

Minutes of the National Council of Space Grant Directors' Meeting  
Washington, DC, March 5 - 7, 2009

**A. Thursday, March 5, 2009, 1:00 – 6:00 PM**

1. Welcoming remarks: Chris Koehler, Executive Committee Chair
2. Dr. Joyce Winterton, NASA HQ, Associate Administrator for Education:
  - a. NASA Education is aligned to Obama's Plans for Education, Science, Technology and Space Exploration:
    - Exploration Agenda: Establish Educational Access to Government Programs and R&D, Inspire Learning through Participatory Exploration, Establish Teacher/Researcher Fund for High Schools, Increase Opportunities for College Students
    - Technology Agenda: Invest in University-Based Research, Increase Science and Math Graduates
    - Education Agenda: Make Math and Science Education a National Priority, Address the Dropout Crises, Expand High-Quality After school Opportunities, Support College Outreach Programs, Support College Credit Initiatives
    - Science and Technology Agenda: Invest in a Technology Investment Fund, Inspire Americans' to Excel in, and Embrace, Science and Engineering, Expand and Improve STEM Education in Community Colleges
  - b. Congressional Interest in STEM Education:
    - The America COMPETES Act, signed by the President on August 9, 2007, was enacted "To ensure our nation's competitive position in the world through improvements to math and science education and a strong commitment to research"
    - The House Committee on Science and Technology, Subcommittee on Space and Aeronautics enquired about the Agency's STEM Projects. The NASA Education response was provided in January 2009 and included responses to questions on STEM Education Activities, Expenditures, Congressionally-Mandated Direction, Mission Directorates, Space Grant Program, Space Grant and Mission Directorates, Education and NASA Centers, Pre-Service Teacher Activities, Science Mission Directorate, Space Operations Mission Directorate, Congressional Direction and the Mission Directorates.
  - c. There was request from the Government Accountability Office on January 12, 2009, which is part of a multi-agency review that includes 23 agencies.
    - The purpose is to obtain an "overview of education programs".
    - A survey was done to determine the number of federal early childhood and K-12 education programs within NASA.
  - d. STS-119 includes two Educator Astronauts: Joseph Acaba and Richard R. Arnold
  - e. NASA Web Theme: Space Suits and Space Walking. Launched March 2009. It contains great resources for educators: [www.nasa.gov/educatoion/spacesuits](http://www.nasa.gov/educatoion/spacesuits)
  - f. NASA Office of Education FY 2009 budget (% of total President's budget of \$115.6 M):
    - MUREP Education (24%)
    - K-12 and e-Education (34%)

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- Informal Education (2%)
  - Higher Education (40%)
- g. Forums that Highlight Space Grant: Math and Science Partnerships (funded by U.S. Department of Education), Tennessee Tech 2020, Triangle Coalition, McAuliffe-Shepard Discovery Center

3. Secretary and Treasurer's Report

- Gerardo Morell, Secretary: The minutes of the Fall 2008 Meeting were sent via email to all the directors a couple of weeks ago. Minutes were accepted without changes.
- Peter Sukanek, Treasurer, report: accepted

	ACTIVITY	PREVIOUS BALANCE <small>(as of 31 Aug 08)</small>	CURRENT AMOUNT <small>(as of 30 Nov 09)</small>
<b>Endowment</b>		\$6,562.11	
Income	Interest/Gifts		\$10.50
	Change in Market Value		(\$255.14)
	Other		\$33.14
Total Endowment			<b>\$6,350.61</b>
<b>Expendable</b>		\$17,848.71	
Income	Interest/Gifts		\$10.50
	Residual from Fall 2007 meeting (NM)		\$1,500.00
	Residual from Fall 2008 meeting (GA)		\$1,500.00
	Other		\$33.14
Total Expendable			<b>\$20,892.35</b>

