

Minutes
National Council of Space Grant Directors' Spring Meeting
Arlington, VA
February 28 – March 2, 2013

«THURSDAY, FEBRUARY 28»

Welcome – Richard Berendzen (DC SGC)

Berendzen offered words of welcome on behalf of the DCSGC, hosts for the meeting. Berendzen recognized Megan Kimble and Eric Day for their efforts in organizing the meeting.

Intro and Executive Committee Update– Yervant Terzian (NY SGC), Council Chair

Terzian thanked the DCSGC again and presented each of them with a gift. He thanked Carl Person, welcomed back Diane DeTroye. He offered an overview of the agenda and some broad themes for the meeting. He discussed the four lines of business and the Space Technology Mission Directorate that is now part of the Office of the Chief Technologist. He noted that with budget uncertainty, we don't have information about funding for FY 13 yet. Discussed the 25th Anniversary celebration, which will be held as part of the national meeting in Charleston, SC. One full day will be exclusively student presentations. A booklet will be created to give each consortium both sides of one page in the booklet. Terzian recognized Dick Henry for being the sole remaining original SG Director (1989). He then introduced those new members of the network in attendance at the meeting. Noted that Suzette Bieri was retiring after 20 years of service to the NDSGC. Terzian then invited anyone in the audience who wanted to introduce new members of the network and guests. Diane DeTroye then introduced the NASA representatives joining the meeting. Representatives from JSC, ISS Program Office, MSFC, and NASA Education - Space Grant and NASA EPSCoR staff were introduced.

Terzian then discussed 2012 DA14 and the meteor that hit Russia. Noted that Curiosity is on Mars. Discussed the discovery of many planets from the Kepler results. He then began to elaborate on the nature of time, with quotes from Plato, Shakespeare, Omar Khayyam, and many others, which was somewhat ironic given that we had fallen nearly a half hour behind schedule.

Approval of Minutes, Scott Tarry (NE SGC), Council Secretary

Scott presented the minutes and hearing no additional corrections or changes asked that they be accepted. Peter Sukanek (MS SGC) moved that minutes be accepted as presented, Megan Kemble (DC SGC) seconded, minutes were approved by acclamation.

Peter Sukanek (MS SGC), Council Treasurer

Peter gave Treasurer's report and highlighted the status of the council's finances. There were no questions or concerns. The Treasurer's report is attached.

Nominating Committee Update– Bill Garrard (MN SGC), Nominating Committee Chair

Bill discussed nominating process and handed out the ballots. Invited nominations from the floor for the Executive committee. There were no nominations from floor. John Gregory (AL SGC) moved to close nominations and John Wefel (LA SGC) seconded. Invited nominations from the floor for the nominating committee. There were no nominations from the floor. Peter Sukanek (MS SGC) moved to close nominations. Gary Slater (OH SGC) seconded and the nominations closed. Invited nominations from the floor for the Vice Chair. There were no nominations from

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floor. Peter Sukanek (MS SGC) moved to close nominations. Scott Tarry (NE SGC) seconded. Invited nominations from the floor for Secretary. There were no nominations from floor. Scott Tarry (NE SGC) moved to close nominations. Steve Ruffin (GA SGC) seconded and the nominations were closed. Invited nominations from the floor for Treasurer. There were no nominations from floor. Scott Tarry (NE SGC) moved to close nominations. Steve Ruffin (GA SGC) seconded and the nominations were closed. Garrard asked that the ballots be completed for the election of the executive committee and given to the nomination committee members at the break.

Invited Talk - Why is Public Communication about Space Science Important? – Bruce Lewenstein (Cornell University)

Terzian introduced Lewenstein. Lewenstein thanked Terzian for his mentorship and thanked him for the invitation to speak at the meeting.

