and better sorted by centers, states, and congressional districts. Will enable NASA to better tell its story. Part of NASA's commitment to education.

Mr. James ended by thanking the Space Grant community for all the work we do and for how SG has contributed to NASA's mission. He said that Space Grant is NASA. Keep in touch. DonaldGJames@comcast.com

## **NASA Space Grant Program Updates**

9:10 **Lenell Allen**, Director, Aerospace Research and Career Development (ARCD), and NASA Headquarters Space Grant Staff

Steve introduced the speaker. Dr. Allen introduced the SG staff and EPSCoR staff. She thanked them profusely and described her admiration for them. She also acknowledged colleagues from NASA centers. She emphasized the need to tell our story to people outside NASA and to Congress. Sometimes the inquiries from Congress come with a two-hour deadline.

Dr. Allen continued by discussing new regulations and codes in federal register. Please see slides for more detail. Rules affecting US citizenship for SG awards. She recognizes that every consortium is different from the other.

Drawing down funds. Letters will be sent to consortia with significant balances. Anything over \$400,000 will get a letter. A hold may be placed on financial accounts that are not drawn down in a timely manner.

Rules on NCE. Not before six months or later than 10 days before expiration date. She showed some statistics on significant awards and minority and female statistics.

New five-year base award solicitation on track for June 2017 announcement. Appropriations SG \$40 m and EPSCoR at \$18 m. CR on NASA appropriation until April 28, 2017. Six new director changes, some already complete and some in process.

Several questions were asked on making awards to non-US citizens. Question on emphasis of the new base award. Hands-on research is one area. Question on designated vs. program states. Lenell wants a letter from the SG community about what our preferences are as SG. Do we want a two-tier system or not?

Final comment: In this current climate at DC we really need to do the right thing. Do not compromise core values.

## **Invited Talks**

9:50 **Nadar Vadiie** (Southwestern Indian Polytechnic Institute) -An Experiential Learning Opportunity

for Tribal College and University -Information Technology Experiences for Students Using a Simulated Tele-Science Exploration of Mars.

Pat Hynes (NM) introduced the speaker. Project is funded by MUREP. See slides for bio of speaker. They received a \$783,000 grant from Office of Education at NASA.

SIPI has 450 students, land grant institution since 1994. Average age of students 27-28. Most are first generation college. SIPI is federally funded. They now have a new Science and Technology Building.

He described the concept of Vertically Integrated Projects. Integrated CADD tools, laboratories, project design and implementation workshops.

Emphasis on energy and energy efficiency courses. Also research in this area. New capstone courses developed on project-based instruction. Proud to report a strong graduation rate, undergraduate as well as masters. Mary's yards, where students can remotely operate rovers to design and test new software and hardware. Physical and simulated environments. SIPI received 3rd place at a Swarmathon contest. Only community college which did this well.

10:20 **Virginia Barnes** (Chair Elect, Challenger Center and Retired Vice President and Program Manager, Space Launch Systems, Boeing) -The Importance of Inspiring the Martians of Tomorrow and How You Can Be Involved

Steve introduced the speaker. She is Challenger Center chair-elect. Martians of tomorrow will be biologists, geologists, robotics people or the future. Students who participate in Challenger center activities learn about all aspects of space travel, earth, moon, comets and Mars.

Expedition Mars is now rolled out into half the Challenger Centers already. She showed a video of what the Expedition Mars program encompasses. Challenger Center also is involved with aquatic

investigations, looking at what happens at the bottom of oceans. She also showed a map of current centers and ones that are being developed. How can Space Grant be involved? Ms. Barnes ended with another inspirational video. [www.challenger.org](http://www.challenger.org).

#### 10:40 **Coffee Break and Networking**

#### **Community College Outreach**

10:55 **Rita Bagwe**, Great Basin Community College (NV SGC) – Success story of NASA Space Grant  
Coop program at the Great Basin College

Lynn Fenstermaker, director of Nevada Space Grant, introduced the speaker. Ms. Bagwe began with the list of programs offered their community college. She gave a list of projects associated with the NASA project. One of their challenges involves attracting students to STEM. Also no dedicated lab space at their community college. Their NASA support is used for 19 \$2,000 fellowships. The projects involved the Blue Bucket challenge with UNLV. Ms. Bagwe showed a list of success stories with students. Please see slides for more details.