4. Chris Koehler, Executive Committee Chair, gave a summary of the topics discussed during the Executive Committee meeting that took place earlier in the morning (see minutes of Executive Committee meeting for details) and the Obama Transition Team Presentation:
- a. Obama Transition Presentation Team: Chris Koehler, Mary Sandy, Yervant Terzian, Luke Flynn, Bill Hiscock.
  - b. The presentation was given on January 6, 2009. It explained Who We Are in terms of following aspects: Congressionally Mandated; Unique National Network; Diverse, Multifaceted & Multidisciplinary; NASA; Pump in the Pipeline; Budgeted and Highly Leveraged; Relevant
5. Faces of Space Grant: James Flaten (Minnesota Space Grant) is preparing a photo directory to be available in a protected place in the NCSGC website. It can be searched alphabetically or by consortium. Those who have not done so, please, send your photo to [flatten@aem.umn.edu](mailto:flatten@aem.umn.edu)
4. Space Grant Program Update, Diane DeTroye, National Space Grant Program Director

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- a. Minority Serving Institution Partnership Development Competition
  - Received 25 proposals
  - Reviews/Panel completed
  - Will announce results by end of March
  - Anticipate up to 5 Awards
  - Max. \$150,000/proposal
- b. Ralph Steckler/Space Grant Space Colonization Solicitation
  - Project Management assigned to Johnson Space Center
  - Proposals due February 19
  - Proposals review process initiated
  - Anticipate announcing results by end of April
  - Anticipate up to 20 awards
  - Max. \$70,000/proposal
- c. NASA International Year of Astronomy (IYA) Ambassadors
  - 54 student ambassadors selected competitively from 50 jurisdictions
  - Two selected to represent USA students at the IYA opening ceremony in Paris, January 1-15, 2009: Rebecca Holmes (NC) and Norberto González (PR).
- d. The 25 year evaluation is anchored by the SG goals and objectives.
- e. Katie Pruzan: Affiliate Survey had 85% response; it consisted of 28 questions, distributed electronically from April 15 to May 14, 2008
  - Affiliate institutions: 62% university/college, nonprofit organization 8%; 5% museums/science centers; 3% state/local government.
  - Of the universities: 5% HSI, 7% HBCU, 3% Tribal College, 2% OMU
  - Duration of affiliation: 34% 5-10 years, 27% more than 10 years, 32% 1-4 years, 7% less than one year
- f. Program Performance and Results (back to Diane)
  - There is clear evidence of demonstrable contribution to the SG outcomes.
  - We had 88 reviewers.
  - There was a minimum of 6 reviews of each PPR: 4 directors, 1 staff, 1 NASA/other (most received 7 reviews).
  - Aggregate results gather around 4-5 in all categories (good) [6-7 was excellent, 0-3 poor]
  - Notably, in Diversity the overall results are good to poor.
  - The scores were converted into: pass, pass with weakness, pass with deficiency, serious deficiencies
  - All 3 components were factored in for the final determination: NPR, affiliate survey, PPR
  - Consortia that have something that need fix, have one year to fix it.
  - Where there are serious deficiencies, systemic in nature, there will be a staff state visit to help to ensure that this is corrected; the meeting will include all affiliates.
  - To be sent in March: cover letter notifying the director the results of state, the executive summary report, the PPR results report, the NPR results report, the affiliate survey results report, and the guide on interpreting the results.

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- g. Diane received approval to begin incremental funding in March 2009.
- h. The FY09 budget call will depend upon final NASA appropriation.
- i. There will be a different, more concise format for FY08 progress report.
- j. One Stop Shopping for NASA Internships (a work in progress)
  - All "Internship" opportunities funded by NASA will use a single entry point, national and Center-based
  - For all interns (undergraduate) and fellows (graduate)
  - There will be a single application site
  - There will be consistent due dates, probably 3 per year
  - "Broker-facilitators" will assist students in completing applications and identifying best-fit programs
  - Students will get a standard ID for the system which they would keep as they applied for additional opportunities