Lewenstein framed question of what should people take away from reporting on science and technology. He asked what is meant by “public understanding” and what does the public want to know? He discussed the impact of science within the context of a democracy. He then asked the audience to mention things other than the asteroid or meteor that they’ve heard recently. Noted that a lot of what is being discussed in the media now is attached to corporations involved in space exploration. Asked why public communication is important? Elaborated on Normative (right thing to do), Instrumental (more support if they know more), and Substantive (better decisions from more involvement in conversation) reasons why communication is important. Discussed survey data that suggests fundamental issues with understanding of science in US. Noted the Fred Flintstone Effect and pointed to the “Pillars of Creation” photo shown on CNN. Explained that after a mere 30 second exposure on TV news people claimed to find likeness of Jesus in the image. Lewenstein discussed different models of communication: deficit model, lay expert model, and citizen science... but suggested it was better to think about participation.

Noted that it was interesting that people often don’t think of new things as science or technology, they think of them as something different: inventions or innovations, but divorced from science and technology.

During Q&A Dick Henry (MD SGC) discussed a puzzle related to the number of people harmed by broken glass in the recent meteor strike in Russia and concluded with the self-deprecating observation “Henry, you really are stupid!”

There was some discussion about the trends in “science by press conference” rather than traditional peer review processes.

Space Grant Student Talks I

An Approach to Student Development of Space Hardware, Eric Becnel & Brittani Searcy (AL SGC)

John Gregory (AL SGC) introduced the students representing the Space Hardware Club. Eric gave history of club, which is an entirely volunteer organization. Listed extensive participation in NASA and other space-related competitions and programs. Challenge is to motivate students to participate in the various projects when they are intimidated or concerned about lack of experience or knowledge. The ultimate goal is to prepare the next generation of scientists and engineers for full-time employment in these fields. Club has an established process for solving real problems while building student skill sets and experiences.

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Dick Henry (MD SGC) applauded the students' attention to the sociology of organizations and then expressed his fears about women taking over the world.

Implementing a Supersonic Wind Tunnel for an Undergraduate Aerodynamics Laboratory – Benjamin Arthur (VA SGC)

Chris Carter (VA SGC) gave a pithy, yet inspired introduction. Ben discussed his evolution through the NASA pipeline. He participated in the Virginia Aerospace Science and Technology Scholars program in high school, which gave him connections to NASA and a number of other Space Grant programs. Ben discussed his fourth year thesis project, which focuses on the development of a supersonic wind tunnel. He explained the value of the project is two-fold. He gains experience in his own work while his project provides a platform for other student projects using the wind tunnel he has developed.

Ben fielded questions about the specifics of the wind tunnel and the JefferSat Project.

Ionospheric Dust Collection Utilizing Aerogel and Sounding Rocket Technologies – Iona Brockie (NY SGC)

Yervant Terzian (NY SGC) gave a less pithy, but no less inspirational introduction. Iona described the motivation and challenges for her project. She explained how the sounding rocket provides the best means for reaching the ionosphere for dust collection. She then described the use of aerogel in her project and how NYSGC helped her with this part of her project.

Surveillance for Intelligent Emergency Response Robotic Aircraft (SIERRA) – Bryan Brown, Kevin Davis, and Andrew Puterbaugh (OH SGC)

Gary Slater (OH SGC) gave the pithiest introduction, which was well received by the audience. Bryan led off and described the use of UAV in the fighting of wildfires. Low cost UAV can be used effectively to increase safety and reduce firefighter injuries and fatalities. Andrew described initial tests of UAV and software guidance system. Key achievement was the use of new software to eliminate the smoke from videos taken from above the fires. Described improved launch system to counter the challenges associated with hand launched UAV. Future work will bring software in-house so they have control of entire project.

Jeppie Compton (KSC) asked a question regarding the impact of headwinds on UAV. Conventional design for airframe will help in this regard, but there are still problems associated with headwinds. There was another question regarding predictive software. Software is installed on laptop ground station. There was a final question regarding video specifications. Weight concerns affect resolution, but not processing.

NASA Panel Discussion: Directors of Education from NASA Centers and Mission Directorates

Leland Melvin, Associate Administrator NASA Education noted the incredible work that Space Grant funded students are doing. He recognized the members of his staff. He noted that budgets are tighter and relationships are going to be even more important.

