

FY 2014 Report on NASA Large Conferences

January 2015

FY 2014 Report on NASA Sponsored Large Conferences

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) 2014. 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 2014 Conferences: Net conference expenses for the 2014 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 \$9.1 million. NASA participated in 33 large conferences in FY 2014 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.

<u>Changes in FY 2014</u>: FY 2014 saw numerous changes in the conference review and approval process. At the start of the fiscal year, NASA 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, in light of the FY14 and FY15 budget agreement, NASA suspended CFO approval for events costing the Agency less than \$75,000.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|----------------------|------------|------------|------------|------------|------------------------|
| American | | | | | |
| Astronomical Society | | | | | |
| (AAS) Division for | 1 | | | | |
| Planetary Sciences | 5 | | | | |
| (DPS) | Denver, CO | 10/06/2013 | 10/11/2013 | \$109,726 | 49 |

Web site Link: http://dps.aas.org

Purpose: DPS is the world's largest professional organization dedicated to solar system exploration and is the highlight conference for presenting solar system research. This research includes missions such as Messenger, Curiosity, Cassini, Kepler and research and analysis for general planetary missions.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|--|-------------|------------|-----------|------------|------------------------|
| American Society for Gravitational and Space Research (ASGSR) | Orlando, FL | 11/3/2013 | 11/8/2013 | \$215,953 | 107 |

Web site Link: https://asgsr.org

Purpose: The ASGSR's goal is to explore the response of biology and physical systems to novel environments, and to understand biological and physical phenomena associated with changes in gravitational signals - especially those associated with spaceflight and analogues for extra-terrestrial environments.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|---------------------|------------|------------|------------|------------|------------------------|
| Supercomputing 2013 | Denver, CO | 11/17/2013 | 11/22/2013 | \$217,031 | 42 |

Web site Link: http://sc13.supercomputing.org/

Purpose: The Supercomputing (SC13) conference serves as the crossroads for the entire High-Performance Computing community, including users; program managers; colleagues; vendors; government; private industry and academia. SC13 provides unparalleled cooperation, unequaled collaboration, and unmatched exposure. Spotlighting the most advanced scientific and technical applications in the world, SC13 brings together the international supercomputing community for an exceptional program of technical papers, tutorials and timely research posters. The SC13 Exhibition Hall featured exhibits of the latest and greatest technologies from industry, academia and government research organizations.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|----------------------|---------------|---------------|------------|--------------|------------------------|
| American Geophysical | San | | | | |
| Union (AGU) | Francisco, CA | 12/9/2013 | 12/13/2013 | \$ 1,735,459 | 645 |

Web site Link: http://fallmeeting.agu.org/2013

Purpose: The AGU conference is the largest worldwide meeting in the geophysical sciences. It is the premier event for scientists and engineers from Earth Science, Heliophysics and Planetary Science. AGU is the best opportunity for NASA scientists and engineers to interact with their respective communities, and the interactions often grow into proposals for NASA research announcements.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|----------------------------|------------|---------------|----------|------------|------------------------|
| 223 rd American | | | | | |
| Astronomical Society | National | | | | |
| (AAS) | Harbor, MD | 1/5/2014 | 1/9/2014 | \$255,440 | 130 |

Web site Link: http://aas.org/meetings/223rd-aas-meeting-washington-dc

Purpose: The primary objective of the AAS is to promote the advancement of astronomy and closely related branches of science, while at the same time enhancing astronomy education and providing a political voice for its members through lobbying and grassroots activities.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|-----------------------|------------|---------------|-----------|------------|------------------------|
| American Institute of | | | | | |
| Aeronautics (AIAA) | | | | | |
| Science and | | | | | 13 |
| Technology Forum and | National | - | | | |
| Exposition (SciTech) | Harbor, MD | 1/13/2014 | 1/17/2014 | \$ 523,888 | 247 |

Web site Link: http://www.aiaa.org/scitech2014/

Purpose: SciTech 2014 brings together engineers and educators, researchers and designers, scientists and students, managers and executives in sharing lessons learned across many organizations and disciplines, advancing technological innovation, education, economic progress, and national security. The event explores how new technologies and new approaches can influence system affordability and environmental impact to enable the aerospace missions of tomorrow.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|---------------------------|------------------|------------|----------|------------|------------------------|
| ·2014 American | | | | | |
| Meteorological Society | Atlanta, GA | 2/2/2014 | 2/6/2014 | \$189,571 | 93 |
| Web site Link: http://anr | nual.ametsoc.org | g/2014/ | | | - |

