

Minutes of the  
National Council of Space Grant Directors' Spring Meeting  
Arlington, Va.  
February 28 – March 2, 2019

**Executive Committee Board Meeting**

8:00 Executive Committee Board Meeting – Part I

10:15 Executive Committee Board Meeting – Part II

**National Space Grant Foundation Board Meeting**

10:00 NSGF Board Meeting

**General Session: Day 1**

1:00 Welcome – **Eric Day** (National Space Grant Foundation), Meeting Host

Eric welcomed us and mentioned the several opportunities available to us in Crystal City.

**Council Business**

1:10 Intro and Executive Committee Update – **Angela Des Jardins** (MT SGC), Council Chair  
Angela welcomed us and wished us a successful meeting. She also thanked Eric Day and his team for successful organization of the meeting.

Introduction of new people. Emilia Tangeman, Grants Specialist, and Melissa Wragge, Program Manager, both at Nebraska SGC. New Assistant Director in Iowa Matt Nelson, new Manager Meaghin Woolie at Louisiana SGC. New Project Manager Mildred Rodriguez in Puerto Rico. Paolo Oemig is the new Director of New Mexico Space Grant. Illinois has a new Interim Director, Joshua Rovey. Best wishes to previous Illinois Director Philippe Geubelle, who stepped down after he took a Dean position. Pennsylvania has a new Program Manager, Carol Kearney High.

Angela showed a picture of her family. She wants to make Space Grant meetings more interactive. New initiative: Meet and Greet, where everyone gets up from their seats, locates someone they do not know, and introduces themselves.

Angela also listed the goals of the meeting: Recharge batteries, make most of our in-person time, learn from one other, make connections, and create a positive culture. She gave an overview of Space Grant, Directors, ExComm, Foundation Board, Alliance, Nominating Committee. She described communication with NASA leadership by ExComm members and Chair and Vice-Chair. She discussed the 30th anniversary committee, which is led by Lynn Fenstermaker. There is a new working group: Communication. Angela wants working groups to meet more frequently. Topics to be discussed among the entire community (the flipped meetings of tomorrow will discuss in more detail).

We need hosts for the Fall 2020 national meeting. Some interest by a few states but no proposals received so far. Submission deadline extended to mid-May.

Question by Mason Peck: who determines the frequency of national or regional Fall meetings. Angela then gave an overview of our meeting.

Remember the recycling program for the name tags so please return them after the meeting.

1:25 Secretary and Treasurer's Reports – **Haim Baruh** (NJ SGC), Council Secretary and **Majid Jaridi** (WV SGC), Council Treasurer  
Haim and Majid gave their reports. Both approved.

1:35 Nominating Committee Update – **Chris Koehler** (CO SGC), Nominating Committee Chair

Chris gave a report on the people involved in Space Grant committees. He then described the voting process and listed the nominees. Vice Chair: Luke Flynn; Secretary: Haim Baruh; Treasurer: Majid Jaridi; ExComm nominees: Andy Arena, N. Balakrishnan, Brett Caldwell, Chris House, Greg Guzik, Paulo Oemig; Nominating Committee: Demoz Gebre, Raji Patel, Suzanne Smith.

### **Space Grant 30<sup>th</sup> Anniversary Kick Off**

1:45 Overview of activities, Senator Capito (WV) kick off, and “We are Space Grant” video examples – **Lynn Fenstermaker** (NV SGC), 30<sup>th</sup> Anniversary Committee Chair and the 30<sup>th</sup> Anniversary Committee

Angela introduced Lynn Fenstermaker, Director of Nevada SGC. Lynn gave the list of committee members, the committee had a WebEx meeting and discussed options and possibilities. Possible short-term activities include student logo, prominent senators to the meeting, and prepare “I am Space Grant” videos. Plans also include development of a smartphone app or LinkedIn channel. Also, major Hill event in 2020, before the Spring 2020 meeting. Any ideas from the SG community are most welcome.

Next, committee members described their ideas in more detail. Caitlin Nolby discussed the logos that were submitted. States get to vote on <https://bit.ly/2STt8x3>.

Majid discussed his interactions with Sen. Shelley Moore Capito (WV). Senator Capito has been very helpful to Space Grant. She made a video in support of Space Grant. Majid showed the very inspiring video. Majid then showed a video made by a Space Grant alumnus, Kerri Phillips. Ms. Phillips described the impact of Space Grant on her career. Chris Koehler introduced Christy Predeina, alumnus of Colorado Space Grant, and the video she made in support of Space Grant.

