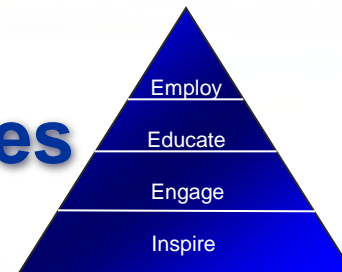




NASA Student Opportunities





ARC

DFRC

JPL

JSC

SSC

GRC

MSFC

KSC

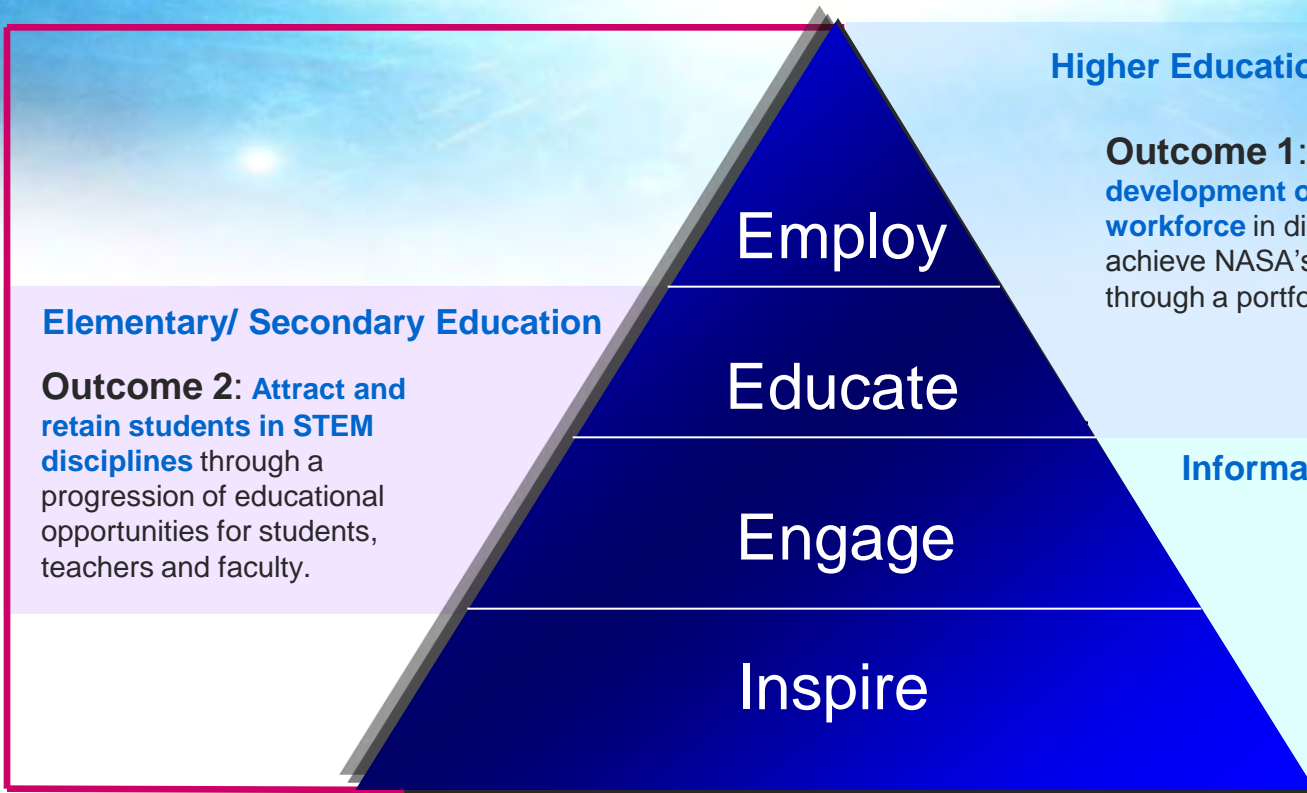
GSFC

HQ

LaRC

The Education Portfolio Strategic Framework

Cultivate Diversity of Workforce Disciplines and Practitioners



Elementary/ Secondary Education

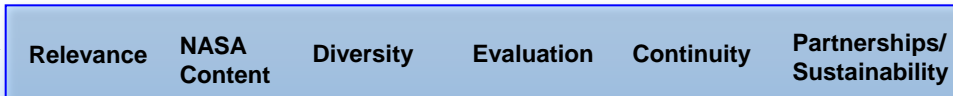
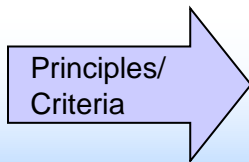
Outcome 2: **Attract and retain students in STEM disciplines** through a progression of educational opportunities for students, teachers and faculty.