Purpose: The 2014 annual American Meteorological Society meeting is critical to NASA's drive to advance science, technology, and exploration to enhance knowledge, education, innovation, economic vitality, and stewardship of Earth. This meeting enables information sharing on recent scientific discoveries and advances the professional applications of various science disciplines.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|----------------|------------|---------------|-----------|------------|------------------------|
| Human Research | | | | | |
| Program (HRP) | | | | | |
| Investigators | Galveston, | | | | |
| Workshop | TX | 2/10/2014 | 2/14/2014 | \$170,317 | 46 |

Web site Link: http://www.hrpiws2013.com/

Purpose: This workshop provides an informal, collegial atmosphere for cross-disciplinary interaction between HRP grantees, management, and stakeholders in the field of human space flight research. The meeting includes oral and poster presentations, tutorials and panel discussions to address research progress, opportunities, processes, resources, and strategies to optimize HRP research.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|-------------------------|-------------|---------------|----------|------------|------------------------|
| Institute of Electrical | | | | | |
| and Electronics | | | | | |
| Engineers (IEEE) | | | | | |
| Aerospace Conference | Big Sky, MT | 3/1/2014 | 3/8/2014 | \$278,801 | 77 |

Web site Link: http://www.aeroconf.org/

Purpose: The IEEE Aerospace Conference promotes interdisciplinary understanding of aerospace systems, their underlying science and technology, and their application to government and commercial endeavors by providing a working environment that encourages collaboration and interaction.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|-------------------|---------------|---------------|-----------|------------|------------------------|
| South X Southwest | | | | | |
| 2014 | Austin, Texas | 3/9/2014 | 3/12/2014 | \$124,784 | 24 |

Web site Link: www.sxsw.com

Purpose: The South X Southwest 2014 conference is an annual set of film, interactive, and music festivals and conferences that take place every spring in Austin, TX. This conference assists in providing NASA the opportunity to meet its strategic goal to "share NASA with the public, educators, and students to provide opportunities to participate in our Mission, foster innovation and contribute to a strong national economy." Additionally, participation in this event will allowed the Office of

Communications to meet its goals to 1.) Participate in events that attract large numbers of the general public; and 2.) Target venues and events to reach beyond space enthusiasts and the science-attentive public.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|----------------------------|------------|------------|-----------|------------|------------------------|
| 45 th Lunar and | | | | | |
| Planetary Science | Woodlands, | | | | |
| Conference | TX | 3/17/2014 | 3/21/2014 | \$327,882 | 103 |

Web site Link: http://www.hou.usra.edu/meetings/lpsc2014/

Purpose: The Lunar and Planetary Science Conference (LPSC) is the primary conference where researchers from around the world present results from a variety of topic areas of specific interest to NASA's Planetary Science Division with special sessions chosen each year to highlight timely issues such as results from new planetary missions or emerging new fields of study. This conference began as the forum for presenting results from the Apollo program and continues as the major forum for first results from most of NASA's planetary missions. Previous total attendance from all communities has been over 2,000.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|--------------|---------------|---------------|-----------|------------|------------------------|
| MaterialsLAB | | | | | |
| Workshop | Arlington, VA | 4/15/2014 | 4/17/2014 | \$ 112,584 | 128 |

Web site Link: http://www.cvent.com/events/nasa-materials-lab-workshop/event-summary-f0ee4d29123a453b94c511ab660b81fa.aspx

Purpose: The MaterialsLAB workshop focuses on the successful implementation of Open Source Science Campaigns designed to enable multiple researcher's simultaneous, open-source, access to synergistically build upon International Space System (ISS) data. The MaterialsLAB is the first implementation of the innovative, open-source science campaign concept. This workshop supports NASA's strategic goal of extending and sustaining human activities across the solar system by sustaining the operation and full use of the ISS. MaterialsLAB will provide the scientific and engineering guidance for developing and implementing the MaterialsLAB series of experiments covering ten topical areas in materials science.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|-----------------------------|-------------|---------------|-----------|------------|------------------------|
| USA Science and | Washington, | | | | |
| Engineering Festival | DC | 4/24/2014 | 4/24/2014 | \$281,353 | 92 |

