

FY 2013 Report on NASA Sponsored Large Conferences

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Overview: In accordance with Office of Management and Budget (OMB) Memorandum M-12-12, Section 2 – Conferences, the National Aeronautics and Space Administration (NASA) is providing this report on conferences. This report provides a summary of conference activities by NASA in Fiscal Year (FY) 2013. It includes a brief overview of some of the value roles that conferences play, such as in key dissemination and exchange of cutting edge scientific and technological knowledge.

The Space Act of 1958 requires NASA to “provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof.” Conferences provide an important vehicle for accomplishing this mandate. NASA scientists, engineers, and leaders present scientific and technical papers and participate in interchanges on leading-edge research and technology with peers in the Federal Government, academia, the science community, the aeronautics and aerospace industries, and international partners at conferences. NASA attended and sponsored conferences address a broad and diverse range of scientific and engineering challenges faced in carrying out its missions, including Earth science research, advanced aeronautics, and the cutting-edge technologies needed for both current and planned robotic and human space flight programs.

In addition to facilitating the dissemination and advancement of scientific research, conferences also serve as a cost-effective way for NASA to carry out other mission-related purposes, such as educational outreach and program development, planning, and information gathering. For example, conferences on program management provide opportunities for examination of current trends in aerospace project and engineering management; offering forums for the exchange and dissemination of best practices, new ideas, and training for managers across NASA to help the Agency cost-effectively meet the toughest challenges in space exploration today.

FY 2013 Conferences: Net conference expenses for the 2013 fiscal year, for conferences held by NASA and which cost the Agency more than \$20,000 and all conference events costing the Agency more than \$100,000, totaled just over \$7 million. NASA participated in 23 large conferences in FY 2013 for which it spent more than \$100,000. Detailed information on the events approved under the justification and approval process under OMB M-12-12 follows.

Changes in FY 2013: FY 2013 saw numerous changes in the conference review and approval process. NASA already required NASA sponsored conferences greater than \$20,000 to be centrally reviewed and approved by the Agency Chief Financial Officer (CFO) and those over \$100,000 by NASA’s Deputy Administrator. Midway through the fiscal year, the congressionally mandated sequester was implemented, resulting in NASA establishing additional reviews and senior level approvals for all conferences rather than just those over the thresholds mentioned above.