11:10 **Robert Letovsky**, St. Michael's College (VT SGC) – Enhancement of the Aviation  
Technology Program at Burlington Technical Center

Steve introduced the speaker. Prof. Letovsky is a business professor who deals deal with increasing enrollment and business aspects of aviation projects. Primary institution involved is the Burlington Tech Center, with aviation technology and aviation management programs. Career prospects for graduates are very strong. There is a shortage of mechanics today. Many upcoming retirements of mechanics in the near future. However, enrollment at BTC has gone down. Part of the reason for the drop is that BTC lost its accreditation. No accreditation means no financial aid.

Other headwinds facing BTC is students' perception of two-year degrees vs. four-year degrees. Also, guidance counselors seem to be an impediment to choosing BTC and mechanic as a career path. They are working to change this situation by outreach to guidance counselors and open houses publicizing their programs. Also a new degree in aviation maintenance technology into an AAS degree. They have the curriculum ready and they are also submitting lots of proposals to receive funding for their programs. So far, no success. They are resubmitting some of the proposals.

11:25 **Brian Sanders**, (CO SGC) Success and Failures of Building a Stronger Community College  
Network in Colorado

Steve introduced the speaker. Colorado SGC began its efforts to build stronger community colleges by defining the challenge. Transfer student retention, how can CC programs be strengthened, transferring credits, anecdotal stories. They wanted to reach students who might not consider STEM fields. Need to impact more diverse students.

Their efforts began with a CU pilot program. Bringing Arduino and experimental design classes at CC. This lead to the development of an experimental design class at community colleges. Push/pull mentoring to bridge the mentoring gap. This approach yielded strong results. Summer bridge program at four-year colleges for transfer students. Meeting with transfer students is key to persistence. Also, inclusion and belonging. Colorado SGC is now seen as and active network of STEM focused programs at CC. They sent three teams to the RockOn workshop.

Failures include: transfer credits not being awarded equally. Placing students at NASA internships produced mixed results. Also needed better communication between CC faculty and four-year colleges. Transfer student scholarships were appreciated but did not have the impact they expected. Not large enough amounts. Hands-on projects also produced mixed results. Community engagement was very successful.

11:40 **John Kosmatka**, UC San Diego, and **Janet McLarty-Schroeder**, Cerritos College (CA SGC) - Developing Arduino-based STEM programs at California Community College  
(This talk was moved to after lunch.)

Steve introduced the speakers. John Kosmatka began with an overview. California has 2.1 million community college students. They had to identify a few partner colleges, as they cannot reach all. They ended up with working with 12 community colleges. Students were given Spark Fun tool kits for student projects, as well as an introduction to electronics and Arduino projects. Faculty at CC who got involved received extension credits.

They also developed a community college day where CC faculty went to NASA centers and met with NASA researchers. They also developed monthly live webcasts with NASA superstars. For students, they set up groups and a NASA center student day. Over 300 supported, of which over 61% are underrepresented, 30% female. Future goal is to reach 10 colleges, 100 students, live webinars, and scaled down faculty and student components.

Next, the program at Cerritos CC was described. Public college in southern Los Angeles. 78% Hispanic. Selection process followed advertising efforts. Online application form. Female interest was not high, around 20%. Very high retention rate in the program. Very high transfer rate to four-year colleges. Students visited the Armstrong Center.

Noon **Lunch**

### **Fellowship and Internship Opportunities and 2016 Selection Process**

1:00 **Carolyn Knowles**, NASA Internships, Fellowships and Scholarships (NIFS) Director

Steve introduced the speaker, who began by describing the selection process in 2016. In 2017 there will be new function ability, as well as on-demand reports. SG personnel identify students first and make their preferences known in OSSI. Centers and NASA HQ then look at the lists and make offers.

Ms. Knowles went over the definition of internships. She discussed standardized stipend amounts. See slides for more details and for dates of the application cycles. The speaker then discussed the definition of fellowships. Decisions will be made soon. This year there were much more applicants than last year.

Communications is key to a good relationship. That is what Ms. Knowles wants to do with the Space Grant community. SG and NIFS need to work together. International components.

### **Student Speakers**

Moderator: **Eric Day** (DC SGC) - Broadcast live on NASA's Digital Learning Network

1:20 **Kristen Scotti**, Northwestern University and **Dawn Haken**, University of Illinois at Urbana-Champaign (IL SGC) - SpaceICE, CAPSat, and the Illinisat-2 bus

Philippe Geubelle, director of IL SGC, introduced the speakers. Illinois received three USIP awards. Ms. Haken began by describing CAPSat, SPAD, and SASA (please see slides for more details). Ms. Scotti described the SpaceICE project. She is a nontraditional student, who began her career as a part time student and eventually transferred to Northwestern University. She is in their doctoral program in materials science. She described the ice templating process; please see slides for more details. This field has seen explosive growth with increased numbers of papers every year. She is now studying the influence of gravity on the process and how ice templating takes place in microgravity.