Melvin reminded the Council of the Revised Federal STEM Education Priorities

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- 1) Improve STEM teacher education
- 2) Increase and sustain student and public engagement in STEM
- 3) Enhance undergraduate student STEM experience
- 4) Historically underrepresented groups in STEM

He explained the role of the Co-STEM Mission Agency Workforce Goals in shaping what NASA Education and other federal STEM programs will do in future. He noted that the report is available at the NSTC website. He emphasized that it is important to know what the report says, since it will influence future funding.

Melvin discussed concerns about how NASA Education is using Space Grant funds and in particular the funding in FY12. He explained the need to obligate funds and the process by which SGs that were doing well received next year's funding ahead of time. Of the \$23 million in President's request for FY13, \$5 million covers the CAN related to teacher training and \$10 million is for base funding for those who weren't forward funded. The other \$8 million may fund additional "competitive" opportunities. Melvin reminded the council that education is not one of NASA's stated priorities, but it is an important part of NASA's contribution to the nation.

Jack Higginbotham (OR SGC) asked about the competitive awards and if those proposals will include non-affiliate institutions. The answer was that these will come under Space Grant, but proposals could come from non-affiliate institutions. A student asked about what students can do to garner more funding for Space Grant. Melvin suggested students get more involved in talking to elected officials about the great work they do and that Space Grant makes that work possible.

Melvin explained the role of the Coordinating Committee and introduced Alan Ladwig (NASA HQ). Ladwig explained his affection for Space Grant and his involvement for over 20 years. He discussed the virtues of the network and the role it plays. He sent greetings from Lori Garver and said that, despite what we may have heard, she's a big fan.

Cass Runyon (SC SGC) and Steve Ruffin (GA SGC) represented Space Grant on the Panel and were joined by Katrina Emery, Education Director (NASA DFRC), who joined the panel remotely and Tammy Rowan, Academic Affairs Manager, who also joined remotely from NASA MSFC. Emery discussed the impact of scarce resources and the need for collaboration and cooperation. She described her involvement with Space Grant and stressed the importance of remaining relevant. She explained that DFRC is fertile ground for collaborative education projects and stressed importance of communication. Rowan discussed importance of collaboration in faculty research projects aligned with NASA's interests. She suggested that Center contacts can help provide ideas for senior design projects and support for design challenge teams. She noted that Centers can also help serve the needs of underrepresented groups.

Ladwig then transitioned the panel discussion to the Space Grant representatives.

Steve Ruffin (GA SGC) talked about Space Grant's recent strategic planning effort and especially Goal #2 of the plan, which emphasizes increased collaboration with NASA Centers and Mission Directorates. Ruffin discussed the organic opportunity for collaboration between university and NASA researchers. This type of coordination isn't affected directly by funding availability. Ruffin noted that we are generally underutilized as a network for NASA Education and NASA in general to reach the public. He described how GA SGC has used high altitude ballooning to link K-12 with colleges and non-profits to engage broader audience in NASA-related activities.

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Cass Runyon (SC SGC) discussed programs and projects involving 2-year community colleges, which helps connect non-traditional and other students to NASA. Described how SC has created collaborative experiences involving other federal agencies and non-profits.

Ladwig highlighted the importance of the network of over 1,000 organizations across the nation. He also emphasized the lack of public information about the great work that is being done within Space Grant and NASA. He noted that President is inviting Science Fair winners from around the country to visit the White House to be recognized and mentioned 3rd Rock Radio, a web-based platform, which highlights space science in between popular music with a target market of 18-25 year olds. Ladwig reminded us to keep him informed of milestone events that are taking place around the network. He ended by noting opportunities to get student experiments into space.

Questions, Answers, and Comments

Pat Hynes (NM SGC) thanked Alan for his long-standing support of Space Grant. She relayed information about the launch of student experiments from Space Flight America. Hynes told the group we need more people in space, because such experience creates interest and advocacy.

Frank Six (MSFC) emphasized the importance of Space Grant funded internships and other student opportunities.

Denise Thorsen (AK SGC) says she always hears that NASA has been in Alaska, but she never hears from NASA that they're coming. Wants to know why she's always the last to know. Ladwig suggested that his office might be able to help get the word out.

Laurel Zeno (VT SGC) mentioned that GSFC was planning significant visit to Vermont, but didn't let Space Grant know about it.