Higher Education

Outcome 1: **Contribute to the development of the STEM workforce** in disciplines needed to achieve NASA's strategic goals, through a portfolio of investments.

Informal Education

Outcome 3: **Build strategic partnerships and linkages between STEM formal and informal education providers** that promote STEM literacy and awareness of NASA's mission.



* Science, Technology, Engineering and Mathematics (STEM)



The Big Picture

65% of the NASA workforce is eligible for retirement



The nation needs
more students
in the
mathematics and
science pipeline
NOW!



CAREERS AT NASA:

<http://www.nasa.gov/audience/forstudents/careers-index.html>

Interdisciplinary National Science Project Incorporating Research and Education (INSPIRE)

Project Overview

- INSPIRE, is a multi-tiered student pipeline project for students in grades 9 through freshman year of college
- INSPIRE is designed to provide grade appropriate NASA-related resources and experiences to encourage and reinforce student's aspirations to pursue science, technology, engineering and mathematics (STEM) education and careers.
- Central to INSPIRE is the On-line Community (OLC). It provides resources, activities and educational modules, as well as the mechanism for the students and parents to interact by asking questions and sharing knowledge with each other and NASA, building a community of practice. [Open from March 3 through June 30, 2011.](#)
- The student activities will include grade-appropriate NASA content, adding relevancy to courses being taught in school. Through the OLC, students will be able to participate in four video teleconferences with a NASA facility during the year.

Interdisciplinary National Science Project Incorporating Research and Education (INSPIRE)

Project Overview Continued

INSPIRE participants may apply for unique summer experiences:

- **Tier 1 Experience (NASA Explorers):** Rising 10th-grade students and their legal guardian compete to be awarded a summer visit to the NASA facility that services their state for a one-day VIP Tour and Workshops
- **Tier 2A (Collegiate Experience):** Rising 11th-grade students compete to participate in a summer two-week, on-campus residential experience
- **Tier 2B (Residential Internship):** Rising 12th-grade students who will be at least 16 years of age at the start of the internship compete for participation in an eight-week, residential paid summer internship
- **Tier 3 (Collegiate Internship):** Rising college freshmen who will be at least 16 years of age at the start of the internship compete for participation in an eight-week, paid summer internship

New York City Research Initiative

<http://education.gsfc.nasa.gov/nycri>

- Research teams consisting of:
 - high school student (grades 10 12)
 - teacher (grades 7 12)
 - undergraduate
- Teams are assigned to a GISS scientist or university professor who conducts NASA research and their graduate student.
Participating Colleges:
 - City University of New York**
 - Stevens Institute of Technology**
 - NJ Institute of Technology**
 - Rutgers University**
 - Goddard Institute for Space Studies**
 - Southern Connecticut State University/Yale University**
 - State University of New York at Stony Brook**
- Application Due on February 10, 2010

Other NYCRI Activities

- How to prepare a research report (orally and written)
- Visits to informal education institutions (AMNH, LSC, BNL)
- Presentations (each week @ research location, mid-semester @GISS, and final conference at @CCNY with 400 other NASA, NSF and NOAA researchers)
- Learning units based on summer research (leads are NYCRI teachers and college professors)



Motivating Undergraduates in Science and Technology (MUST)

MUST - Overview

- Managed via a cooperative agreement with the MUST Consortium (the Hispanic College Fund (HCF), the United Negro College Fund Special Programs (UNCFSP) and the Society for Hispanic Professional Engineers (SHPE).
- The MUST Program **supports 100 undergraduate students** pursuing degrees in STEM with a one-year competitive scholarship of up to one-half of tuition, not to exceed \$10,000 and \$6,000 stipend to participate in a summer research experience at a NASA facility; May be renewed up to 3 years.
- **Eligibility: U.S. Citizens - Freshman, Sophomore or Junior – GPA = 3.0**
Focus on underrepresented and underserved students.
- **Application Available: Fall 2011 - On-line application:**
<http://scholarships.hispanicfund.org/applications/>
- Enriches scholar education through the MUST Professional Academic Support System (MUST PASS), an academic enrichment, mentoring, and career development system.
- <http://scholarships.hispanicfund.org/applications/>

NASA Undergraduate Student Research Program (USRP)

USRP offers undergraduates across the United States mentored research experiences at the NASA centers.