1:35 **Andrew Lombardo** (VT SGC) - Physical Challenges to Molecular Motor Cargo Transport

Darren Hitt, director of Vermont SGC, introduced the speaker, who is a doctoral student at the University of Vermont, studying molecular physiology and biophysics. Mr. Lombardo talked about an astronaut who spent 193 days on the ISS. The astronaut could not walk after landing.

Major problems encountered during prolonged space flight involve eyes, bone density, cardiovascular issues, and strained muscles. Speaker's research involved looking at issues from a molecular level. See slides for more detail.

1:50 **Patricio Piedra** (NV SGC) - Degradation of Solar Cell Efficiency due to Aerosol Deposition

Ivan Thomas introduced the speaker, who is a doctoral student in atmospheric science at the Desert Research Institute. He began his talk by discussing the legendary dust storms of Mars. Degradation of 85% can occur. Since atmosphere of Mars is so little, only the lightest dust particles can rise. Research results can be used to predict solar panel performance on Earth.

Mr. Piedra described light scattering from a particle on a substrate; please see slides for more detail. He is almost done with his doctorate. Key optical parameters that influence solar panel degradation are optical depth of dust layer, asymmetry parameter and scattering albedo of the dust layer.

### **Collaborative Programs**

2:05 **Arden Moore** (LA SGC), **Mary Caldorera-Moore** (LASGC) and **Rachel Hegab** (LASGC) - From Undergraduate Researchers to Tenure-Track Faculty: Our Story of the Continued Impact of Past, Present, and Future NASA Space Grant Support in Louisiana

Greg Guzik, director of Louisiana SGC, introduced the speakers and gave Arden and Mary's story on how they got hooked on research, how they got married and how they are faculty at Louisiana Tech together. How they progressed through their educational history with support of Space Grant.

Dr. Caldorera-Moore continued to describe how Space Grant helped her and her husband connect with NASA centers and how Space Grant has helped them throughout their careers. See slides for more specific details. Rachel Hegab, who is a student of Dr. Caldorera-Moore, described her research, which involves drug delivery.

2:35 **Chris Koehler** (CO SGC) – Rock-On Update and Opportunities

Chris began with a cat video. He also described elephants. This is the tenth year of RockOn. Very exciting event that keeps growing every year. Only \$899 per person. 24 consortia now have sounding rocket programs thanks to RockOn.

2:45 **Mona Miller** (NASA Education Program Specialist) - STEM Challenges - NASA Student Launch

Steve introduced the speaker. Spring at NASA Marshall is very busy. Lots of activities. See slides for description and details, as well as timeline. Designing and building a reusable rocket that carries a scientific payload. Complete reports, develop web site, and commit to working on the project for eight months.

Difference between SLI and USLI activities. SLI is for middle and high school students, USLI is for colleges. Projects are modeled after the DOD and NASA Engineering Life Cycle. Plan for design, maintain consistency, set expectations on deliverables. Educational value in project leadership and management, as well as in building a STEM pipeline. See slides for driving requirements. About 800 people attend the launch and Marshall offers tours of their facilities to the guests. See slides for contact information.

### **Interactive Workshop: Diversity and Inclusion (Jefferson III)**

3:00 **Brian Chad Starks** (DE SGC) and **Chris Koehler** (CO SGC)

Report will be distributed in the near future.

3:45 **Coffee Break**

### Space Grant Program Additional Items and Open Discussion Session

4:00 **Open Q&A Session:** *Program Coordinators, Directors and NASA Staff*

Q on whether we should have regional meetings when there are two consecutive national meetings in 2017 and 2018.

Some discussion by Steve Ruffin about creating a discussion forum. This was suggested originally in a flipped meeting. Also how to engage with industry on industry internship programs.

### Space Grant Foundation Updates

4:30 **Philippe Geubelle**, National Space Grant Foundation President (IL SGC) and **Mitchell K. Hobish**, National Space Grant Foundation Executive Director

Philippe began by giving a short history of the foundation and how Mitch Hobish was appointed as executive director. He then invited Mitch to talk about his activities.

Mitch has spoken with about half of the directors. The amount of knowledge among SG directors of the Foundation seems to be not very high. He then presented a PowerPoint presentation about the Foundation. Foundation was incorporated in 2001 as a 501(c)3. A distributed organization with no central office.