6. Nine positions are up for elections:

**Spring 2009 Ballot**  
National Council of Space Grant Directors  
(I) = Incumbent

<p><b>Vice Chair – One Vacancy</b> (Term commencing immediately and ending 30 June 2011)</p> <ul style="list-style-type: none"> <li>• Chris Fritsen – NV (I) _____</li> <li>• Karen Hackney – KY _____</li> <li>• Pat Hynes – NM _____</li> <li>• _____ _____</li> </ul>
<p><b>Treasurer – One Vacancy</b> (Term commencing 1 July 2009 and ending 30 June 2011)</p> <ul style="list-style-type: none"> <li>• Paul Johnson – WY _____</li> <li>• Peter Sukanek – MS (I) _____</li> <li>• Scott Tarry – NE _____</li> <li>• _____ _____</li> </ul>
<p><b>Secretary – One Vacancy</b> (Term commencing 1 July 2009 and ending 30 June 2011)</p> <ul style="list-style-type: none"> <li>• Ed Duke – SD _____</li> <li>• Fathi Finaish – MO _____</li> <li>• Robert Winglee – WA _____</li> <li>• _____ _____</li> </ul>
<p><b>Executive Committee – Four Vacancies</b> (Three terms commencing 1 July 2009 and ending 30 June 2011) (One term commencing immediately and ending 30 June 2010)</p> <ul style="list-style-type: none"> <li>• Barrett Caldwell – IN (I) _____</li> <li>• Tom Filburn – CT _____</li> <li>• Alec Gallimore – MI _____</li> <li>• Jeff Hoffman – MA (I) _____</li> <li>• Chris House – PA _____</li> <li>• Dermott Mullan – DE _____</li> <li>• Peter Schultz – RI (I) _____</li> <li>• Aileen Yingst – WI _____</li> <li>• _____ _____</li> </ul>
<p><b>Nominating Committee – Two Vacancies</b> (Terms commencing 1 July 2009 and ending 30 June 2012)</p> <ul style="list-style-type: none"> <li>• Doran Baker – UT _____</li> <li>• Jaydeep Mukherjee – FL (I) _____</li> <li>• Al Strauss – TN _____</li> <li>• Aileen Yingst – WI (I) _____</li> <li>• _____ _____</li> </ul>

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7. Election results: two new members
  - Alec Gallimore (MI) – Executive Committee Member
  - Ed Duke (SD) - Secretary
8. National Space Grant Foundation Distinguished Service Award Reception and Banquet for Dr. Leon Lederman, 1988 Nobel Prize in Physics, tonight at 6:30 pm.

**B. Friday, March 6, 2009, 8:00 AM – 5:30 PM**

1. National Space Grant Student Satellite Program (NSGSSP) Update
  - a. There is a NASA Cube Sat Pilot Launch RFI.
  - b. Summary of survey: 44 consortia involved who can be used as leverage, considerable amount of SG and non-SG funding going to a variety of programs.
  - c. Diane DeTroye asked: is the working group at the agency level?; how to go about doing that?
2. National Hands-On Workshops, Chris Koehler, Director, Colorado Space Grant
  - a. Registration is open for the StudentSat Workshop, July 8-11 (\$1000 for registration).
  - b. New RockOn!, June 21-26, 2009: a Sounding Rocket Payload Workshop at Wallops Flight Facility and NASA Education. The registration cost is \$1,875 and includes
    - Breakfast and lunch every day
    - Dinner twice
    - All reusable kit hardware
    - Handbook and software
    - Shirt and other items
    - Launch and recovery
  - c. Workshop vision:
    - You take this experience and do something with it
    - When you are ready to fly, you'll come back to Wallops
    - You'll fly your payload on next summer's workshop flight
    - Your launch fee will directly supports the 2009 workshop flight
  - d. RockSat
    - Four RockSat Payload Canisters will be flown on the same flight
    - Cost is \$12K per canister for 20 pounds
    - Launch is June 26, 2009
    - Participating Institutions: Boston University, Colorado State University, Metropolitan State College, Penn State, Mont Alto, University of Colorado at Boulder, University of Minnesota, University of North Dakota, University of Puerto Rico, University of Wyoming, Virginia Tech
    - Wallops has already committed to a much bigger rocket for next summer; a two stage Terrier-Orion sounding rocket; expected to reach 140 km

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3. University Student Launch Initiative (USLI), John Gregory (AL)
  - 2-day workshop
  - 20 student teams to compete
  - In Marshall Space Flight Center
  - April 18, 2009
  