### **NASA Leadership**

2:10 NASA Leadership, Part I – High Level Topics

Angela described the talks we are about to hear and she introduced the AA for STEM Engagement, Mike Kincaid. Mr. Kincaid said he is very excited to be here and proceeded to describe the changes that are about to take place. He showed a video and asked us to think as if we are in the video ourselves. He described that we in SG are enabling NASA's mission. He then showed a video message by the NASA Administrator, Jim Bridenstine.

Mr. Kincaid proceeded to talk about upcoming changes to Space Grant. He began with the NASA vision and mission. Please see slides for exact definitions. Unique opportunities, diverse future of STEM workforce, strengthening public understanding, enabling powerful connections. Please see slide on mission-driven strategic engagement. We will meet people from Mission Directorates tomorrow. Mr. Kincaid said he always shows his slides on the new architecture ,enabling student opportunities and contributions. Scalability to magnify NASA's reach and impact. He used the Eclipse program as an example of how we can do things together.

Mr. Kincaid then proceeded to describe 2018 milestones. Please see slides for details. He then described mission-driven programs enabling STEM Engagement. The budget history shows this year is the first time the budget increased since FY2011. Mr. Kincaid discussed the Space Grant funding history. He described how he learned about designated and non-designated states. He found it hard to believe that there was no mechanism in place to move non-designated states to designated status. He said this had to change before the new multi-year solicitation.

Mr. Kincaid gave a history of his activities to address the issue. He conducted a survey on what we preferred as funding options. He received more feedback as directors communicated with him directly about the funding model. He considered several options, which included the current status, equal funding, population based, and competitive.

Selection made by the OSE is to use a hybrid competitive model, with a base award that is the same for each state, as well as competitive awards. He showed two possible models. In one model, base awards are \$675,000 in the other \$625,000.

Mr. Kincaid stated that the new multi-year solicitation will have increased focus on Mission Directorates. A four-year model has been selected. There will also be concurrent evaluation during execution of program. Shifting from training grants to cooperative agreements. Supplemental funding to U.S. Virgin Islands and Guam, through SC and HI, respectively (each consortium getting \$150,000 extra). Also NASA-led PI meeting, bringing together different branches of the SG community. Please see slides for timeline of RFP, competitive awards, decision dates.

Mr. Kincaid then discussed his ideas on how to allocate the additional \$4 million FY2019 appropriation. One idea is to hire an institution affiliated with a SG consortium for the evaluation process instead of hiring an outside firm. He is looking for suggestions on how to spend the additional funding of \$4 million.

Floor opened for questions. Majid Jaridi discussed history of designated states. He said he is surprised at the reduction of budget for the designated states. Mr. Kincaid responded by discussing how the budget decisions were made and the issues he had with the promotional process. He also questioned the current system where a state promoted to designated status remains designated.

Mr. Kincaid also discussed, in response to Dale Thomas's question, that with competitive awards the total of funds going to SG will increase. Maybe not to a particular state, but more funds to Space Grant overall. Dale then asked why the entire additional funding for FY2019 is not distributed in equal amounts to the states. Mr. Kincaid responded by saying all the money is going to the states, but not necessarily in equal amounts.

Steve Ruffin stated that all the states wanted to have a more equitable system of funding but not at the expense of some states. He suggested a different structure of funding that does not disadvantage the designated states as much. Basically having \$714,000 for each state with the added funds coming from reducing the budget for Mission Directorates. Mr. Kincaid said he would consider the idea. Greg Guzik suggested to phase in the increase/decrease of the budgets gradually. Arkansas mentioned that getting cost share is more difficult in their state with a cooperative award than with a training grant. Mr. Kincaid said they will look into the issue.

Question; What if we fund match from branches other than MD? Mr. Kincaid responded by saying that when he arrived at NASA HQ, few people were involved with SG or knew much about it. He said that a number of people thought SG gets its funding and then does what it wants.

Denise Thorsen asked about FY2019 appropriation. She mentioned the added funds can be better used to send students to NASA Centers. Mr. Kincaid said there is more demand for NASA interns. He will get back to us on this.