Web site Link: www.usasciencefestival.org

Purpose: This event stimulates family interest in Science, Technology, Engineering, and Mathematics (STEM) education in keeping with the President's initiative to graduate a million students in STEM fields at the end of the decade. This event is one of the eight major events designed by the Communications Coordinating Committee (CCC) for NASA participation in FY14. One of the objectives of this event was to present the really "cool" things that NASA does that will inspire students to STEM subject matter.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|----------------------|----------|---------------|-----------|------------|------------------------|
| European Geosciences | | | | | |
| Union General | Vienna | | | | |
| Assembly | Austria | 4/27/2014 | 5/02/2014 | \$203,408 | 46 |

Web site Link: http://www.egu2014.eu/

Purpose: The EGU meeting brings together NASA employees and contractors working on various Earth science missions and projects, such as the Earth Observing System (EOS) Mission, the Global Precipitation Mission (GPM), the Suomi-NPP (National Polar-orbiting Partnership), ICESAT-2, and SMAP among others, to interact with international colleagues from various space agencies, such as European Space Agency (ESA) and Japan Aerospace Exploration Agency (JAXA).

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|-----------------------|-----------|---------------|----------|------------|------------------------|
| Space Mission | | | | | |
| Operations and Ground | | | | | |
| Data Systems | Pasadena, | | | | |
| (SpaceOps) | CA | 5/5/2014 | 5/9/2014 | \$339,858 | 213 |

Web site Link: https://www.aiaa.org/spaceops2014/

Purpose: The SpaceOps conference is designed to exchange information about mission operations disciplines in order to leverage the world space operations community's resources and increase the chances of mission success. Since its inception, all of NASA's core missions have benefited from the lessons learned, technical information and best practices communicated and relationships incubated within the SpaceOps community.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|----------------------------|------------|------------|-----------|------------|------------------------|
| 42 nd Aerospace | Baltimore, | 5/14/2014 | 5/16/2014 | \$111,788 | 79 |
| Mechanisms | MD | | - No. | | |
| Symposium (AMS) | | | | | |

Web site Link: http://www.aeromechanisms.com/

Purpose: The 42nd AMS is concerned with the problems of design, fabrication, test, and operational use of aerospace mechanisms. Emphasis is on hardware developments. The symposium provides

both a technical and social forum for personnel active in the field of mechanisms technology, as well as providing a source of information for others with an interest in this field. Topical sessions for this symposium encompasses appendage deployment systems, bearings and tribology, MARS exploration tools, separations systems, testing, motors and gears, pumps and valves and small satellite mechanisms.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|----------------------|-------------|---------------|-----------|------------|------------------------|
| Joint Army Navy NASA | Charleston, | | | | |
| Air Force (JANNAF) | SC | 5/19/2014 | 5/22/2014 | \$ 104,631 | 39 |

Web site Link: https://www2/.cpiac.jhu.edu/meetings/May

Purpose: JANNAF is the overall coordinator for the 61st JANNAF Propulsion Meeting, 42nd Structures and Mechanical Behavior, 38th Propellant and Explosives Development and Characterization, 29th Rocket Nozzle Technology and the 27th Safety and Environmental Protection Joint Subcommittee which will all take place during this time.

The JANNAF Interagency Propulsion Committee coordinates fundamental research, exploratory development, and advanced development programs and accomplishes problem solving in the areas of joint agency interest on propulsion systems for missiles, rockets, boosters, spacecraft, satellites, and guns.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|--|------------|---------------|----------|------------|------------------------|
| 224 th American Astronomical Society | | | | | |
| (AAS) | Boston, MA | 6/1/2014 | 6/5/2014 | \$409,925 | 156 |