Three sessions are offered:

10 weeks during summer (\$6K) and 15 weeks during fall and spring (\$9K). Application
Deadlines: Spring 2011 – October 23, 2010 Summer 2011 – January 22, 2010

The NASA USRP seeks applications from undergraduates enrolled full-time in an accredited U.S. college or university.

Applicants must be rising sophomores, juniors or seniors at the completion of the spring semester/quarter. GPA: Minimum 3.0 on a 4 point scale

Eligible fields of study are academic major or demonstrated course work concentration in engineering, mathematics, computer science or physical/life sciences.

FY08: 319 Total Participants

USRP Website - <http://www.epo.usra.edu/usrp/>

NASA Education **Harriett G. Jenkins Pre-doctoral Fellowship Project (JPFP)**

- Competitive fellowships that successfully navigate students who are underrepresented in STEM disciplines through graduate school to enable their entry into the STEM workforce.
- **Approximately 20 fellowships awarded annually** that provide support for a period up to 3 years.
- JPFP Eligibility:
 - **U.S. Citizenship Required**
 - **Underrepresented persons in STEM**
 - **Grad Student within first 3 years of program**
 - **Minimum 3.0 G.P.A.**

Applications Available Fall of 2011





JPFP Highlights

- **Fellow Funding** for stipends & tuitions for up to 3 years.
 - Stipend: \$22,000/yr (Ph.D.) & \$16,000/yr (M.S.)
 - Tuition Offset: \$8,500/yr
- **Competitive Mini Research Award** Program provides fellows with the opportunity to participate in a 6 week “hands-on” NASA research experience.
 - Stipend: \$6,000/6 wks
 - Housing: \$700/6 wks
 - Travel: \$700/6 wks

JPFP website: www.uncfsp.org/jpfp



Graduate Student Researchers Project (GSRP)

GSRP 2010

- The NASA Graduate Student Researchers Project (GSRP) is an Agency-wide fellowship program for graduate study leading to masters or doctoral degrees in the fields of science, mathematics, and engineering related to NASA research and development. This twelve month award strongly encourages a research experience at the NASA center extending the GSRP Fellowship.
- NASA awards **approximately 90 new GSRP fellowships annually** for graduate study
- \$30,000 year fellowship (includes 10-week internship at NASA Center)
- Master's Degree – 2 Years Maximum
- Ph.D. – 3 Years Maximum
- Applications available November 2011
- GSRP Website - <http://fellowships.hq.nasa.gov/gsrp/nav/>

NASA Earth and Space Science Fellowship (NESSF) Program

NESSF Overview

- NESSF fellowships are available in Earth science, planetary science and astrophysics. Students admitted to, or already enrolled in, full-time master's or doctoral programs are eligible.
- Solicitation issued November 1; Application due February 1; Selections announced May 15; Awards starting September 1, 2011.
- \$30,000 per year for up to 3 years - Funded by the Science Mission Directorate
- On line applications are required. For more information, visit <http://nspires.nasaprs.com>, click on "Solicitations," then click on "Open Solicitations," and select "NESSF 10."

NASA Aeronautics Scholarship

Undergraduate and Graduate

- Applications accepted for Fall 2011
 - September 2010 – January 2011
- UNDERGRADUATE up to \$40k
 - **Planning 20 students each year**
 - **\$15k per year for 2 years**
 - **Summer internship at NASA @ \$10k**
- GRADUATE up to \$158K
 - **Planning 5 students each year**
 - **\$35K stipend per year – 3 years**
 - **\$11K awarded for edu expenses**
 - **2 NASA Internships @ \$10k each**
- Information and apply at:
<http://www.asee.org/nasaasp>
Contact nasa.asp@asee.org

NASA AERONAUTICS SCHOLARSHIP PROGRAM

HOME | CONTACT ASEE

Undergraduate Program | Graduate Program | Apply Online | Participant Forms | FAQ | Summer Internship Opportunities

WELCOME

About the NASA Aeronautics Scholarship Program

Work conducted at NASA's Aeronautics Research Mission Directorate (ARMD) is directed toward enhancing the state of aeronautics for the nation, transforming the nation's air transportation system, and developing the knowledge, tools, and technologies to support future air and space vehicles. The ARMD focus is on cutting-edge, fundamental research in traditional aeronautical disciplines, as well as emerging fields with promising application to aeronautics.