4. Sounding Rockets in Alaska, Denise Thorsen, Alaska Space Grant
  - Looking for collaborators for the payload
  - Goals: student training, scientific research, infrastructure development
  - Students pursue some innovative idea and come up with their own solutions to problems
  - Develop a low cost, student designed rocket payloads to investigate high latitude geophysical phenomena
  - SRP3/TR1: Jan 2000, collaboration with Japan, altitude 78 km
  - SRP4: altitude 87 km, March 2002
  - SRP5: January 2009, altitude 98.5 km
  - Magnetometer, telemetry system conforms to NASA
  - A student did the 3D simulation of the rocket flight: the rocket points up while going up and going down, until it hits the atmosphere, then it flips.
  
5. New Spacecraft Construction Technique, James Lyke, Air Force Research, Laboratory (AFRL), sponsored by Pat Hynes (NMSGC)
  - Developing a plug-and-play technology that will dramatically shorten the time to build a payload.
  - As a general rule, satellite projects go over budget and get delayed. This problem needs to be solved.
  - Inspiration: plug-and-play medical devices that save lives.
  - Satellite design automation:
    - intelligent modularity by design
    - plug-and-play components/technologies
    - XTEDS: extended transducer electronic dataset, the component describes itself to the system
  - NanoSPA: merging CubeSats with plug-and-play: modularized cubesats, each university develops different components, 12 cubesat teams
  
6. List of other CubeSat launch opportunities:
  - NSF: funding one cubesat per year
  - AF Space Development Wing: supports cubesat launches on Minotaur
  - Space X
  - ULA: united launch alliance
  - Question: CubeSat launch costs?, not possible to quote a single a single price for all cases, one may cost \$70K

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- Recommendation: SG should take the lead in creating a nationwide, student-centric CubeSat flight program

7. The World According to the Hubble Space Telescope, Dr. Mario Livio, Space Telescope Science Institute (Council Invited Talk)

- Dark energy is driving the acceleration of the Universe
- Dark matter is 23% of the Universe (Dark matter is the matter we don't see but we can see its gravitational effects)
- Age of the universe: 13.7 billion years
- 200 billion galaxies in the observable universe
- Farther away galaxies are smaller
- Universe evolves by mergers and acquisitions
- Hubble allowed to determine the composition of the atmosphere of extra-solar planets

8. Obama Transition Team Member, Mr. Allan Laverne (volunteer)

- 5 people in the NASA Transition Team
- Presidential transition: great experience, plan ahead who they were going to see: NASA civil servants, program directors, contractors
- Task: gather information that would help give direction to the new administrator
- The space policy statement is in the Web: extending the frontiers of space exploration
- Establish education access, teacher-researcher funds, funds for college students
- 2010 budget: 4% increase for NASA
- Recommendation: Keep talking to the mission directorates about SG
- Leadership of committees should meet with directors of directorates
- Committed to pushing how SG can help NASA fulfill its mission
- Earth Science is back in NASA.
- Stimulus package for education: aeronautics research through DE and NSF
- Maximize impact, do not duplicate efforts, work together

9. Lunch and Keynote Speaker, Spectacular Saturn: Images from the Cassini-Huygens Mission, Joe Burns, Cornell University (Council Invited Talk)

10. Michael McGrath, Lab for Atmospheric and Space Physics, University of Colorado, Boulder (CO invited talk)

- The Veneti Burney Student Dust Counter
- Students excel when given direction and support
- New Horizons Program, PI Alan Stern
- SDC project, as a new kind of EPO project
- EPO website: [lasp.colorado.edu/sdc](http://lasp.colorado.edu/sdc)
- Professional mentorship model validated
- Student-directed team experienced frustration
- Full NASA oversight and reviews
- Institutional Commitment to the Program: Time, Attention, and Direction

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11. NASA SG Internship Working Group, Updates and Progress (Barrett S. Caldwell (IN), Chair, Chris Fritzen (NV), Pat Hynes (NM), Chris Koehler (CO, ex officio)