Web site Link: https://aas.org/meeting/aas

Purpose: The primary object of the AAS is to promote the advancement of astronomy and closely related branches of science, while at the same time enhancing astronomy education and providing a political voice for its members through lobbying and grassroots activities. The AAS has over 7,000 members and maintains six scientific divisions: The Division for Planetary Sciences, the Division on Dynamical Astronomy, the High Energy Astrophysics Division, the Solar Physics Division (with which the meeting is jointly held), the Historical Astronomy Division, and the Laboratory Astrophysics Division.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|--------------------------------|-------------|---------------|-----------|------------|------------------------|
| 3 rd Annual ISS R&D | | | | | |
| Conference | Chicago, IL | 6/17/2014 | 6/19/2014 | \$176,588 | 96 |

Web site Link: http://astronautical.org

Purpose: The 3rd Annual ISS R&D conference is the premier 2014 event on ISS science and technology development. It is dedicated to the full breadth of ISS science and technology utilization. The conference features a large contingent of government and industry panel sessions and cover all of the ISS R&D disciplines. Potential non-NASA users of the ISS, investigators and new sources of research funding, including industrialist academics and other government agency researchers will have an opportunity to learn about current research being conducted on ISS.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|-----------------------|-------------|---------------|-----------|------------|------------------------|
| American Institute of | | | | | |
| Aeronautics (AIAA) | | | | | |
| Aviation 2014 | Atlanta, GA | 6/16/2014 | 6/20/2014 | \$614,976 | 255 |

Web site Link: http://www.aiaa-aviation.org

Purpose: Aviation 2014 builds on the foundation of Aviation 2013 to stimulate thought provoking conversations among government and industry leaders and the engineering and technical professionals who develop and operate aviation systems to address pressing opportunities and challenges for the aviation industry.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|---|--------------|---------------|-----------|------------|------------------------|
| 11 th International Planetary Probe | | 18.7 | | | |
| Workshop (IPPW) | Pasadena, CA | 6/16/2014 | 6/20/2014 | \$114,216 | 71 |

Web site Link: http://www.hou.ursa.edu/meetings/ippw20

Purpose: IPPW is the primary meeting where new technology and findings in the field of Entry, Descent, and Landing (EDL) are shared. It is essential to preserving the Nation's core competency in the field of EDL. This is the only conference that brings together planetary scientists and mission designers to discuss issues that are specific to entry probes. This workshop brings together an international group of engineers and scientists to collaborate and share ideas on the future of planetary exploration.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|-------------------------|-----------|---------------|-----------|------------|------------------------|
| Society of Photographic | | | | | |
| Instrumentation | | i i | | | |
| Engineers (SPIE) | | | | | |
| Astronomical | | | | | |
| Telescopes | Montreal, | | | | |
| Instrumentation 2014 | Canada | 6/22/2014 | 6/24/2014 | \$166,646 | 49 |

Web site Link: http://spie.org/x13662.xml

Purpose: The SPIE meeting on Astronomical Telescopes and Instrumentation is about exchanging information on new technologies to further science and innovation -- to allow NASA to explore the

universe. The SPIE conference also fosters NASA's "Overarching Strategies" to "invest in next generation technologies" and to "Expand partnerships with international, intergovernmental, academic, industrial, and entrepreneurial communities. The SPIE conference will be attended by scientists and engineers from academia, industry, federal labs (NASA, NSF, NIST), FFRDCs, and Other Government agencies.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|----------------------------------|------------|---------------|-----------|------------|------------------------|
| AMS 14 th Atmospheric | | | | | |
| Radiation Conference | | | = | | |
| and Associated | | | | | |
| Conference | Boston, MA | 7/7/2014 | 7/11/2014 | \$149,947 | 57 |

Web site Link: http://www.ametsoc.org/meet/fainst/201414atrad.html

Purpose: The 14th Conference on Atmospheric Radiation includes all areas of the atmospheric radiation spanning radiative transfer theory. This joint conference provides a focus on scientific topics that are key to studying the Earth's changing climate system. More specifically, this conference provides a forum for presenting research as well as guiding the direction of future research priorities which aligns with NASA's goal of understanding the climate system.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|------------------------------|-------------|---------------|-----------|------------|------------------------|
| 2014 Institute of | | | | No. | |
| Electrical and | | | | | |
| Electronics Engineers | | | | | |
| (IEEE) International | F | | | | |
| Geoscience and | | | | | |
| Remote Sensing | Quebec City | | | | |
| Symposium | Canada | 7/13/2014 | 7/18/2014 | \$294,041 | 48 |