Mission is to promote and provide students with transformational STEM education and research and public engagement in areas of significance to NASA. He introduced the Foundation Board members.

Foundation operations include payment processing, administration of distinguished service award, web based support, mailing lists for SGC directors and coordinators. Meeting support, credit card processing, expenditure payments, one-time event insurance.

Examples from several SGC that use the Foundation services. Also from entities outside Space Grant that use Foundation services. Services also include deposits and check writing. Donation handling for unrestricted and restricted donations to Space Grant consortia. Investment of accounts. They use Merrill Lynch as investment adviser. Investment goal is CPI + 4%.

Q. By Steve Ruffin. What is the status of activities of raising funds from other sources? A. Ongoing process.

### 5:10 Open- Mic/Announcements

Chris Koehler showed a video that a student intern from Hawaii made. A NASA launch experience. Very inspirational.

5:20 **Adjourn**

### National Space Grant Distinguished Service Award Reception and Banquet

**Dr. Katherine Johnson**, NASA Research Mathematician and Presidential Medal of Freedom Recipient

6:30 Reception

7:30 Dinner, Presentation, and Q&A

Welcome and Acknowledgments by Eric Day (DC SGC)

Introduction, Video, and Presentation of Award by Mary Sandy (VA SGC) and Stephen Ruffin (GA SGC)

Remarks and Q&A by **Dr. Joylette Hylick** and **Katherine Moore** (Daughters of Dr. Johnson)

### General Session: Day 3

8:00 Hot Breakfast

9:05 **Announcements and Updates**

You can still donate to the Eclipse Project. Checks or credit cards are accepted.

The topic for the regional breakouts is to discuss the designated vs. program state situation. There will be 54 Space Grant consortia in the future, with addition of Guam and U.S. Virgin Islands. This would result in 35 designated vs. 17 program grant consortia, funded at \$760,000 and \$570,000, respectively. Last time competition was held to promote program states into designated states was in 2003. One metric used at the time was the amount of NASA funding in the state.

9:10 Secretary and Treasurer's Report – **Haim Baruh** (NJ SGC), Council Secretary and **Majid Jaridi**, Council Treasurer

Minutes of the Spring 2016 meeting and the Treasurer's report were presented and accepted.

After giving the Treasurer's Report, Majid stayed on the stage and made two announcements: the first encouraged Space Grant consortia to take advantage of the services of the Foundation, as they reduce bureaucracy and expedite payment schedules.

The second announcement was regarding the retirement of John Gregory, longtime director of Alabama Space Grant. Majid invited Mary Sandy to the stage who made an impromptu speech summarizing the tremendous contributions of John Gregory to the national Space Grant program, as well as to the Alabama Space Grant Consortium. John is a recipient of NASA's distinguished service award for his efforts over the years. Steve Ruffin described John's mentoring efforts. Personal note from the Secretary: John was a tremendous mentor and role model for me, too.

9:20 Announcement of Election Results, **Chris Koehler** (CO SGC) - Nominating Committee Chair

The following SG directors were elected to ExComm: Ed Duke, Greg Guzik, Jaydeep Mukherjee. The following SG directors were elected to the Nominating Committee: Kevin Crosby, Chris Koehler.

9:30 Preview of Fall 2017 National Meeting in Grand Forks, ND – **Jim Casler** (ND SGC)

The North Dakota SGC team presented a very entertaining and informative video about the upcoming meeting.

### **Mission Directorate Working Groups**

9:40 Mission Directorate Working Group Breakouts

#### **Aeronautics Research**

Haim Baruh reported. Dr. Tony Springer with ARMD visited with us and he gave a very informative description of aeronautics research activities, followed by a discussion on development of faculty fellowships in aeronautics. The working group will collaborate with ARMD and will also get NASA Glenn involved, which supports faculty fellowships at the center. Mary Sandy and the VA SGC team discussed the UAV-related courses they have developed for community colleges. Haim Baruh (NJ) and Michaela Lucas (NE) got reelected as co-chairs.

#### **Human Exploration and Operations**

The working group discussed mission to Mars and to the Moon, as well as creating more opportunities for students. Jeff Hoffman (MA) was elected chair. Awaiting the new NASA Administrator and the direction of human exploration. There has been interest from the HEO MD regarding ballooning and cubesats.

#### **Science**

Tom Durkin (SD) reported. He is the new chair of the working group. The group focused on internships, new focus on OSSI, and new student projects.