ARMD is investing in long-term research in areas appropriate to NASA's unique capabilities, and meeting our charter of addressing national needs and benefiting the public good. We are advancing the science of aeronautics as a national resource, as well as advancing the concepts, applications and technologies that can be drawn upon by civilian and military communities, and our sister government agencies.

Fostering new generations of highly skilled scientists and engineers is critically important to the aeronautics community. ARMD, as part of its commitment to mastering the core competencies of aeronautics in all flight regimes, is restructuring its education program, including focusing investments in undergraduate and graduate education.

ARMD is undertaking a new scholarship program focused on aeronautical research and related degree programs at both the undergraduate and graduate levels. The program's purpose is to:

- In accordance with the National Aeronautics R&D Policy and its accompanying Executive Order, help to advance the nation's aeronautics enterprise by investing in the educational development of the future aeronautics workforce.
- Provide opportunities to attract highly motivated undergraduate and graduate students to aeronautics and related fields.

[Back To Top](#)

NASA AERONAUTICS SCHOLARSHIP PROGRAM
Administered by: American Society for Engineering Education (ASEE)
1818 N Street NW, Suite 600 Washington, DC 20036
(202) 331-3525 | nasa.asp@asee.org | www.asee.org

HOME | CONTACT ASEE

Project ACCESS

Achieving **C**ompetence in **C**omputing, **E**ngineering and **S**pace **S**cience
<http://university.gsfc.nasa.gov/programs/undergraduate/access.html>

Overview

- ACCESS is a 10-week paid internship program at NASA centers around the United States. It is designed for undergraduate and graduate students with disabilities who have strong backgrounds in science and a desire to pursue technical careers. Students work with scientists and engineers in areas compatible with their skills and interests.
- Competitive stipends; provision for assistive technology and other reasonable work site accommodations; and limited travel funds and recommendations for finding accessible housing and transportation are offered.
- Managed by the American Association for the Advancement of Science (AAAS)
- Exposure program and a gateway to co-ops and other NASA programs, leading to permanent positions
- Students major in NASA-relevant STEM disciplines

2010 NASA Postdoctoral Program Accepting Applications

The NASA Postdoctoral Program offers qualified postdoctoral scientists and engineers the opportunity to engage in ongoing NASA research and serves as a source of talent to ensure the continued quality of the NASA research workforce. These competitive one- to three-year fellowship appointments advance NASA's missions in space science, Earth science, aeronautics, space operations, exploration systems and astrobiology.

Stipend rates for Postdoctoral Fellows start **at \$50,000 per year, with small supplements added for high cost-of-living areas.**

Funds are available for relocation expenses, up to a specified limit. Fellows also receive \$8,000 per appointment year to support travel to conferences, meetings, and other activities (i.e., travel to field sites or observatories to collect data or for required training) that directly support their research projects.