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
63rd International Astronautical Congress (IAC)	Naples, IT	10/1/2012	10/5/2012	\$242,009.13	50
<p>Web site Link: http://www.iafastro.com/index.php/events/iac/iac-2012</p> <p>Purpose: The 63rd International Astronautical Congress, themed “Space science and technology for the needs of all,” took place in Naples, Italy between October 1, 2012 and October 5, 2012. There were 3,300 attendees in total, 160 technical sessions, 8 plenary events, 3 highlight lectures and 3 late breaking news, appearances by the second man on the Moon Buzz Aldrin and first Chinese woman in space Liu Yang.</p>					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
Supercomputing 2012	Salt Lake City, UT	11/10/2012	11/16/2012	\$266,065.00	65
<p>Web site Link: http://sc12.supercomputing.org/</p> <p>Purpose: Spotighting the most advanced scientific and technical applications in the world, the supercomputing conference brought together the international supercomputing community for an exceptional program of technical papers, tutorials and timely research posters. The Exhibition Hall featured exhibits of the latest technologies from industry, academia, and Government research organizations.</p>					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
NASA Technology Days	Cleveland, OH	11/28/2012	11/30/2012	\$216,425.00	12
<p>Web site Link: http://www.aiaa.org/nasatechdays/</p> <p>Purpose: NASA’s Office of the Chief Technologist Technology Days was an open event that brought together a broad community of stakeholders from industry, academia, and U.S. Federal Government to engage in discussions related to strategy building, development, partnerships and implementation of the renewed focus on innovation and technology through the creation of new products and services, businesses and industry, and high-quality, highly-skilled jobs.</p>					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
American Society of Gravitational and Space Research (ASGSR) 2012 Annual Conference	New Orleans, LA	11/28/2012	12/2/2012	\$239,240.00	90
<p>Web site Link: https://www.asgsr.org/</p> <p>Purpose: ASGSR brought together a diverse group of scientists and engineers to encourage an exchange of ideas bridging basic and applied biological and physical science research and technology in space and gravitational sciences. The members represented academia, Government, and industry interests bonded by a common issue - how living organisms and physical systems respond to gravity.</p>					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
American Geophysical Union Fall Meeting	San Francisco, CA	12/3/2012	12/7/2012	\$833,979.18	303
<p>Web site Link: http://fallmeeting.agu.org/2012/</p> <p>Purpose: More than 22,000 Earth and space scientists, educators, students, and other leaders gathered in San Francisco, California, presented groundbreaking research and connected with colleagues.</p>					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
Joint Army Navy NASA Air Force (JANNAF) 2013 Interagency Propulsion Conference	Monterey, CA	12/3/2012	12/7/2012	\$109,312.69	39
<p>Web site Link: http://www.jannaf.org/</p> <p>Purpose: The JANNAF Interagency Propulsion Committee coordinates fundamental research, exploratory development, and advanced development programs; standardizes procedures for nomenclature; promotes and facilitates the exchange of technical information; and accomplishes problem solving in the areas of joint agency Interest on propulsion systems for missiles, rockets, boosters, spacecraft, satellites, and guns. JANNAF subcommittees focused their resources on technical issues of interest to the JANNAF agencies.</p>					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
221st Meeting of the American Astronomical Society (AAS)	Long Beach, CA	1/6/2013	1/10/2013	\$209,139.74	78
<p>Web site Link: http://aas.org/meetings/aas-221st-meeting-long-beach-ca</p> <p>Purpose: Presentation of scientific papers at AAS was critical to realizing the benefits that NASA scientists accomplish. NASA projects interact and communicate with their user communities through town hall meetings, splinter session, and operating booths during the conference.</p>					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
American Meteorological Society (AMS) Annual Meeting	Austin, TX	1/6/2013	1/10/2013	\$115,927.74	59
<p>Web site Link: http://annual.ametsoc.org/2013/</p> <p>Purpose: The AMS meeting brought together the Earth science researchers, academia, industry and operational communities to focus the application of many science disciplines and applications to advance predictive capabilities for weather and climate.</p>					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
The American Institute of Aeronautics and Astronautics (AIAA) Aerospace Sciences Meeting	Grapevine, TX	1/7/2013	1/10/2013	\$362,762.70	150
<p>Web site Link: https://www.aiaa.org/asm2013/</p> <p>Purpose: The interdisciplinary nature of aerospace engineering has contributed to tremendous research advances that have inspired new and novel industrial applications. Some of the innovative developments of aerospace technologies in recent times include new shock wave assisted applications in the realm of medicine, drug delivery systems, biotechnology, and manufacturing, space solar power systems, energy storage systems, fuels cells, use of supercomputers, development of trans disciplinary computational techniques, and cryogenic applications.</p>					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
Human Research Program (HRP) Investigators Workshop	Galveston, TX	2/12/2013	2/14/2013	\$191,655.00	49
<p>Web site Link: http://www.hrpiws2013.com/</p> <p>Purpose: The HRP Investigators workshop provided an informal, collegial atmosphere for cross-disciplinary action between HRP grantees, management and stakeholders in the field of human spaceflight research. The meeting included presentations and poster sessions, tutorials and panel discussions that addressed research progress, opportunities, processes, resources, and strategies to optimize the human research program.</p>					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
Institute of Electrical and Electronics Engineers (IEEE) Aerospace Conference	Big Sky, MT	3/2/2013	3/9/2013	\$183,653.69	45
<p>Web site Link: http://www.ieee.org/conferences_events/conferences/conferencedetails/index.html?Conf_ID=20459</p> <p>Purpose: The IEEE Aerospace Conference was organized to promote interdisciplinary understanding of aerospace systems, their underlying science and technology, and their applications to Government and commercial endeavors. The annual, weeklong conference set in a stimulating and thought -provoking environment, was designed for aerospace experts, academics, military personnel, and industry leaders.</p>					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
44th Lunar and Planetary Science Conference	Woodlands, TX	3/18/2013	3/22/2013	\$296,687.27	51
<p>Web site Link: http://www.lpi.usra.edu/meetings/lpsc2013/</p> <p>Purpose: This conference brought together international specialists in petrology, geochemistry, geophysics, geology, and astronomy to present the latest results of research in planetary science.</p>					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
American Astronomical Society (AAS) High Energy Astrophysics Division (HEAD) 13th Divisional Meeting, 2013	Monterey, CA	4/7/2013	4/11/2013	\$119,141.85	47