Chris Koehler thanked Mr. Kincaid for coming to our meetings and learning about us. He said SG consortia work on the principle that a rising tide raises all boats. He likes collaboration with Mission Directorates but Space Grant started before Mission Directorates were established.

Raji Patel mentioned the additional funding of \$4 million would be better spent on students in states as opposed to spending at NASA Centers and Mission Directorates. Mr. Kincaid responded with stating all the money goes to SG and we need to decide on how the funds will be expended.

### **Council Business**

3:10 Council Elections – *Chris Koehler* (CO SGC), Nominating Committee Chair

All nominated officers were sole nominees and they were elected by acclamation. Andy Arena, Greg Guzik, and Paulo Oemig were elected to ExComm and Demoz Gebre and Suzanne Smith were elected to the Nominating Committee.

3:15 **Refreshment Break and Networking**

## Space Grant Highlights

3:35 Falling for Teaching: Embedding Middle and High School Teachers in ZERO-G Parabolic Research Flight Teams – **Kevin Crosby** (WI SGC), **Michelle Peters**, Director of Research and Education, ZERO-G, and **Tim Overocker**, Physics Teacher, Lakeview Technology Academy, Pleasant Prairie, WI

Angela introduced Kevin Crosby, who gave a history of the program and gave a list of projects for teachers. Please see slides for details. Michelle Peters discussed Zero-g. The project started at Florida with FLSGC in 2008. Then, Cleveland Science Center in 2009, and funding by the Northrop-Grumman Foundation. There have been other Zero-g programs since 2003, supported by NASA HUNCH.

Timothy Overocker, who has spoken to us before, described his experiences. He showed some of the topics discussed in the training. Please see slides for the list of very interesting topics. Mr. Overocker values strong industry partnerships. He compared his program to programs in place for sports programs and coaching student-athletes from an early age. He described feedback he received from students. He mentioned that space science is now present in every child's life. He encouraged us to invest in the future of students.

Kevin asked us to contact him if we would like to support a science teacher in our state for this program.

3:50 RockOn – **Chris Koehler** (CO SGC)

Chris showed an interesting video with space themes. He discussed participants of the workshop. 90 different institutions with almost all states have been involved. Last year, there also was an international component, with a rocket launched in Norway.

Chris showed a clip from October Sky and a home movie from his childhood. His parents came to a launch at Wallops one year.

4:00 High-Power Rocketry by Videocon Lessons – **James Flaten** (MN SGC)

Angela introduced James who discussed how he learned about rocketry at a workshop in Alabama. He learned a lot from this and started teaching a first-year course at University of Minnesota. His problem is the program is not spreading to other universities in Minnesota as much as he would like. He has developed a strategy to address this. Please see slides for details.

James showed slides from the educational material that he developed. His efforts have been successful. During his first year, five colleges participated; and the next year six colleges participated. In the future, he is hoping to have the participating colleges teach the new students in their institutions. Talk to James if you would like to introduce such a program in your state. Please see slides for more details about participation and resources needed for your university to participate. James then showed a video of a launch.

## **NASA Office of STEM Engagement Leadership**

4:15 Part II – High Level Topics continued

- **Mike Kincaid**, Associate Administrator for STEM Engagement

As usual, Mr. Kincaid began by discussing his daughter's stuffed animals. He proceeded to discuss the upcoming leadership changes. Joeletta Patrick will be starting a one-year rotation as Education Director in Ames and Armstrong. Currently, she is Director of MUREP and Interim Manager of SG. She will be Manager of SG when she returns. Erica Alston is now Deputy Manager and there will be someone recruited to help with management of SG while Ms. Patrick is away.

Mr. Kincaid then discussed the CoSTEM five-year plan. Please see slides for details and names of people involved. Currently chaired by NASA and NSF. All directors have received the report. NASA's chosen three objectives include: fostering STEM ecosystems, increasing work based learning through educator-employer, and training and encouraging trans disciplinary learning.

Forward to the Moon and Apollo 50th anniversary. Interactive map of events and exhibits. Space STEM forum. National Moon day and night at the museum. Rocket launch on July 16. Goal is to have 5000 rockets launched simultaneously. He discussed NASA Peanuts Worldwide. See slides for more details.

Communication updates for 50th anniversary. College broadcast in April, in collaboration with AIAA. Please see slides for more details.