Applications for the NASA Postdoctoral Program are due on **March 1, 2011.**

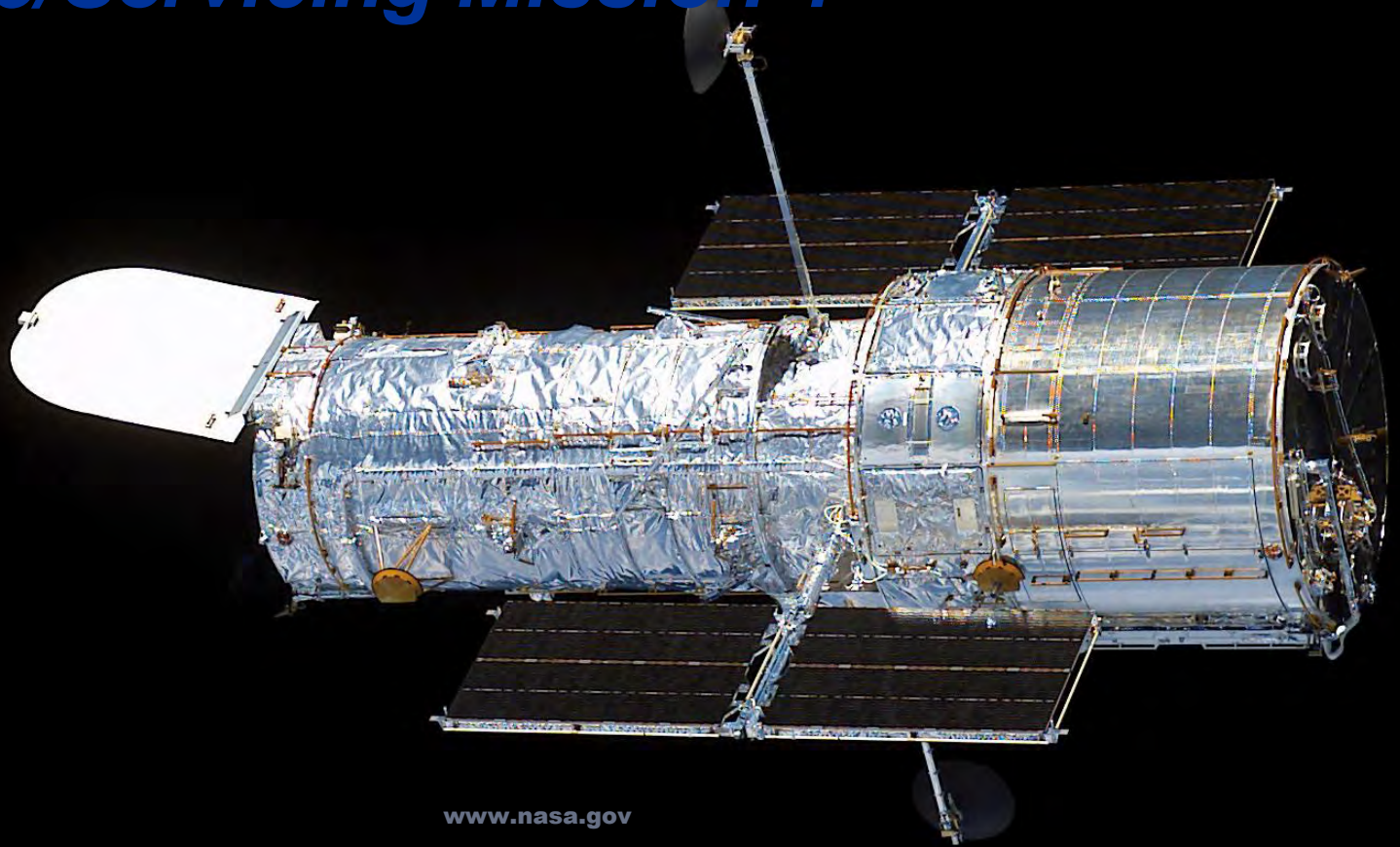
For further information about this opportunity and to apply online, visit <http://nasa.orau.org/postdoc/description/index.htm>.