<p>Web site Link: http://aas.org/meetings/head-13th-meeting-monterey-ca</p> <p>Purpose: This major conference was the annual scientific meeting of the HEAD of the AAS. This conference, which typically attracts on the order of 400 or more participants, included presentations and discussions of results from NASA high-energy astrophysics missions, and enables scientists to exchange ideas on the use of NASA produced data and on new scientific investigations.</p>					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
The American Institute of Aeronautics and Astronauts (AIAA) Structures, Structural Dynamics and Materials Conference	Boston, MA	4/8/2013	4/11/2013	\$113,241.65	42
<p>Web site Link: http://arc.aiaa.org/doi/book/10.2514/MSDM13</p> <p>Purpose: This conference was sponsored by five technical societies and was attended by 800 experts on structures and materials research and technologies that cut across aerospace, aeronautics, space technology, science experiments, education, policy, programs, and management.</p>					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
NASA Annual Occupational Health (OH) Meeting	Kennedy Space Center, FL	4/16/2013	4/18/2013	\$114,590.00	54
<p>Web site Link: None</p> <p>Purpose: OH staff from all NASA Centers convened at this annual internal occupational health meeting (held for 30 plus years) to learn of proposed/new regulations impacting OH, best practices, new industry techniques/methods for conducting activities, and to obtain the latest training related to their respective OH discipline (occupational medicine, industrial hygiene, health physics, employee assistance, Federal workers' compensation, health promotion/fitness).</p>					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
2013 American Institute of Aeronautics and Astronauts (AIAA) Fluid Dynamics and Co-Located Conferences and Exhibit	San Diego, CA	6/24/2013	6/27/2013	\$239,908.50	96
<p>Web site Link: https://www.aiaa.org/fluids2013/</p> <p>Purpose: The AIAA Summer Fluids Conferences was held to provide a forum for technical exchange and interaction among scientists, engineers, and professionals from industrial, governmental, and academic technical communities who participate in scientific research and development in the aerospace engineering and fluid dynamics disciplines. Joint sessions provided conference attendees with an opportunity to interact with unique groups of professionals from diverse yet interrelated technical disciplines.</p>					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
43rd International Conference on Environmental Systems (ICES)	Vail, CO	7/14/2013	7/18/2013	\$144,766.34	55
<p>Web site Link: https://www.aiaa.org/ices2013/</p> <p>Purpose: The 43rd ICES covered all topics related to humans living and working in hostile environments with applications inside or outside of terrestrial or outer space habitats or vehicles, including aerospace human factors; environmental control and life-support system technology; environmental monitoring and controls; planetary protection; EVA system technology; life sciences; planetary habitats and systems; and thermal control systems technology for both manned and unmanned vehicles.</p>					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
The American Institute of Aeronautics and Astronauts (AIAA) Aviation 2013	Los Angeles, CA	8/12/2013	8/14/2013	\$143,506.18	51
<p>Web site Link: http://www.aiaa.org/aviation2013/</p> <p>Purpose: AIAA AVIATION 2013 was a premier, forward-looking forum designed to showcase recent innovations and achievements in aviation, highlight new initiatives and plans, and address key issues that need to be resolved in order to define clear roadmaps for future progress. Seven general sessions focused on Commercial Aviation: Global Outlook, Opportunities, and Challenges; Military Aviation: Future Challenges Facing Military Aviation; Business Aviation, General Aviation, and Rotorcraft: Global Outlook, Opportunities, and Challenges; The Connectivity Challenge: Protecting Critical Assets in a Networked World; The Energy Imperative; Developing the Market for Unmanned Aerial Systems; and Shaping the Discussion: Key Policy Issues.</p>					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
The American Institute of Aeronautics and Astronauts (AIAA) Guidance Navigation and Control	Boston, MA	8/19/2013	8/22/2013	\$238,776.57	94
<p>Web site Link: https://www.aiaa.org/boston2013/</p> <p>Purpose: The AIAA Guidance, Navigation, and Control Conference, AIAA Atmospheric Flight Mechanics Conference, AIAA Modeling and Simulation Technologies Conference, and AIAA Infotech@Aerospace Conference combined in Boston to provide the world's premier forum for presentation and discussion of science, research, and technology in these highly related aerospace fields. It brought together experts from industry, government, and academia on an international level to cover a broad spectrum of issues concerning flight mechanics, modeling, simulation, information systems, and the guidance, navigation, and control of aerospace vehicles.</p>					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
International Society for Optics and Photonics (SPIE) Conference	San Diego, CA	8/25/2013	8/29/2013	\$126,219.00	62
Web site Link: http://spie.org/x103812.xml Purpose: The annual SPIE meeting on Optics and Photonics was attended by a wide range of people from academia, industry, Federal labs and other Government agencies. Subjects covered include Optomechanics and optical manufacturing, optical design and systems engineering, photonic devices and applications, x-ray, gamma-ray and particle technologies, signal image and data processing, and astronomical optics and instrumentation.					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
2013 NASA Cost Symposium	Pasadena, CA	8/27/2013	8/29/2013	\$112,974.25	56
Web site Link: http://www.nasa.gov/offices/ooe/Symposium.html Purpose: The Cost Analysis Division sponsored the annual NASA Cost Symposium that brought together the entire estimating and analysis community at NASA. The NASA cost analysis community included all Centers, as well as Headquarters and represents an essential function to the Agency. The NASA Cost Symposium advanced NASA's core mission by providing a professional forum for agency analysts to present and learn results of cost research, and participate in training sessions on methods and tools to support important agency initiatives, such as conducting Joint Confidence Level (JCL) analyses.					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
The American Institute of Aeronautics and Astronauts (AIAA) Space 2013	San Diego, CA	9/10/2013	9/12/2013	\$231,871.50	105
Web site Link: http://www.aiaa.org/space2013/ Purpose: The theme of "Sparkling Ingenuity and Collaboration to Enable Mission Success" was explored through frank and forward-looking discussions designed to review the current achievements in space and highlight new initiatives and plans, while surfacing the key issues and challenges that needed to be addressed in order to define clear roadmaps for future progress. The event provided the leaders from Government, industry, and academia an opportunity to share ideas on how to focus the great talent and resources of the space community on the future.					