NASA Education is developing a new search site for educational resources. Delayed because of the government shutdown.

Q&A. About the PI meeting. More details in tomorrow's session. Will be held first week of August.

How will the Mission Directorate funding work? SGC propose and it can be any amount. Likely multi-year programs.

If budget in 2020 is 50 million, what happens to the increase? He doesn't think there would be too much more going to MD and likely the funds would go to the base.

Denise Thorsen. Why do we only have three CoSTEM objectives, while the other agencies have several? Mr. Kincaid said he wants to invest those objectives he knows NASA has the resources to implement.

Steve Ruffin stated he was involved with the previous CoSTEM, and one of the ideas presented was that since other agencies do education, NASA should not. Mr. Kincaid said this was a very bad idea. He also mentioned that NASA Administrator Jim Bridenstine is very actively involved with STEM education.

Mr. Kincaid again discussed the beauty of the Eclipse project and how it reached across state lines.

Concern about some states collaborating in the past and then not getting their share of the funds. Mr. Kincaid would like to learn about such experiences so they can better deal with such issues in the future.

[spacestem.nasa.gov](http://spacestem.nasa.gov) is the site to list the Moon landing anniversary activities.

Question by James Flaten about whether we would require cost share from the MD proposals. Most likely not.

Joeletta Patrick provided more detail about the reverse site visit. She said we are required to do it and that Space Grant in the past has been criticized for not having such meetings. Reverse site visits will take place in early August.

Angela reminded us that presentations made today will be placed online.

5:15 **Adjourn**

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

8:00 Announcements and Updates - by Angela

- Academic High Altitude Conference (AHAC) – **Matthew Nelson** (IA SGC)

Angela introduced Mr. Nelson. Abstracts due March 22. Conference on June 24. Please see slides for more dates. <https://stratoballooning.org/ahac>

- International Symposium for Personal and Commercial Spaceflight (ISPCS) – **Paulo Oemig** (NM SGC)

Paulo noted the conference is known to have a high attendance and encouraged us to attend. In Las Cruces, New Mexico. October 9-10, 2019. Tours before and after the meeting. Students also welcome. Please come with your resumes. This year's theme is the user community.

Hisham Alnajjar talked about the Quadcopter workshop that Connecticut is sponsoring. Farewell to Hisham, as he is stepping down from directorship of Connecticut SGC.

- High Altitude Student Platform (HASP) – **Greg Guzik** (LA SGC)

Greg gave details about LA SGC's multi-payload balloon launch. Students can place. Their experiments are placed on the balloon. Over 47 institutions in 23 states have participated so far. Over 120 payloads. Please see slides for a list of this year's 12 participant universities and their research payloads. He showed a video of the 2018 launch.

- Set up for Flipped Meeting Discussions

Angela gave details on how the meeting works. See longer description under the meeting title.

### **NASA Office of STEM Engagement Leadership, continued**

8:15 Part III – Program Details

- **Joeletta Patrick**, Space Grant Program Manager (Acting) and MUREP Program Manager

Joeletta welcomed us. She showed pictures of her and her nephews and nieces on a snow tubing trip. She also showed a picture of Erica and her daughter. Joeletta gave a list of personnel in the OSTEM Program Office.

Ms. Patrick then discussed the status of the fifth-year extension. She thanked everyone for our cooperation. They had 100 reviewers. They had internal and external speakers on the panel. The review process, as well as the comments states received, are different and better this year.

▪ **Erica Alston**, ARCD Programmatic Support

Erica discussed the naming of a NASA facility in a West Virginia in honor of Katherine Johnson. One of the issues SG Office undertook was to change the start dates to better distribute workload. In the first round, only 33% of proposals were compliant. As of February 28, all but three states were selected for funding. Erica then described the schedule in which the monies will be distributed. Please see slides for more details.

SG was appropriated \$44 million for FY2019. Discussions are underway to select the way the additional \$4 million will be distributed.

One idea is to have consortia leverage their connections with education departments and have the evaluations conducted by an institution affiliated by a SGC.

Evaluation results: please see slide for details of issues and recommendations. Major points include establishing and maintaining the network, recruitment, and promoting STEM.

Mike Cherry. 50 of 52 consortia have submitted their data. 11 USIP projects need to be completed. OEPM open for FY2019 reporting. Deadline is January 20, 2020.