#### **Space Technology**

Darren Hitt (VT) reported. The working group had a meeting at NASA HQ with the mission directorate but not much seems to have come out of it. However, the working group would like to have annual meetings with the Space Technology Mission Directorate. The working group is interested in broadening opportunities beyond NASA. Mason Peck (NY) was elected chair.

#### 10:30 **Coffee Break and Networking**

#### **SG Regional Breakouts and Regional Highlights**

10:45 Space Grant Regional Breakout Sessions and Highlights - Steve Ruffin charged the regional groups to discuss the issue of designated and non-designated states.

#### **Great Midwestern**

Philip Geubelle reported. The breakout session focused on three topics. The first discussion focused on establishing the objective of these regional meetings. The results of a survey circulated after the last regional meeting in Michigan were presented. All previous meetings have focused on the participation of students through poster or presentation competitions. There was a general feeling that this emphasis on the students should continue, including the possibility of organizing a job fair every other year at a central location (e.g., Chicago). There was also some discussion on how to better connect the region to NASA Centers, considering that, except for Glenn RC, there are no easily reachable NASA Centers in the region. There is clearly a need to fully define the objective(s) of these regional meetings, and we plan to further discuss this at the regional breakout at the North Dakota meeting in the fall.

They also had a short discussion about the high-altitude ballooning conference organized by the Minnesota SGC on October 27-28, 2017, in Minneapolis.

Finally, with regards to the questions relative to the equal funding of all space grant consortia, it was acknowledged that this is a very difficult issue that needs to be addressed carefully by the ExComm and Alliance (unlikely to be resolved by the end of March). While there was a recognition that providing the same amount of funding to, say, Guam and California, does not make much sense (i.e., that the amount of funding should reflect the number of students served), some noted that Space Grant funding often serves as seed for activities taking place across the consortia, based on the needs of their respective states.

#### **Mid-Atlantic**

Dick Henry (MD) reported. The next regional meeting will be held in Charleston, West Virginia, in 2019. The region vigorously discussed the two-tier Space Grant system. There was a preference to keep the current two-tier system, with a defined path towards moving program states to designated status.

#### **Northeast**

Mason Peck (NY) reported. The region focused its discussion on the three questions related to consortium funding levels. They found it difficult to reach a consensus but agreed on the following principles:

This matter deserves a more in-depth look and careful analysis in order to best serve NASA's interests, which obviously would prioritize serving the nation's population of students equitably. There is probably not time for these deliberations to affect the current solicitation. Getting it out without delay would likely serve us all best.

An additional, supplemental solicitation for future years (not a topic-specific competition like the USIP) would be one way to adjust funding levels without affecting the upcoming solicitation. Such a solicitation could include a mechanism whereby undesignated states could become designated. Going forward, NASA might also offer criteria whereby designated states could lose that status.

Large states cannot offer the same opportunities to their students as small states can. Reducing the funding to large states further would amplify this disparity. However, the NE region did not agree that funding to consortia should merely follow population.

Any change in the funding levels should not cause consortia to lose money, but some could gain. A change in the president's request for the Space Grant line item in the NASA budget would be one justification for a redistribution of funds. There is little justification for the three levels that currently exist. Two could be sufficient, but before asserting that position, they would want to understand from NASA HQ why having two models for undesignated states at the same funding level is useful.

### **Southeastern**

Keith Hudson (AR) reported. The working group is of the opinion that there should be one tier of consortia.

### **Western**

John Kosmatka (CA) reported. The Western region values the importance of their regional meetings. It gives them an opportunity to tackle problems unique to our region and develop collaborations between the regional states. The plan is

2018 - Western Regional meeting in Hawaii (California is the back-up)

2019 - Western Regional meeting in Montana

Both ExComm and Alliance need to take the lead addressing the non-designated state issue. Any NASA or Congressional restrictions need to be understood. The ExComm and Alliance should establish fair rules and requirements. Whatever rules and requirements they propose, there should be a long comment period so that all states can weigh in before adoption. This process should be done in parallel with the upcoming solicitation, since it will take time.

They agree that all states should be given the opportunity to present their case to change its designation. Specific rules need to be developed so the requirements are clear. It should not be a competitive exercise. A fixed budget means that as states get promoted to a higher funding level, all current designated states will take a budget cut.

### **11:50 Meeting Conclusion with Recap of Key Discussions, Key Decisions, Upcoming Events, and Outstanding Actions**

Steve Ruffin summarized the thoughts expressed about having one or two tiers in the classification of consortia. Clearly, this issue needs further discussion. Steve also thanked the DC SGC team for their excellent work in the preparations and organization of the meeting. See you in North Dakota in September.

**12:00 Adjourn**