Angela DesJardins (MT SGC) relayed the frustrations that her researchers have in attempting to contact NASA. They regularly complain about unreturned phone calls and e-mails. She suggested the need to cultivate a culture of service by requiring NASA researchers do some outreach or service as part of their jobs. Ladwig suggested that progress on this will be made through new Inspiration Corps project supported by the Administrator. A NASA engineer in the audience suggested that the problem sometimes revolves around people not being sure who is best to deal with request and then the request falls through the cracks.

Foundation Business

Your Foundation Accounts: How Your Funds are Invested – *Peter Sukanek* (MS SGC), NSGF President and *Steve Prickett*, Merrill Lynch

Sukanek introduced Steve Prickett to give an overview of Foundation's investment strategy and returns.

Prickett explained that our funds are well organized, there is good accountability, and returns have been good. Gave an overview of the investment strategy and explained that more money will be moved away from bonds and into equities. He noted that our investment is well diversified with a moderate risk profile.

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A question about cash position and greater investment in equities was raised from the floor. Prickett noted that the Foundation Board is working on the question of how much of a reserve does the Foundation want to hold.

A question about the impact of sequestration on the market was raised from the floor. Prickett said he was taking long-term view of situation. "World is coming to an end" tactics are having a short-term impact on gold and stock prices, but the long-term impact will be mitigated.

The meeting was adjourned for the day at 5:45 pm.

«FRIDAY, MARCH 1»

The meeting resumed at 8:35 am on Friday, March 1.

Yervant Terzian (NY SGC) introduced Diane DeTroye (NASA HQ)

NASA Program Updates - Diane DeTroye, NASA, Acting Manager for ARCD (Space Grant) and Katie Pruzan, Valador

DeTroye explained her return to this role and emphasized that it is temporary. She thanked the DC SGC for hosting the meeting. She thanked Eric Day and Sasha Korobov for setting up the Internet link for student presentations. DeTroye also thanked Leland and reminded the Council of his commitment to SG. DeTroye then asked NASA personnel to introduce themselves. Several Center and Mission Directorate staff were present.

DeTroye described the fiscal environment and said that no civil service furloughs were planned at NASA. She noted that March 27, when the current CR expires, is an important date. FY 14 budget should have been out in February (by law), but it isn't and should now be out in mid - March.

Diane reported that 86.5% of consortia responded to the Innovative Pilot in STEM CAN. 40% in teacher training. 60% in STEM retention.

Mid-course assessment activity. Calls have been completed. Data collected gives useful snapshot.

Priority Areas: Leveraging and Strengthening Strategic Partnerships, Diversity and Inclusion, Workforce Development, and Precollege Educators/Education – these are not only important for Space Grant, but also for NASA in general. Diane cited a museum in South Carolina that received private funding for education and is partnering with SCSGC to bring NASA content into programming. ***Unfunded partnerships are being emphasized.***

Diversity and Inclusion remain critical goals and can't be emphasized enough. These goals are key components of the Federal STEM plan. Working with underrepresented groups is important in everything we do and is emphasized in pilot program. This is also a main concern in midcourse assessment activity.

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Diane discussed Workforce Development and noted Julius's contribution in this area. She noted the importance of hands-on learning opportunities, which are another key part of Federal STEM strategic plan. She pointed to the Precollege educator STEM pilot as an example of priorities being implemented.

Katie Pruzan talked about the National Network and discussed efforts to reach underrepresented groups, recognizing that the goal is a stretch because of the challenges of bringing underrepresented groups into STEM fields.

Pat Hynes (NM SGC) asked how you can have a stretch goal in the context of SMART objectives when the R stands for Realistic. Katie responded that they expect SGs to be creative and noted that many have met this stretch goal.

Katie noted that there are currently 1014 affiliates in the network. 18% of HSI, 50% of HBCU, and 61% of Tribal Colleges are part of SG. Growth is in HSI category. HBCU and TC categories are level. Other Minority Universities (OMU) such as colleges for the deaf, blind, and women have grown and then contracted.