Frank McDonald gave an update on USIP projects. He showed a chart of the status of the projects. They want to make sure all funds are expended, reports are submitted and NCEs are issued. NCEs will be dealt with on a case-by-case basis.

Reverse site visit. Will involve all PIs of OSTEM and is scheduled for August 8-9, 2019.

Sonya Greene. She discussed upcoming webinars and training sessions. Please see slide for details. We will get notices as we go along. One of the important issues is compliance with citizenship requirements. More information coming soon.

Kimberly Brush talked about challenges associated with NIFS. She thanked us for our patience and asked for more input.

Veronica Seyl discussed a better procedure for the placement of centers. The process is being improved to become more consistent and usable. Please see slides for details. The goal is to create one point of contact for the centers and SG consortia. She then described system capabilities that are upcoming. Please see slides for three options for the internship process. NASA requests, SGC requests, or SGC pre-identification of individuals. We will be allowed to vote on this in the near future.

Ms. Brush also discussed the timeline for internship awards. Please see slides for details. The proposed system is such that SGC can begin the application screening process earlier. Kim also discussed possibility of quarterly meetings to discuss progress on bettering the NIFS process.

Q&A session. Question on OEPM. A working group was developed to look at the process and state contributions. Feedback from states will be asked soon; after certain processes are completed.

Question on what percentage of funds should be allocated for precollege programs. 10 % would be a good ballpark.

Concerning evaluation. Two components, internal and external. How can consortia learn from other consortia? Erica said classifying evaluation outcomes as pass/fail is not a good idea and that the \$800,000 allocated to evaluation is different from the award a state gets.

Joeletta talked about better integration and cross-pollinating ideas and activities among states. More details will be available soon.

Mike Kincaid responded to a concern about allocating interns to states by population.

How evaluation results will be used. Currently being discussed is how to transmit the information. Current thinking is to disseminate the entire evaluation report once it is approved by NASA management.

Mike Kincaid mentioned that the budget process, which is in continuing resolutions in Congress all the time, makes it difficult to plan for the future. Erica described what it takes for them to authorize funds. They need proposals in before they can release funds.

### **Apollo 50<sup>th</sup> Anniversary: Space Grant activities**

9:15 Visitors from the year 2029 – **Chris Koehler** (CO SGC) and **Mason Peck** (NY SGC)

Chris made the presentation. Chris dressed up as someone coming back from 2029. Please see the presentation (but, you had to be there to see the live action).

GLEE. Great Lunar Explanation for Everyone. Daily flights to the Moon, fourth lunar habitat.

Mason and Chris have been working on this since the Vermont meeting. By 2022, 509 five-gram LunaSats will be built and launched. They will be used for research. LunaSat is a chipsat with power communications. Free to participate, the program will support construction of LunaSats.

Please see slides for timeline. Work in four areas. Getting there, landing there, discovery there. [tinyurl.com/gleetothemoon](http://tinyurl.com/gleetothemoon)

9:30 Apollo 50<sup>th</sup> Next Giant Leap Student Challenge – **Robert Winglee** (WA SG)

Angela introduced Robert. Target of the program is educators and students in middle and high school. Particularly aiming at underserved communities. Activities involve logo mini challenge, building a lunar lander, payload development, programming, earth science, aerodynamics and engineering, and social media/photography. He introduced the equipment to be used to implement the program. He demonstrated a model lunar lander being transported by a quadcopter to explain challenges associated with landing.

Regional competitions will be held at 13 hubs, winners to compete at Johnson. Please see slides for website and participation information.

9:45 Apollo 50<sup>th</sup> Anniversary Rocket Launch – **Dale Thomas** (AL SGC)

Angela introduced Dale, who showed a video clip of the launch. His father was a technician who worked on the rocket. Five thousand model rocket kits will be launched around the world, exactly at 9:32 am EDT, when liftoff took place on July 19, 2019. Aimed primarily at the K-12 community. Please see slides for the list of partners with USSRC (US Space and Rocket Center). So far 148 different organizations are participating.

[www.rocketcenter.com/apollo50/globalrocketlaunch](http://www.rocketcenter.com/apollo50/globalrocketlaunch)

## 10:00 Student Poster Session and Refreshment Break

### Flipped Meeting

11:00 Flipped Meeting discussions, session led by *Chris Koehler* (CO SGC)

**TOPICS:** 1) NASA Internship processes, 2) Evaluation, 3) New federal CoSTEM Strategic Plan, and 4) National Meeting timing, schedule, frequency.