- Issues affecting the internship community
  - Variety of application processes: over 15 Official Programs
  - Multiple student application models
  - Student selection and NASA communication
  - Diverging schedules and planning processes
  - Refinement of SGIWG project scope
- NASA initiatives: HQ working group
- Examples of finding:
  - Students need help in identifying and communicating their interests
  - Known deadlines and selection windows help budgeting and planning
  - Space grants to support undergrad and grad interns
  - Space grants contribute, not control, criteria
- Turn it over to Diane DeTroye:
  - 15 programs will come to one site
  - Aware of problems to our customers
  - There will be a common basic application and a group of people who will be broker/facilitator
  - The site will have a list of opportunities for undergrads and grads
  - There are three type of applications, so there will be 3 application windows,
  - There will be a matching process
- Turn it over to James Stofan: working on getting all standardized; the system will triage to the appropriate center; one site to market all the opportunities

12. Microgravity Research Corporation, Space Exploration Technology

- Promote commercial activity in space
- Prize: microgravity trip, donated by SpaceX
- Competition is open to US universities and non profit organizations
- PI must be a full-time employee of the organization
- Deadline: March 13
- Selection criteria: meritorious research, design, and commercial potential
- Platform for space experimentation services

13. NASA Office of Education Performance, Diane DeTroye and Katie Pruzan

- The Measurement System will:
  - Provide a centralized collection point for performance measurement data
  - Provide a means to collect the same data consistently across all like projects
  - Provide a structure where questions/items will be linked to the supporting measure / objective / outcome
  - A way to enforce & validate business rules and the process.



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- Collection of Data from Participants/Project Managers/Grant Administrators via Collection Instruments
- PART and Other Performance Measurement Reporting
- Project Success Story Upload Functionality
- System access and security is different
  - Forms will have similar look & feel
  - We are requesting additional features for Space Grant reporting (e.g. matrix data entry)
  - All forms/surveys must be approved by Office of Education senior management; some will require OMB approval (3-4 month process)
  - Hierarchy of form development
  - PART data collection
  - Program data (HE, K-12, Informal)
  - Project data (Space Grant, EPSCoR)
  - Everything has to be 508 compliant
- For now, collect your data as if you were going to input in CMIS. It's going to be less but we don't know yet.

14. International Year of astronomy: Initiatives and opportunities for SG, James Manning, Astronomical Society of the Pacific, CASGC affiliate

- Advance science literacy through engagement in astronomy
- Dark skies awareness, light pollution
- Galileoscope: inexpensive assembly kit for a 25-power telescope, \$15 a piece
- Galileo teacher training program: workshops for educators using IYA materials; flexible so that they can be incorporated
- Cosmic Clearinghouse: web-based directory linking
- IYA symposium proceedings
- 400 Years of the Telescope, PBS special produced by Interstellar Studios
- ASP annual meeting: building on the momentum of IYA, connecting the science, refining our practice

15. PACER: physics and aerospace catalyst experiences for students

- T.G. Guzik, Louisiana State University
- NSF funded for Minority Serving Institutions (MSI)
- Baton Rouge, LA
- Bring faculty/students to LSU for 9-week intensive workshop.
- Three years of participation
- Grambling State University, Norfolk State University, IAUB
- Looking for another MSI
- March 20: application deadline

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**C. Saturday, March 7, 2009, 8:00 AM – 12:30 PM**