24 SG failed to meet diversity targets in FY2011 and this was noted as a concern.

Gary Slater sought clarification that these numbers don't include women. Katie explained that target for inclusion of women is a national number, not specific to states. Katie also noted that of faculty involved in SG only 15.5% are from underrepresented categories. Faculty engagement is important for establishing and maintaining diversity. These numbers don't include women.

Diane invited people to visit with her or Katie regarding these numbers.

Diane mentioned that SG is on Twitter. Plans are in place to overhaul website, which has been needed for a number of years.

70% of CubeSat accepted proposals are linked to SG / EPSCoR.

Diane mentioned a program called NASA Edge, which is an irreverent podcast about NASA. They did a segment about the CubeSat program. Noted upcoming events including SLI launch... Moonbuggy... and Lunabotics.

Diane noted that Robert Winglee was selected as 2012 NASA Innovative Advanced Concepts Phase 1 Fellow. Also, Erik Lopez, from Illinois, is the National Space Club Keynote Scholarship awardee during the Club's 56th Annual Robert H. Goddard Dinner. Rock-On and HASP Team/810 won NASA Group Achievement Awards.

Space Grant Programs and Research I

9:35 (15) TX SGC and JSC alignment – *Beto Sanchez and Ronnie Clayton*, NASA JSC

Beto Sanchez noted the relevance of alignment and the concerns Space Grants have. He used TX SGC as example. TXSGC and JSC have worked together, but not in well coordinated or systematic ways. He is concerned about the failure to communicate and understand what NASA does and how SG activities can be better aligned. Discussed issue with Wally Fowler, who invited JSC to tell SG what its problems or challenges are, so SG researchers and students can connect and work on those problems.

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They referred to the JSC Biennial Research Report, which provides detailed snapshots of all the work at JSC. Also noted the Technology Road Maps that have been tweaked to reflect the specific work done at JSC.

Ronnie Clayton talked about Technology Road Map for Space Technology.

9:58 (15) MN SG/JSC Functional Apparel Design Collaboration – **Lucy Dunne**, University of Minnesota (sponsored by MN SGC) and **Cory Simon**, NASA JSC

Bill Garrard introduced Lucy and explained background of project that links College of Design within the University of Minnesota with JSC. Simon described how he determined he had a deficiency in the area of wearable technology and sought out assistance from U of Minnesota. Arranged a connection to Space Grant. Dunne explained that students in the program are overwhelmingly female (95%) and her course is their primary connection to STEM in their curriculum. Visited JSC with students and engaged JSC staff. Described the impact the project and the Center visit had on her students, especially two that went on to do internships at JSC. Discussed awards and proposals that resulted from project. Simon talked about the benefits of the project for him and JSC in general.

10:20 (20) ISS Research and Education Opportunities for Space Grant Jurisdictions –**Janejit Gensler**, NASA JSC

Showed video on the reduced gravity flight education program and reminded people about the opportunity for students.

Noted importance of human capital in global economy, especially human capital in the STEM fields. Showed slide about the organization of education programming related to the ISS. Talked about collaborative effort in ISS research program. Mentioned ISS Live which provides public access to ISS activities. Available on-line as well as through smartphone apps for both iPhone and Android platforms. Mentioned ROME (Robotic, Ocean, and Microgravity Explorers) program. Using neutral buoyancy lab to train middle school kids in ISS related robotics experience. Discussed project management program for high school students involved in the HUNCH hardware design program. ISS Ham Radio – ARISS project is on-going and allows students to communicate with ISS. SPHERES – Zero Robotics student competition involving code development.

Willie Wilson from the University Research program discussed the opportunities to get research projects on ISS.

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| 10:45 (20) Coffee Break and Networking |
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Invited Talk

11:03 (60) NASA Science and Exploration – **John Grunsfeld**, Associate Administrator, NASA Science Mission Directorate

Dick Henry introduced Grunsfeld. Discussed Grunsfeld's history as an astronaut and his space walks to fix Hubble. Grunsfeld noted Jeff Hoffmann's role in fixing Hubble. Grunsfeld stressed the importance of promoting the value of science and engineering to the public and decision makers who may or may not share that view. Decision makers include teachers, Congress people, and parents, who represent that largest group of influencers.