National Aeronautics and Space Administration

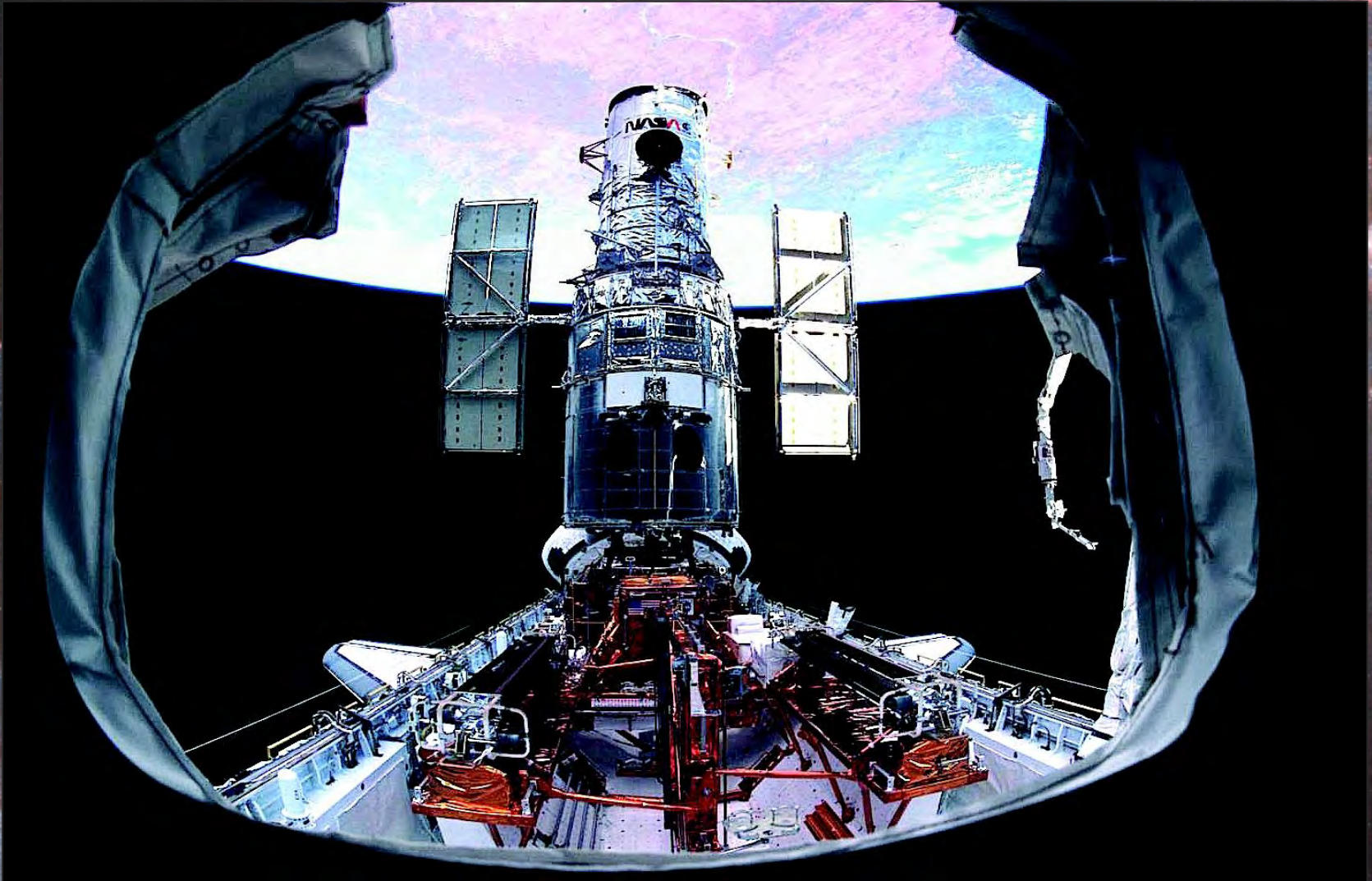


One More Rendezvous

Making Hubble More Powerful Than Ever *STS-125/Servicing Mission 4*



www.nasa.gov



The Hubble Space Telescope secured inside a shuttle cargo bay.