Format will be same as before. Two or three rotations, so attendees will get a chance to discuss at least two topics. Great opportunity for small group actions.

## 12:00 Lunch

### Space Grant Highlights

1:00 Space Grant: Launch, Landing, and New Space Entrepreneurship – *Ben Kellie*, CEO and Chief Pilot, K2 Dronotics; sponsored by AK SGC

Speaker introduced by Denise. They are involved with Kodiak launches. They also do projects for aerospace companies, including SpaceX. He showed a picture of the RSS (Rotating Space Structures). He described a project involving SpaceX. Alaska SGC gave him his start in aerospace. His father was a bush pilot and he developed an interest in aerospace. Then, his connection with AK SGC got him more involved.

1:15 Leveraging NASA Space Grant Support at Delgado Community College: Per Aspera Ad Astra – *Joanna Rivers*, Assistant Professor of Physical Science, Delgado Community College, New Orleans; sponsored by LA SGC

Greg Guzik introduced the speaker. After a stint in industry, she found her calling in teaching. She is very busy with teaching and projects. Because of her involvement with SG she learned about MUREP and has been using resources of both programs. She is an avid reader and she writes a lot.

Mr. Rivers began with an overview of space science at Delgado CC. Please see slides for details. She began by providing financial incentives for students to take her class on ballooning. UNO and LSU provided mentorship. She started the LaACES program. In the first year, 15 students enrolled, of which 10 have transferred to four-year colleges upon graduation. In years three and four of their program, solar eclipse was the focus. Next focus is going to be RockOn. The Rock-On payload that they developed is going to be used in this year's LaACES program. She also described her summer faculty fellowship at Marshall.

### Working Groups

1:30 Working Group Overview and Charge

1:40 Working Group Breakouts

Working groups charge by Angela: make them more effective, discuss a focus area to foster key development, create a core group of people, discuss quarterly meetings of core people to move agenda items forward.

- **Aeronautics Research Mission Directorate**

Michaela Lucas reported. Karen Rugg, communications lead from ARMD, joined the meeting and gave us an overview of research thrusts: supersonic air transport, electric propulsion of aircraft, and urban air mobility.

In supersonic air transport, NASA is looking into supersonic commercial flight. NASA is analyzing noise levels and public reaction to the noise, as well as other issues associated with building supersonic commercial jetliners.

Electrification of aircraft aims to develop an all-electric plane and NASA is working on batteries, systems, and generation of data in such operations. Data generated is being shared with stakeholders.

Urban air mobility (UAM) involves having several vehicles fly in urban areas, and have these vehicles move orderly, efficiently, and safely. There will be lot of different air vehicles and they will involve vertical take-off (VTOL) for commuting to work. Currently, UAM testing is being conducted at Reno, Nevada, and at Corpus Christi, Texas, with small drones and small passenger carrying vehicles.

Ms. Rugg sees NASA's role as providing strategy and vision, developing the lexicon and vocabulary, as well as discussing what the missions and who the players are, and to bring them to the table.

NASA colleagues present at the meeting, Gina Blystone from Langley, David Berger from Armstrong, and Mitch Krell from Stennis, expressed interest in working with ARMD and Space Grant consortia in aeronautics topics. Mary Sandy mentioned that one activity that will appeal to everyone is the faculty summer fellowships in aeronautics. Mary and Haim visited NASA about 18 months ago to discuss this opportunity. Mary also mentioned developing aeronautics webinars with content provided by NASA researchers.

Janet Spatcher discussed the Quadcopter Workshop that Connecticut SGC runs for teachers. They had a successful year, as evidenced by the student group presenting their work in the poster session. The workshop will run June 3-7, 2019. Please visit [ctspacegrant.org](http://ctspacegrant.org) for more details.

Steve Ruffin mentioned that design competitions are very effective in engaging students. He encouraged developing such activities in aeronautics. Elections were held at the end of the meeting. Michaela and Haim were re-elected to co-chairperson positions. Haim and Michaela were re-elected as co-chairs.