Space Grant Programs and Research II

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11:30 (20) An Innovative Solution to NASA's Asteroid Impact Threat Mitigation Grand Challenge – **Bong Wie**, Iowa State University (sponsored by IA SGC)

Sugu introduced Bong Wie. Bong discussed his work on the use of nuclear device to mitigate the threat of an asteroid strike. Hypervelocity Kinetic Impact and Nuclear Subsurface Impact.

11:50 (10) RockOn - Beyond 5 Years – **Chris Koehler**, CO SGC

Chris reviewed the evolution of the RockOn program and discussed the price break this year. He also talked about COSMOS coming in 2018.

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| 12:00 (60) Lunch |
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Invited Talk

1:00 (60) The Dream Chaser: The Future of U.S. Human Spaceflight – **Todd Mosher**, Director of Design and Development, Sierra Nevada Corporation

Chris Koehler introduced Mosher. Discussed Todd's connections to Space Grant.

Sierra Nevada has invested private resources in project. NASA has invested \$330 million in development of project. Space X and Boeing are competitors, but use capsules. Dream Chaser can land at any commercial airport. Can abort at any time and return to Earth. Rapid access to experiments is important for many types of research. Talked about partnering with NASA and actually hiring NASA to do some of the work. Internships and workforce development are an important goal. Will flight test with drop from Sikorsky Sky Crane this summer.

Question about biological experiments on ISS which requiring refrigeration / freezer capability. DC would have this capability with instantaneous access once craft has landed.

Why is Boeing going with capsule? Are their winged concepts from foreign competitors? Boeing was partner and X-37 has provided foundation for this work. China has X-37-like vehicle concept.

Attitude control in space usually requires substances that are toxic... DC will use nitrous oxide and alcohol...

Pat Hynes mentioned Space Grant student who works for SN. Asked about Front Range Spaceport. Mosher noted that vehicle could land at commercial airport runways.

Emphasis is on combination of autonomous control / landing but pilot in the loop for space station rendezvous and docking.

Space Grant Student Talks II

2:00 (15) Transform(x) = SpaceGrant(self) , \forall self – **Jaime Corchado**, CO SGC

Chris Koehler introduced Victor Anderson from Community College of Aurora who mentors Jaime Corchado. Anderson introduced Jaime and talked about the challenges of teaching and mentoring in the community college environment.

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One highlight was a Cheezit Box Robot! Corchado mention his Microgravity experience with Leland Melvin. He offered an analogy for life... gravity holding us down until we reach the peak and are free from those constraints. Great video of pushups in 2g and then in microgravity...

2:15 (15) Space Exploration Induced Bone Loss: Cellular and Molecular Mechanisms – **Angelica de Rosa**, NC SGC

Chris Brown introduced Angelica de Rosa. Biomedical engineering at NC State and UNC who talked about impact of Space Grant on her development as a researcher. Discussed her research on bone loss in mice sent up in shuttle. Answered question about the compositional change in the structure of the bones.

2:30 (15) Kaman K-MAX Scale Helicopter Testing – **James McGuinness**, CT SGC

Tom Filburn (CT SGC) introduced Sean McGuinness. Discussed his work on the testing of the K-Max dual rotor helicopter (no tail rotor). Scale model development. Test of the 25-degree angle for rotor shafts. Attended the National Helicopter / UAV Workshop, a seven day experience supported by Space Grant.

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| 2:45 (20) Coffee Break and Group Picture |
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«FRIDAY, MARCH 1 (CONTINUED)»

Panel Discussion, NASA Center Higher Education Officers

3:05 (05) Rationale and introductions – **Yervant Terzian** (NY SGC)

3:10 (60) Panel discussion (Moderator: **David Rosage**, NASA GSFC)

Panel members:

David Kankam (NASA GRC)

Theresa Martinez (NASA KSC)

Arturo Sanchez III (NASA JSC)

Frank Six (NASA MSFC)

Yervant introduced Dave Rosage and explained the rationale for the panel discussion.

Dave Rosage talked about panel session format and their desire to cover ten topics that are important to enhancing the relationship between the Centers and the SGs.

Information presented by the panel, including the Center competencies, will be available in the document available for download after the conference.