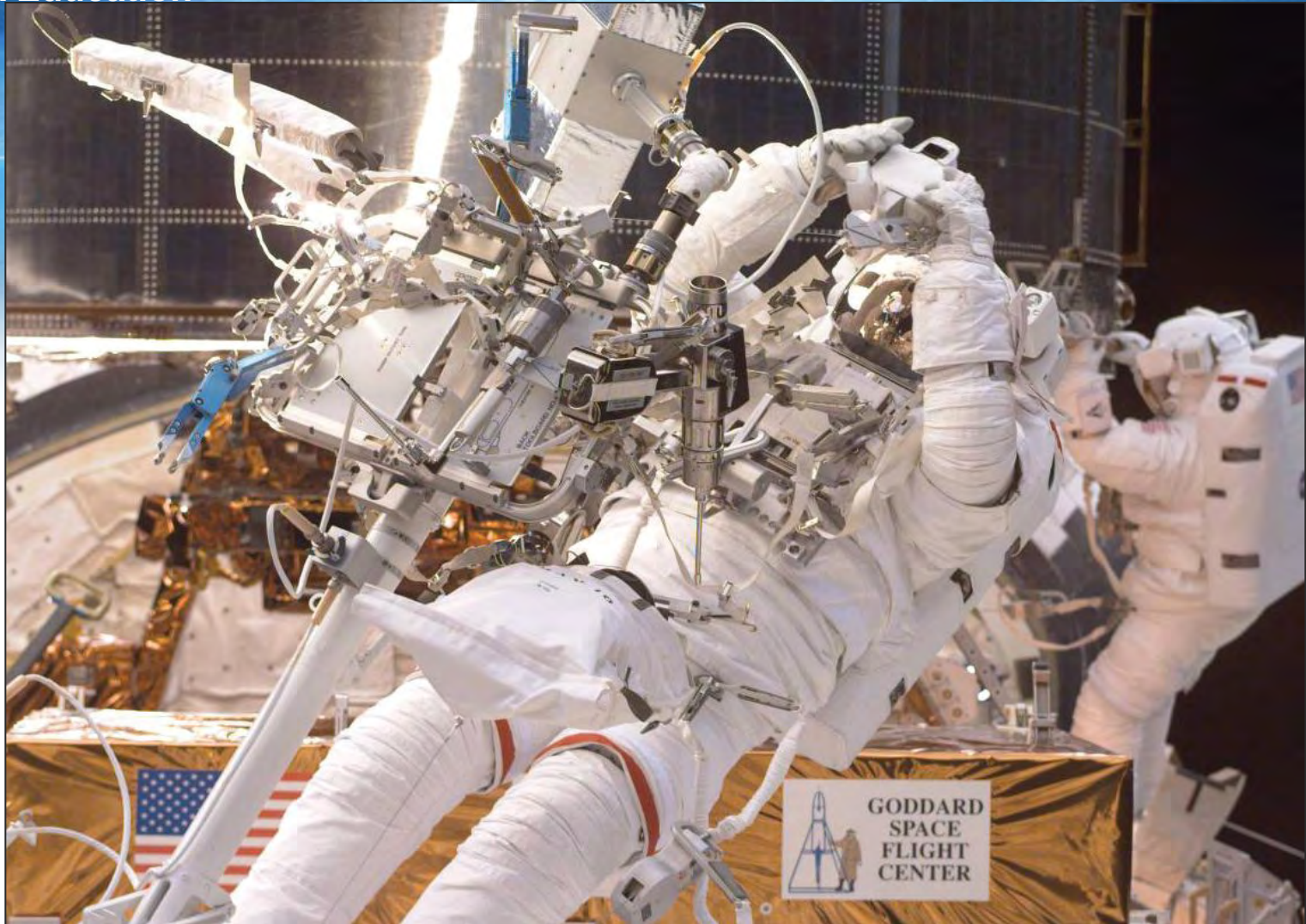
HUBBLE FACTS

- SM4 (2010) was the 5th and final planned servicing mission for the HST.
- Five spacewalks - to install new instruments, repair two existing instruments, refurbish subsystems and replace gyroscopes and batteries - operational lifespan through 2013.
- The SM4 mission enhanced the observatory and ensure cutting-edge science. It puts in place advanced technology that improves the discovery power of the observatory by 10 to 70 times.
- Pointing Hubble and locking onto distant celestial objects is equivalent to holding a laser light steady on a dime that is 200 miles away.



HUBBLE FACTS

- Hubble is about the size of a school bus. It is 43.5 feet long . Its maximum diameter is 14 ft wide.
- Each Hubble orbit takes 96 minutes (5miles per second or 17,500 miles per hour).
- Hubble experiences a change in temperature of 215 degrees F when going from sunlight to darkness - like going from ice to boiling water.
- Hubble made its 100,000th orbit on August 11, 2008.
- During a typical orbit, Hubble uses the same amount of energy as 28, 100-watt light bulbs.



Repair techniques and tools for this mission were developed by the Hubble Team at the NASA Goddard Space Flight Center in Greenbelt, Maryland.