Web site Link: http://www.igarss2014.org

Purpose: This IEEE International Geoscience and Remote Sensing Symposium directly aligns with the Earth Science Division's flight programs and the use of Earth observation data for societal benefit and environmental monitoring. The conference is attended by senior science, engineering and program management personnel from the major space agencies participating in Earth science satellite remote sensing. This event brings together the flight program management from the major international earth observing space agencies, enabling focused and substantive discussions on future collaboration approaches and joint missions.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|--------------------------------|------------|---------------|-----------|------------|------------------------|
| 44 th International | | | | | |
| Conference on | Tucson, AZ | 7/13/2014 | 7/17/2014 | \$127,804 | 59 |

| Environmental Systems | | |
|-----------------------|--|--|
| (ICES) | | |

Web site Link: http://www.depts.ttu.edu/ceweb/ices/

Purpose: ICES addresses the disciplines of Environmental Control and Life Support, Thermal Control, and ExtraVehicular Activity (ETE) which have all been identified as critical fields to address in developing future spacecraft and conducting exploration missions. The ICES provides a forum to tell colleagues from around the world about the progress being made in space and to hear about progress being made in other parts of the space ETE community.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|--------------------|------------|---------------|-----------|------------|------------------------|
| 50th | | | | | |
| AIAA/ASME/SAE/ASEE | Cleveland, | | | | |
| JPC IECEC | ОН | 7/28/2014 | 7/30/2014 | \$445,344 | 299 |

Web site Link: http://www.aiaa.org/EventDetail.aspx?id=18584

Purpose: The Joint Propulsion Conference (JPC) and the International Energy Conversion Engineering Conference (IECEC) holds special panel sessions that will focus on advanced system applications that can be used to showcase propulsion systems and components, and the technologies that enable them.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|---------------------------|----------|---------------|-----------|------------|------------------------|
| Aisa Ocenia Geosciences | | | | | |
| Societ (AOGS) 11th Annual | Sapporo, | | | | |
| Meeting | Japan | 7/28/2014 | 8/01/2014 | \$215,363 | 43 |

Web site Link: http://www.asiaoceania.org/aogs2014/public.asp?page=home.htm

Purpose: The AGOS meeting is one of the most important Asian meetings in heliophysics research. AOGS is focused on the geosciences with an emphasis on global issues. It enables researchers to interact with a population of researchers that are not otherwise readily available for scientific discussions. This conference is a forum used to expose and disseminate the latest results from NASA missions and provide access to state-of-the-art simulations and correlative data sets from foreign space missions.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|-------------------------------------|-----------|------------|----------|-------------------|------------------------|
| 24 th American Institute | | | | | |
| of Aeronautics | | | | | |
| (AIAA)/Utah State | | | | | |
| University (USU) | | | | | |
| Conference on Small | | | | | |
| Satellites | Logan, UT | 8/2/2014 | 8/7/2014 | \$238,065 | 100 |

Web site Link: Http://www.smallsat.org

Purpose: The 24th Annual AIAA/USU Conference on Small Satellites' creates innovative new space technologies for our exploration, science, and economic future. Attendees participate in formal and informal knowledge and information sharing, and provide opportunities for NASA to interact with key Small Satellite developers and hardware providers, and other Small Satellites missions, to discuss fundamental technologies, and resolve issues essential to advancing NASA's current and future Small Satellite missions.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|-----------------------|------------|---------------|----------|------------|------------------------|
| American Institute of | | | | | |
| Aeronautics (AIAA) | San Diego, | | | 1) | |
| Space 2014 | CA | 8/4/2014 | 8/7/2014 | \$341,528 | 44 |

Web site link: http://www.aiaa-space.org/

Purpose: Since 2000, NASA, USAF and Industry jointly have organized the premier AIAA space conference and exposition event on the West Coast, providing an annual forum for exchange of information and discussions critical for the future exploration of Space. On an average, over 1,200 attendees from more than 100 organizations in the space industry have attended this event in an exchange of information.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|-------------------------|------------|---------------|----------|------------|------------------------|
| Thermal Fluids Analysis | Cleveland, | | | | |
| Workshop | ОН | 8/4/2014 | 8/8/2014 | \$133,216 | 46 |