Conference	Location	Start Date	End Date	Total Cost	NASA Paid Attendees
64th International Astronautical Congress (IAC)	Beijing, CN	9/23/2013	9/27/2013	\$185,104.00	37
<p>Web site Link: http://www.iac2013.org/dct/page/1</p> <p>Purpose: The IAC was the one place and time of the year when all space actors came together. Global, multidisciplinary and covering all space sectors and topics, it offered everyone the latest space information, developments and contacts and potential partnerships. Each year, the IAC changes country, theme and local organizer, enabling all to learn more about, and be a part of the world space scene.</p>					

American Geophysical Union (AGU) Meeting
December 3 – 7, 2012
San Francisco, CA

OMB Memo 12-12 (www.whitehouse.gov/sites/default/files/omb/memoranda/2012/m-12-12.pdf), states spending in excess of \$500K on a single conference is prohibited unless the agency head determines that exceptional circumstances exist warranting expenditures in excess of this amount. The Science Mission Directorate is requesting approval of a waiver for the American Geophysical Union conference, which is expected to exceed \$800K based on input from the Centers and other Mission Directorates. With the addition of JPL, the expected costs for attending AGU will be almost \$1.4 million. Last year, total expenses including travel by NASA employees to participate in the AGU conference exceeded \$650K (excluding JPL). Additional information on NASA participation at the 2012 AGU conference is included in the background material.

The AGU conference is the largest worldwide meeting in the geophysical sciences. The 2011 meeting attracted 22,167 Earth and space scientists, educators, students, news media, and policy makers from 94 countries. Participation in the annual AGU meeting addresses NASA's mission to "drive advances in science, technology, and exploration to enhance knowledge, education, innovation, economic vitality, and stewardship of Earth" and enables broad and deep interaction with the worldwide community of researchers in Earth and space science. Scientist-to-scientist collaborations that grow into proposals to NASA Research Announcements often originate at AGU. This highly visible, well-attended venue allows NASA scientists, engineers, and educators to demonstrate and communicate advances in each respective field to an international audience of their peers, graduate and undergraduate students, and the media who convey our research results to the general public.

NASA scientists will showcase current groundbreaking research and scientific observations focused on discoveries that: benefit humanity and ensure a sustainable future for our planet; reveal the Sun's influence throughout our solar system including space weather; and display the surprising variety of surface features, interiors, and atmospheres of other planetary bodies in our solar system. This meeting provides the opportunity for NASA to connect with academic, industrial, and international colleagues, broaden their knowledge base, and share the joy of science on a stage that attracts their peers, students, and the general public.