Topics covered

Senior Design and Thesis Projects... Bill Garrard asked about topics that are suggested by NASA and whether they are structured sufficiently or pitched at the right level so that they can be completed in a semester or academic year. Denise Thorsen suggested that coordination would be improved if NASA

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would accept project ideas from students rather than just publishing a list. Wally suggested that requiring students to write requirements is not only possible, but also preferred. He noted that having mentors at NASA is critical.

Satellite and Payload Building... RockSat and RockOn were mentioned as examples of Space Grant and NASA collaboration. Rosage suggested the possibility of a CubeSat workshop... Frank Six explained how access to the facilities for testing has changed because NASA charges for use, which hasn't always been the case.

Robotics Projects and Workshops... ROME project at JSC was noted... Gerrardo discussed the Summer of Innovation Robotics project in Puerto Rico... JSC has community college robotics program

Guest Lecturers... Centers could help identify and coordinate lectures and presentations by scientists and engineers either live or via the web... student from Cornell noted that having folks from NASA speak is critical to maintaining or enhancing student motivation... Denise noted that Alaska uses a design review involving NASA engineers, which gets student attention and improves quality... Wally raised the issue of travel funds and other complications...

Faculty Fellowships... good program, but much smaller than it used to be... Dave Kankam suggested that EPSCoR states might be able to fund fellowship opportunities... Frank Six noted that Marshall has a limited 10-week summer program for faculty...

Pre-Service Educator Opportunities... John Wefel noted that scheduling is a serious issue when trying to do programming with pre-service teachers.

NASA Days... security creates issues for NASA Day activities... doing things on campus is easier, but more costly because NASA personnel have to travel to various campuses as opposed to having students come to the Centers... Agency isn't leading this effort... these activities are Center driven... Rosage asked if SGs have NASA Days or open houses...

Student Competitions... Frank Six mentioned the Centennial Challenges that come out of the OCT... some programs have been limited or cut, but Space Grants can fund student teams for various challenges and competitions... Lunabotics and other competitions depend on SG...

Online Education and Technical Resources... NASA has invested considerable resources in online and technology resources... students can access information, guidance, content... and even online tutoring...

Internships, Fellowships, and Scholarships... System is getting better, but there are still funding and other challenges... question about the timeline, especially the academy selections, which they try to keep ahead of the regular process...

4:10 (15) General discussion

4:25 (05) Recap and conclusions – *Yervant Terzian* (NY SGC)

4:30 **Adjourn**

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6:30 (210) National Space Grant Distinguished Service Award Reception and Banquet
for ***Dr. E. Julius Dasch*** (Atrium & Ballroom A)

Space Grant Student Poster: All General Session Days (Ballroom A/B Foyer)
“Visiting Our Solar System (VOSS) Project” – ***Rachael Fulper***, IN SGC

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«*SATURDAY, MARCH 2*»

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| General Session: Day 3(Ballroom A) |
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7:30 (60) Hot Breakfast
8:30 (05) Announcements and Updates

Mission Directorate Working Groups

8:35 (45) Mission Directorate Working Group breakouts

Aeronautics Research (Crystal III Meeting Room)

Human Exploration and Operations (Crystal V Meeting Room)

Office of the Chief Technologist (Crystal II Meeting Room)

Science (Crystal VI Meeting Room)

9:20 (20) Mission Directorate Working Group Chair reports

The Working Group Chairs reported on the discussions within their breakout sessions. They emphasized the on-going need to better promote the work of Space Grant at NASA HQ and the Mission Directorates.

Future Meetings

9:40 (05) Fall 2013 National Meeting – *Cassandra Runyon*, SCSGC

The Fall 2013 Meeting will be held in Charleston, SC, October 13-15, 2013.

The hosts have arranged for Friday and Saturday tours including Plantation Tours, Coastal Marsh Boat Tour, Kayak Tour, and a Pub Crawl.

Cass noted that this is the 25th Anniversary of Space Grant. Yervant and Diane have some celebration plans. She also noted that this is the most popular time of year in Charleston. Registration is currently about \$500, but they are trying to work on lowering it.