Web site Link: http://tfaws.nasa.gov/TFAWS13/Index.html

Purpose: This conference advances the Agency's core mission through the exchange of knowledge and information, and by enhancing collaboration between NASA Centers and the passive thermal, active thermal, fluids and aerothermal disciplines. The Agency's core mission is directly supported through the offering of various courses on fundamental theory and hands-on training for the key analytical tools utilized by the agency for these disciplines. This sharing of expertise between Centers and with other Agencies, industry, and academia invigorates the communication, teamwork, and excellence are integral to NASA's core values.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|-------------------------|------------|---------------|-----------|------------|------------------------|
| Society of Photographic | | | | | |
| Instrumentation | | | | | |
| Engineers (SPIE) Optics | | | | | |
| & Photonics | San Diego, | | | | |
| Conference | CA | 8/17/2014 | 8/21/2014 | \$124,791 | 49 |

Web site Link: http://spie.org

Purpose: The SPIE Optics and Photonics Conference is held once every two years, and is the key showplace conference for NASA to represent and present current technologies, current mission data, and interact with the international community in fields of Optics, Detectors, Systems Engineering, Contamination Engineering, Materials, Nanotechnology, and many other critical technical fields. NASA's involvement in this conference enables interaction with peers in the community, and increase our knowledge in these technical areas, which aid in improving NASA's technical abilities to meet Agency goals.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|----------------|-------------|---------------|-----------|------------|------------------------|
| 2014 EUMETSAT | | | | | |
| Meteorological | Geneva | | | | |
| Satellite | Switzerland | 9/22/2014 | 9/26/2014 | \$110,242 | 17 |

Web site Link:

http://www.eumetsat.int/website/home/News/ConferencesandEvents/DAT 2076129.html

Purpose: Traditionally EUMETSAT aimed to give special emphasis to one of the many topical themes challenging meteorologists the world over. In 2014, the focus of the conference will be the use of satellite data for forecasting and in studying atmospheric processes. The ISS-RapidScat mission is one of three NASA Earth observation missions launched in 2014. This conference offers the chance to present the mission to the international community containing the main users for the operational community in Europe, as well as providing a chance to talk to the RapidScat.

| Conference | Location | Start Date | End Date | Total Cost | NASA Paid Attendees |
|--------------------------------|----------|---------------|-----------|------------|--|
| 65 th International | | | | | and the field of the property of the control of the |
| Astronautical Congress | Toronto, | | | | |
| (IAC) | Canada | 9/29/2014 | 10/3/2014 | \$229;271 | 50 |

Web site Link: http://www.iac2014.org/

Purpose: The IAC is the preeminent annual global space conference organized by the International Astronautical Federation (IAF), which has 246 members from 60 countries. IAC acts as both as a forum for public space diplomacy and high level consultations, involving NASA's most senior leaders and space agency leaders from around the world, as a substantive academic conference covering the full breadth and depth of NASA's activities across all mission directorates and scientific disciplines.



Purpose

Aeronautics Research Mission Directorate (ARMD) is requesting a waiver for 338 participants to attend the **AIAA Aviation 2014** conference which is proposed to be held on June 16 - 20, 2014 in Atlanta, GA. This conference is estimated to exceed \$500,000 in net NASA expenses. The cumulative Agency participation is projected as 338 employees, at an estimated cost of approximately \$953,889.

The following strategic goals will be addressed through NASA's attendance at the AIAA Aviation:

- 1. Expand the frontiers of knowledge, capability, and opportunity in space.
- 2. Advance understanding of Earth and develop technologies to improve the quality of life on our home planet.
- 3. Serve the American public and accomplish our Mission by effectively managing our people, technical capabilities, and infrastructure.