- **Communication Working Group**

Susie Johnson reported. The attendees agreed to adopt the following Mission statement to guide the group's activities: "Improve communication within the Space Grant community, between NASA and Space Grant, and with the public."

The group reviewed a summary of brainstorming ideas from Vermont meeting to identify possible goals/focus areas for working groups. Three priorities were identified and small groups formed to discuss:

- **Content storage (mechanisms) group:** Identification and collection of content/best practices

- **Content curation (best practices, training materials, etc.) group:** Mechanism for sharing, disseminating, storing content
- **Content generation (templates) group:** Generating content for standardized templates for press releases, social media posts, proposal guidelines, etc. for multiple audiences

Plans were discussed to convene telecons later in the year to advance the objectives of each group. The group then adjourned to report to the larger group.

- **Human Exploration and Operations Mission Directorate**

Dale Thomas reported. Ongoing initiatives and competitions were discussed. Carol Galica provided an excellent overview of the scope of efforts underway within HEO and potentials for university engagement.

Big push in HEO and across NASA is “Boots on the moon by 2028”.

Acquisition approach more of a community approach vs. the big acquisition; as such, universities are welcomed to bid against the periodic solicitations.

No single place within NASA to find comprehensive info on the myriad activities and acquisitions underway or planned within HEOMD; suggested that we refer to the website “Moon to Mars” – I think this is the website address <https://www.nasa.gov/topics/moon-to-mars/>

Current vision, subject to refinement and adjustment, is to use OSTEM partnership to augment existing HEO student focused programs (e.g. X-HAB, CubeSat Launch Initiative, etc.) rather than creating new programs.

Working group focus unanimously decided as “From the surface of the Earth to the surface of the Moon” within the context of the 500 lunar nanosat project previewed by Chris Koehler.

Raji Patel accepted to serve as HEO WG Chair for the coming year, and Toman Gonzalez-Torres agreed to assume the mantle next year.

- **Science Mission Directorate**

Tom Durkin reported. They will send out simplified handouts about the working group. Look at your calendar and send list of activities about 50th anniversary. Kristen Erickson talked about topics that SG can get involved with. For example, the network of learners. There are a large number of science missions going on and we can pool them to integrate more activities. Lastly, new co-chair of the working group is Robert Winglee.

- **Space Technology Mission Directorate**

Tim Urban reported. Mason Peck got re-elected as Chair. Mike Green from Space Technology MD came and spoke. Maybe they can combine their resources with SG. They discussed development of CubeSat programs. In person meeting of core committee during the transition meeting.

There was consensus that a site visit by Space Grant to STMD would be useful. A similar past meeting broadened perspectives on student fellowships. A future meeting might encompass SBIR, STTR, cubesats, etc. Someone suggested that the MD/SG pot of money might develop into a competition (a la ‘Big Ideas’) where students build something: a structured program with NASA mentorship and a final goal in mind, perhaps lunar focused. Discussion then turned to

small spacecraft. Someone from STMD suggested that if a small spacecraft fits the needs and priorities for a MD, then they will make a way for it to work. Luke Flynn advised that 7-8 SG could work together to get a cubesat up quickly. Chris Koehler recapped GLEE for benefit of those who didn't see his earlier talk. Development opportunities beyond just the GLEE spacecraft include launching beyond Earth, landing on the Moon, and communication protocols. Mike Green [STMD] said he was willing to invite the working group to HQ to meet and learn more and have a Q&A with subject matter experts. A comment was made of the generally low TRL for academic teams: about TRL 3 is appropriate for student-led projects. Future telecons and in-person meetings were to be determined.

## 2:30 Refreshment Break and Networking

### Working Groups continued

2:50 Working Group Chair Reports (reported above)

### National Space Grant Foundation

3:10 **Darren Hitt** (VT SGC), Chair, National Space Grant Foundation Board, **Shawna McBride**, (WY SGC), Vice Chair, National Space Grant Foundation Board, and **Kevin Freese**, Chief Executive Officer, National Space Grant Foundation

Angela introduced the speakers and mentioned that there are a lot of changes happening at the Foundation. Shawna opened the presentation and introduced Kevin Freese, who was educated as an engineer. Kevin served as an Air Force officer. He led research and development of military aircraft. In civilian life, he is involved with industry and academia, as well as philanthropy.

Kevin began by thanking the Foundation staff for training him and acclimating him with the SG program. He titled his talk NSGF 2.0, the Next Generation.