Past Fall AGU Meetings have offered:

- Town Hall Sessions
 - o NASA Earth Sciences
 - o NASA/NSF Physics and Aeronomy
- Poster sessions for early career scientists to share their research findings
- Exploration Station, which offers revolving science exhibits and interactive displays
- Public Lectures:
 - o The stature of the speakers for the Union lectures/sessions (Holdren in 2010; Gore 2010; Lubchenco in 2011; Lubchenco, McNutt, [Freilich] on a Union panel on the Gulf Oil Spill in 2010; Astronaut Feustel on "Nuts, Bolts and Repairs in Earth Orbit" in 2011).
- Workshops and panels on topics including: communicating about climate science, using video in science communication, communicating with Congress, career advice, and resume writing and networking skills
- An International Career Day

In 2011, NASA took advantage of several new technologies offered by AGU to improve the overall conference experience. These included a mobile app, increased Video on Demand for lectures not listed in the program, and an ePoster portal where authors could display electronic versions of their posters on the conference Web site. In 2011, more than 2,200 posters were uploaded!

The 2011 AGU conference generated significant news coverage, with more than 150 journalists in attendance and more than 30 bloggers actively covering the meeting. More than 8,000 tweets were posted in 2011 using the event hashtag - #AGU11.

Along with 250 other exhibitors, SMD has routinely been a major exhibitor at AGU. Exhibit space is reserved one year in advance. A listing of the 2011 NASA Exhibit Activities includes:

- Hands on demonstrations
 - o Operation IceBridge Returns from Antarctica
 - o Earth Observing Satellite Data Visualization-My NASA DATA
 - o Looking Forward—Landsat Data Continuity Mission
 - o Seeing the Whole Sun—STEREO
 - o Free to Travel About the Solar System
- In-Booth presentations/lectures
 - o NASA Post-Doctoral Program
 - o New Data Sets from Aquarius
 - o ISS SpaceCube Experiment 2.0
 - o State of the Oceans
- Conversations with expert scientists

NASA offered 7 press briefings (listed below) and 13 press releases on new science results in 2011. http://www.nasa.gov/topics/earth/agu/agu-features-col-2011_archive_1.html

- New Territory for Voyager at the Solar System's Border, providing new discoveries about the behavior of the solar wind, magnetic field intensity, and energetic particles at the edge of the solar system.
- Ancient Dry Spells Offer Clues About The Future Of Drought
- The March 11, 2011, Japan Tsunami
- Dawn Mission Update: Viewing Vesta
- Getting Ready for Solar Max: Separating Fact from Fiction on Impacts of Space Weather
- Paleoclimate Record Points Toward Potential Rapid Climate Changes
- Opportunity at Endeavour: Latest Findings from the Surface of Mars

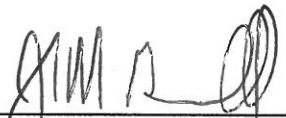
Like previous meetings, the 2012 AGU conference will play a critical role in advancing scientist-to-scientist interaction on recent discoveries and collaboration on future research proposals. It will offer a significant opportunity for continued professional development and interaction between science and technical audiences. For the 2012 AGU conference, Dr. Piers Sellers, Deputy Director, Science and Exploration Directorate at NASA Goddard will be the feature speaker for the Sagan Lecture. An Earth scientist and veteran of three space flights, Dr. Sellers has logged almost 35 days in space and clocked one of the longest cumulative spacewalking times with almost 41 hours over six walks.

This year's public lecture will feature Dr. Michael Meyer, Lead Scientist for the Mars Exploration Program, and Dr. John Grotzinger and Dr. Rebecca Williams, Program Scientist and Participating Scientist for the *Curiosity* rover, respectively. The panelists will engage the public in a discussion of Mars exploration and the latest activities of the *Curiosity* rover. Immediately after the lecture, a full-sized inflatable model of the *Curiosity* rover, along with hands-on

activities for families will be featured at AGU's Exploration Station, which is an admission free public venue to provide conference participants a location to showcase their exhibits and hands-on activities to the general public. AGU's Exploration Station will also highlight exhibits and activities from NASA's Solar Dynamics Observatory, Kepler Mission, Magnetospheric Multiscale Mission (MMS), SOFIA, and others. Additional information on the Exploration Station is included in the background material.


At NASA's Town Hall this year, I will discuss NASA's great journey of exploration of our planet Earth, the Sun, the solar system, and the universe seeking answers to age-old questions about the universe and preparing humans for future exploration beyond low-Earth orbit. I will also be presenting the Pecora Award, which is given for excellence in remote sensing jointly by NASA/USGS to the 2012 recipients.

NASA's participation at AGU contributes greatly to the successful interaction with professional colleagues, recruitment of future hires, and the awareness of NASA's discoveries to the general public. As described above, the value of NASA's participation is significant and endorses this request for your approval to waive the restriction on NASA's attendance at the 2012 AGU conference.



John M. Grunsfeld
Science Mission Directorate
Associate Administrator

Approved:



Charles F. Bolden, Jr.
NASA Administrator