Conference Background

The AIAA Aviation 2014 conference will build on the foundation of Aviation 2013 to stimulate thought provoking conversations among government and industry leaders and the engineering and technical professionals who develop and operate aviation systems to address pressing opportunities and challenges for the aviation industry. In addition to stand alone Aviation 2014 sessions, this forum has been expanded to include 18 co-located technical conferences across a wide range of disciplines, incorporating for the first time several recurring AIAA fluids-related conferences and an international conference which rotates annually between the United States and Europe. Aviation 2014 represents a further step in the consolidation of AIAA conferences to reduce overall costs to organizers and participants who have interest in related/complementary fields of study.

Conference Explanation

AIAA Aviation 2014 serves as a mission critical event for aeronautics research. NASA's involvement in Aviation 2014 supports all three of the Agency's strategic goals, and ARMD's strategic goal to "Advance aeronautics research for societal benefits." Planned sessions directly related to research and operations being accomplished within NASA's programs, and NASA's participation in these sessions aids in the communication and dissemination of technical information to both industry and the general public.

| Decision and Sign Approve: | lature: | ماكي | X |) |
|----------------------------|-----------|------|---|---|
| Disapprove: | | | | |
| Date of Approval | 5/23/2014 | | | |



Request for Conference Exceeding \$500K

<u>Purpose</u>

Glenn Research Center (GRC) is requesting a waiver to hold the **50th AIAA/ASME/SAE/ASEE Joint Propulsion Conference (JPC) and 12th International Energy Conversion Engineering Conference (IECEC)** which is proposed to be held on July 28 – 30, 2014 in Cleveland, Ohio. The cumulative Agency participation is projected as 357 employees at an estimated cost of approximately \$623,794.

The following strategic goals will be addressed through NASA's attendance at the 50th AIAA/ASME:

- 1. Expand the frontiers of knowledge, capability, and opportunity in space.
- 3. Serve the American public and accomplish our Mission by effectively managing our people, technical capabilities, and infrastructure.

Conference Background

Both the Joint Propulsion Conference (JPC) and the International Energy Conversion Engineering Conference (IECEC) will hold special panel sessions that will focus on advanced system applications that can be used to showcase propulsion systems and components, and the technologies that enable them. These conferences directly address the mission of the Agency to "drive advances in science, technology, and exploration to enhance knowledge, education, innovation, economic vitality, and stewardship of the Earth." The focus is on aerospace propulsion and energy conversion technology, advanced energy and power systems, devices for terrestrial energy systems and aerospace application. The aforementioned focus directly addresses strategic goal 1, "Expand the frontiers of knowledge, capability, and opportunity in space" and strategic goal 3 to "Serve the American public and accomplish our Mission by effectively managing our people, technical capabilities, and infrastructure."

Conference Explanation

Date of Approval: <u>3/12/2014</u>

The forum will provide representatives from eight NASA Centers and NASA Headquarters the opportunity to discuss propulsion and energy conversion technologies and applications with leaders in industry, government and academia. This conference covers many areas that are vitally important to strengthen core capabilities that cut across missions and offers discipline integration expertise which can bring innovative and affordable solutions to address NASA mission challenges.

The co-located JPC and IECEC conferences will include presentations of more than 1,500 papers in over 30 technical tracks; 229 of the NASA employees projected to attend will be presenting papers, with many others serving as session chairs, organizers, technical committee and panel members. Included in the program will be two special, 3 hour sessions highlighting the accomplishments of the GRC over the past 70 years.

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<u>Purpose</u>

Science Mission Directorate (SMD) is requesting a waiver for 752 participants to attend the **Fall American Geophysical Union (AGU)** conference which is proposed to be held on December 9 -13, 2013 in San Francisco, CA. The cumulative Agency participation is projected as 752 employees at an estimated cost of approximately \$2,233,500.

The following strategic goals will be addressed through NASA's attendance at the Fall American Geophysical Union conference:

- 1. Expand the frontiers of knowledge, capability, and opportunity in space.
- 2. Advance understanding of Earth and develop technologies to improve the quality of life on our home planet.

Conference Background

The AGU conference is the premier event for scientists and engineers from Earth Science, Heliophysics and Planetary Science. AGU is the best opportunity for NASA scientists and engineers to interact with their respective communities, and the interactions often grow into proposals for NASA research announcements.