1. Fall 2009 National Council of Space Grant Directors Meeting, Portland, Oregon
  - Oct 22-24, 2009
  - Hilton Portland, \$139-159 per night
  - Website: [www.spacegrant.oregonstate.edu](http://www.spacegrant.oregonstate.edu)
2. Wisconsin offered to host the Fall 2011 National Council of Space Grant Directors Meeting
  - Where in Wisconsin: Radisson Hotel in Green Bay (Near Lake Michigan)
  - Geological sites of interest
  - It would have to be in the month of September, other commitments in October
3. Discussion on national meetings days, venue and agenda:
  - Weekend vs. weekdays: Teaching is adversely impacted if done during weekdays
  - Some people observe the Saturday, other people observe Sunday
  - We can compress the meeting into 2 days, it would reduce the impact on teaching
  - We can run some parts of the meeting on parallel sessions
  - Another issue is the cost of the hotel vs. the security of the zone
  - Possible use of videoconferencing to reduce the length of this meeting
  - Another issue is the size of this hotel (DC); we have grown, are going to do it here again?; however it is reasonably priced and well located.
  - How many are happy with this location?: most (The only criticism is the internet.)
  - Anyway, we will eventually outgrow this meeting place.
  - By including Saturday, we avoid people leaving on Friday afternoon
  - People interested on Thursday-Friday meetings?: some; opposed: some
  - Opinion on meeting on Sun: who does not want?: a balanced vote
  - Do we want to allow a test of parallel sessions in the Fall meeting?: no general interest in parallel sessions (Anyway, there are some parallel sessions.)
  - Mission directorate sessions: a waste of time?, nothing happens in between meetings.
  - Most of us are interested in various mission directorates
  - Aeronautics and Space Ops working groups were very effective.
  - The issue is what to try to get done
  - The guiding questions are good, but the time is too short, maybe they can be distributed with the agenda.
  - Also, give the list of who is here.
  - Science presentations were fantastic; may also look inside the group for speakers.
4. NASA Langley-VGSGC GIS Internship and LARSS, Chris Carter, Debbie Murray, VA
  - GIS technician internship with Langley GIS Team
  - No cost
  - All the way from HS to PhD students
  - 15 weeks

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- The interns also support teacher development program
- LARSS Program:
  - 73 SG students
  - 600+ qualified applicants
  - \$6000 for graduate students
  - Comment: consider joining the universal application system that is under preparation

5. Exploration Systems Mission Directorate (ESMD) Space Grant Collaboration (Diane DeTroye for Gloria Murphy)

- ESMD internships and senior design projects for SG students
- Placed 155 interns in 2008
- Senior design projects: 45 senior design projects from NASA list being coordinated
- JSC 34%, LARC 20%, KSC 11%, ARC 18%
- Systems Engineering paper competition: 5 papers received, evaluated by systems engineers
- Exploration research paper competition: lunar and planetary surface systems, ground operations, propulsion, spacecraft; evaluated by NASA judges
- Senior design courses: Lunar Regolith Excavator and Faculty Training Course for faculty: TBD
- Faculty Fellowship and Senior Design Project: 5 SG faculty will be selected to work at a NASA center to design a course to be implemented in their institution
- Connections must be made to industry; in this competition the emphasis was on industry.
- Questions: What happens to the states that do not have aerospace industry? Is there a place to find out about opportunities in industry?
- Answer: Go to SBIR/STTR website, find out small companies who love to have interns. Also: ESMD has a list of industry contacts

6. Goals and SMART Objectives: Developing Effective Goals and Objectives, Barry Nagle

- Goal/Objectives: They guide planning and design, communicate essential aspects to stakeholders, enable evaluation
- Success is dependent on realistic goals.
- Characteristics of goals: describe the overall purpose, describe broad outcomes.
- Development steps; define needs, gains commitment, select goals that are priority, limit the program to 2-5 goals (select realistic goals)
- Objectives: Specifically state how the goals will be achieved; they have to be measurable, define what you want to obtain/measure.
- Objectives are not tasks: a program objective is something you can fail at.
- Define the intent: why are you having this meeting
- SMART objectives: specific, measurable, appropriate, realistic, time specific
- Should have one outcome per objective
- Use action verbs
- Sample: "By Jan 2010, at least 3% of the engineering majors at the institution will be female."

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- Measurable: use measures as indicators of success, establish a baseline,
- Appropriate: align with the needs of the target audience
- Realistic: you have the resources to make it happen, can be achieved

7. Regional Meeting Survey Results:

- 143 people responded
- Strongly agree/agree that Regional Meetings are valuable component of the network
- Good use: Strongly agree/agree
- Well attended: Strongly agree/agree
- 86% frequency is right
- 87% number of states in region is right
- Tours: often times they are cost-prohibitive, may inhibit ability to network, or may hinder the possibility for others to network

Draft