Kevin described his fundraising experiences at Ohio Northern University. They wanted to renovate the engineering building. He convinced the Board to build a new building, instead of renovating. He talked about his family. He discussed his imperatives for raising funds and providing visibility to SG. Please see slides for details. We need to make NSGF the centralized organization for resources. He asked us if the Foundation can hire talented staff from our Space Grant Consortia on a part-time basis for carrying out its functions.

### Collaborations and Partnerships Breakout Session

3:55 Three-minute "speed talks" in Jefferson I&II, then move to breakout rooms

Angela described the goal of this meeting is to dive deeper into specific topics, and also discuss opportunities for collaboration. There will be one round, so you can only select one topic.

4:15 Breakouts

- NASA Flight Opportunities – Suborbital Technology Demonstration – **Steve Ord**, Flight Opportunities Technology Manager (Jefferson III)

Suborbital flight demonstrations. They seek promising experiments that will help NASA support missions to further the commercialization and exploration of space.

- National Space Grant Foundation – **Kevin Freese, Darren Hitt, and Shawna McBride** Details described in Kevin Freese's report.

- Challenger Center – *Denise Kopecky*, Vice President of Education

Challenger Centers founded by the families of astronauts who perished in the Challenger disaster. Mainly a K12 program to inspire the next generation. She will discuss the history and activities of Challenger Centers and explore opportunities for collaboration.

- NASA Commercial Crew

Rachel Power presented. Learning from the past. Looking at the future. NASA-industry collaboration. She showed a video of a commercial crew being launched into SpaceX. They will describe their custom-designed app as well as their research.

- NASA CubeSat Launch Opportunities, NASA Advanced Exploration Systems

Description of CubeSat launch activities. What we are doing well; what we can do better. Technical and career education; especially at the high school level.

5:15 **Adjourn**

### **General Session: Day 3**

9:00 Announcements and Updates

#### **Best Practice Discussions**

9:10 Overview and charge

Angela explained the motivation behind interactive sessions like this and explained how she first thought there would be very few people interested in leading the discussions. She was happily surprised when lots of people expressed interest.

9:20 Topics

- Making STEM Accessible, led by *Caitlin Nolby* (ND SGC), *Cass Runyon* (SC SGC), and *Marissa Saad* (ND SGC)
- OEPM, led by *Michael Cherry* (NASA HQ), *Nancy Ciminelli* (RI SGC), *Michaela Lucas* (NE SGC), *Debora Nielson* (AL SGC), and *Laura Stacko* (OH SGC)
- Participating in Space Hardware Projects, led by *Colleen Fava* (LA SGC), *Luke Flynn* (HI SGC), *Doug Granger* (LA SGC), *Greg Guzik* (LA SGC), *Chris Koehler* (CO SGC), and *Denise Thorsen* (AK SGC)
- Recruiting Diverse Participants, led by *Brian Chad Starks* (DE SGC)
- Working with Tribal Colleges, led by *Christine Bolz* (WI SGC), *Chris Harmon* (MT SGC), and *Robert Winglee* (WA SGC)

10:20 **Refreshment Break and Networking**

#### **SG Regional Breakouts**

10:35 Regional Breakout Sessions and Regional Highlights

- **Great Midwestern**

Demoz Gebre reported. Great Midwestern Regional Meeting: Minneapolis, Minnesota – October 11-12, 2019.

- **Mid-Atlantic**

Dick Henry reported. Mid-Atlantic Regional Meeting: Charleston, West Virginia – September 12-14, 2019.

- **Northeast**

Peter Schultz reported. Northeastern Regional Meeting: Newport Harbor, Rhode Island – September 18-20, 2019

- **Southeastern**

Colleen Fava reported. Southeastern Regional Meeting: Nashville, Tennessee – September 26-28; October 3-5 as alternative.

- **Western**

Jennifer Fowler reported. Western Regional Meeting: Big Sky, Montana – September 12-14, 2019.

11:55 Meeting Conclusion with Recap of Key Discussions, Key Decisions, Upcoming Events, and Outstanding Actions

Everyone thanked Angela for again running an excellent meeting and for her leadership. We also thanked Eric Day and his group for excellent organization of the logistics.

Respectfully submitted,  
Haim Baruh, Secretary  
2/25/2020