Conference Explanation

AGU serves as a mission critical event for inspiring future scientists and engineers. AGU is attended by several hundred teachers and students. AGU provides the perfect opportunity for NASA to inspire prospective future employees, or as a minimum, excite students to purse a STEM career. NASA is one of the Nation's, if not the Worlds, greatest champion in implementing highly successful STEM activities. AGU provides us the ideal forum to reach and inspire future scientists and engineers for NASA and more importantly – our Nation. AGU is one of those mission-critical events that NASA should make every effort to attend to preserve and grow the knowledge and capabilities of our scientists and engineers.

| Decision and Signature: Approve: Disapprove: | |
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| Date of Approval: <u>10/29/2013</u> | |



Purpose ·

Jet Propulsion Laboratory (JPL) is requesting a waiver for 218 participants to attend the **AIAA Space 2014** conference which is proposed to be held on August 4-7, 2014 in San Diego, CA. The cumulative Agency participation is projected as 188 employees at an estimated cost of approximately \$543,105.

Conference Background

Since 2000, NASA, USAF and Industry jointly have organized this premier AIAA Space conference and exposition event on the West Coast and providing an annual forum for exchange of information and discussions critical for the future exploration of Space. On an average, over 1,200 attendees from more than 100 organizations in the space industry have attended this event. Even though planning leadership has been with the JPL and the Goddard Space Flight Center, there has been active participation from NASA HQ, JSC, Ames, LaRC, Stennis, and KSC. International space bearing nations have a strong presence at this event. This has provided opportunities for NASA to foster internationally funded space research efforts.

The following strategic goals will be addressed through NASA's attendance at the AIAA Space 2014:

- 1. Expand the frontiers of knowledge, capability, and opportunity in space.
- 2. Advance understanding of Earth and develop technologies to improve the quality of life on our home planet.

Conference Explanation

The scope of the AIAA SPACE 2014 conference draws innovative ideas and a broad cross section of participants from across NASA. The conference also features three specific disciplines:

- AIAA/AAS Astrodynamics Specialist Conference
- AIAA Complex Aerospace Systems Exchange
- 32nd AIAA International Communications Satellite Systems Conference

The conference features a broad contingent of NASA participants. Travel and accommodation expenditures are justified based on historic levels of participation of NASA leaders, Astrodynamics specialists and other agency experts at similar conferences.

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Date of Approval: 7/22/2014



<u>Purpose</u>

Langley Research Center (LaRC) is requesting a waiver for 203 participants to attend the AIAA Science and Technology Forum and Exposition (SciTech) conference which is proposed to be held on January 13 - 17, 2014 in National Harbor, MD. The cumulative Agency participation is projected as 272 employees at an estimated cost of approximately \$693,000.

The following strategic goals will be addressed through NASA's attendance at the AIAA SciTech 2014:

- 1. Expand the frontiers of knowledge, capability, and opportunity in space
- 2. Advance understanding of Earth and develop technologies to improve the quality of life on our home planet.

Conference Background

SciTech 2014 brings together engineers and educators, researchers and designers, scientists and students, managers and executives in sharing lessons learned across many organizations and disciplines, advancing technological innovation, education, economic progress, and national security. The event will explore how new technologies and new approaches can influence system affordability and environmental impact to enable the aerospace missions of tomorrow.

Conference Explanation

This is the largest event for aerospace research, development, and technology organized by the American Institute of Aeronautics and Astronautics, and is a consolidation of 11 previously separate technical events. This event will provide extensive access to a wide range of the latest in research and development within specific areas of expertise and across technological boundaries. The value to NASA from this event is high; this conference covers many areas that are vital to strengthen core capabilities that cut across missions and offers discipline integration expertise.

In addition to the conferences with a high number of NASA participants in the table above, AIAA is co-locating the following additional conferences at SciTech 2014:

- AIAA Atmospheric Flight Mechanics Conference
- AIAA Spacecraft Structures Conference (formerly the AIAA Gossamer Systems Forum)
- AIAA Modeling and Simulation Technologies Conference
- 10th AIAA Multidisciplinary Design Optimization Specialist Conference
- 16th AIAA Non-Deterministic Approaches Conference
- 7th Symposium on Space Resource Utilization
- 32nd ASME Wind Energy Symposium

| Decision and Signature: Approve: | |
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| Disapprove: | |

Date of Approval: 12/3/2013