Yervant reminded everyone that there will be no Fall 2014 National Meeting as we will have regional meetings instead. Yervant is accepting email requests for 2015 national meeting site.

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| 9:45 (20) Coffee Break and Networking |
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Consortium Coordination

10:05 (60) Consortium Coordination Session – NASA Space Grant Headquarters Staff, Directors, and Coordinators

Sasha reviewed Space Grant electronic communications strategy. Discussion about waivers for any person who is mentioned or shown on website in a clear, discernible way.

NASA ID/Application Access – important to renew passwords since re-establishing account is tedious and complicated... that's a surprise.

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Mike Cherry... OEPM is open for FY13 data entry... Mike will let everyone know about 2-day training sessions... Diane noted that longitudinal tracking is not included in OEPM... OEPM will pick up new students, but old students cannot be added. Katie... OEPM rule that all students who receive support will be added to database, but only those who cross the threshold will be tracked longitudinally... there will be instances where old students are still in the “pool” and also entered into OEPM because of new activities such as internships... OEPM business rule is that students have to enter their own data for longitudinal tracking... concerns were raised about the loss of control of the tracking process if we rely on students to self-report... what about e-mail bounces? Diane said she didn't know the answer to that question... Diane said that while you can enter your data throughout the year there will be a cutoff date for the purpose of reporting...

Mike Cherry on the Data Archive... sgda.valador.com call him if people need to get set up to get in... access is for your state only... outcome data can be pulled to create customized reports... goal is to be able to pull data from OEPM so it can be included in Data Archive and five year trend reports can be run...

Mike discussed difference between direct and indirect participants... definitions are included in materials sent out every year.

SG Regional Breakouts

11:05 (30) Space Grant Regional Breakout Sessions

- **Great Midwestern** (Crystal VI Meeting Room) – Sugu reported that the next Regional meeting will be in Iowa in 2014. Talked about how to improve the meeting experience.
- **Mid-Atlantic** (Ballroom A) – Dick Henry reported that the next meeting will be in Virginia in 2014...
- **Northeast** (Crystal II Meeting Room) – Toni reported on their next meeting and talked about some of the Regional activities including the helicopter workshop. Speaker service to help share costs and coordination for Region's consortia.
- **Southeastern** (Crystal III Meeting Room) – Jaydeep reported that Florida will host meeting in 2014... trying to find ways to bring NASA people in from the Region's Centers...
- **Western** (Crystal V Meeting Room) – Chris Koehler reported that Colorado will host 2014 in Boulder... digital learning lab will be used to broadcast meeting... hands-on activity involving robotics or ballooning... highlights from around the meeting were shared... possibility of a large venue balloon launch...

12:00 **Adjourn...**

National Council of Space Grant Directors

Executive Committee

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 Chris Koehler, Past Chair, Colorado
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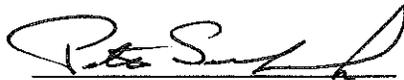
Luke Flynn, Hawaii
 Toni Galvin, New Hampshire
 Steve Ruffin, Georgia
 Peter Schultz, Rhode Island
 Denise Thorsen, Alaska
 Aileen Yingst, Wisconsin

Treasurer's Report February 2013

ON DEPOSIT WITH NSGF
 (As of 31 Dec 2012)

| | ACTIVITY | PREVIOUS BALANCE | CURRENT. AMOUNT |
|---------------------|-----------------------------|---------------------|--------------------|
| Endowment | | \$8,165.62 | |
| Income | Interest/Earnings | | \$512.43 |
| | | | |
| Total Endowment | | | \$8,678.05 |
| Expendable | | \$31,643.58 | |
| Income | Interest/Earnings | | \$512.43 |
| | Meeting Fees (F12) | | \$3559.72 |
| Expenses | Transition Meeting | | (\$2,504.62) |
| | Space Foundation Sponsor | | (\$5,000) |
| | Meeting Expense (F12) | | (\$1,569.95) |
| | Plaque | | (\$104.20) |
| | Change in Market Value | | (\$68.01) |
| Total Expendable | | | \$26,468.95 |

Respectfully Submitted,



Peter C. Sukanek
 Treasurer