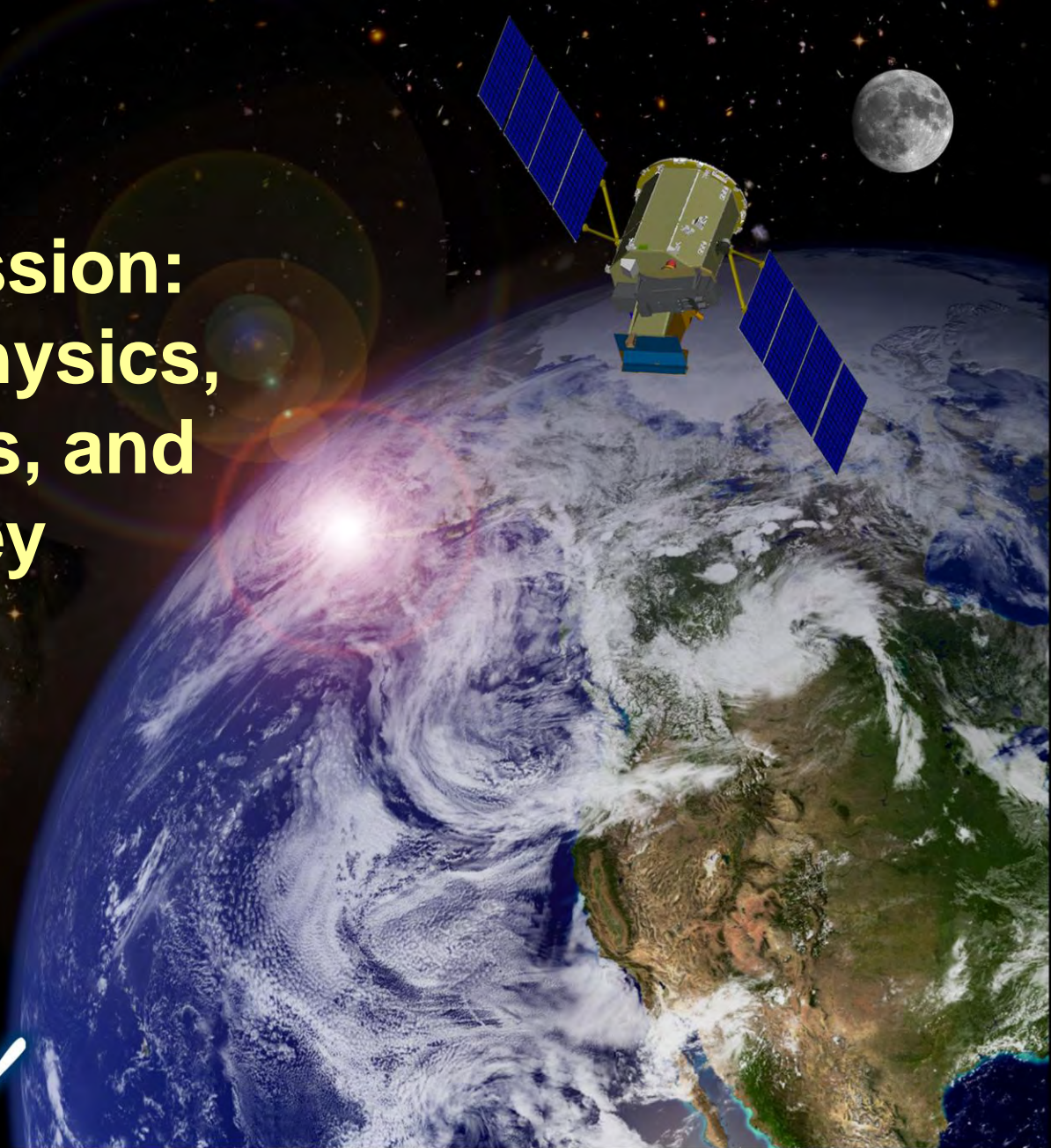
GODDARD
SPACE FLIGHT CENTER

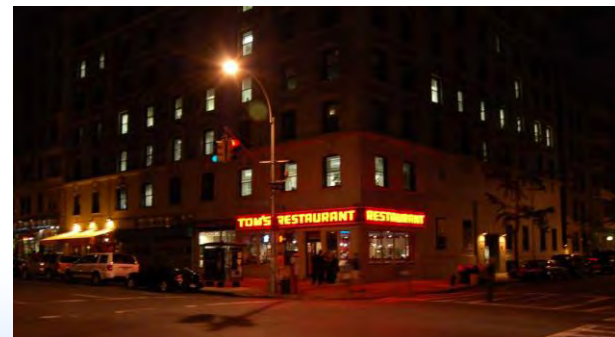
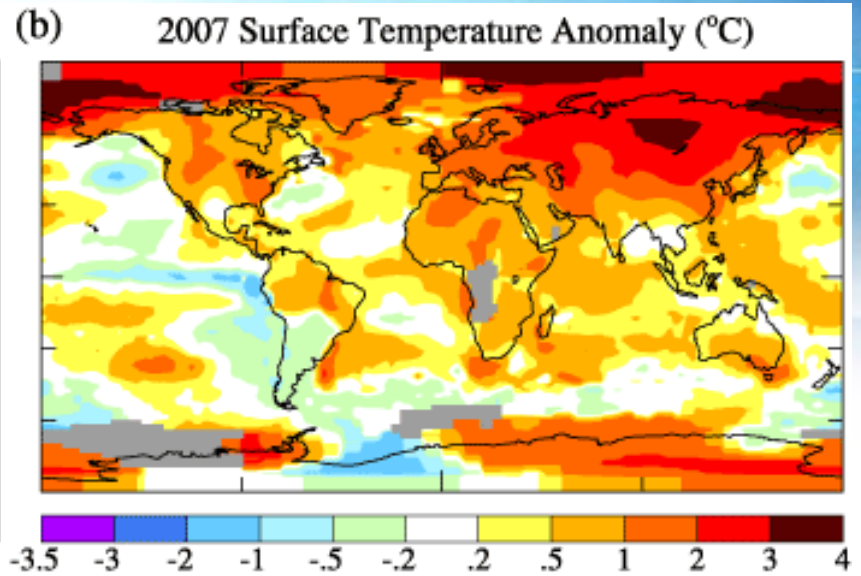
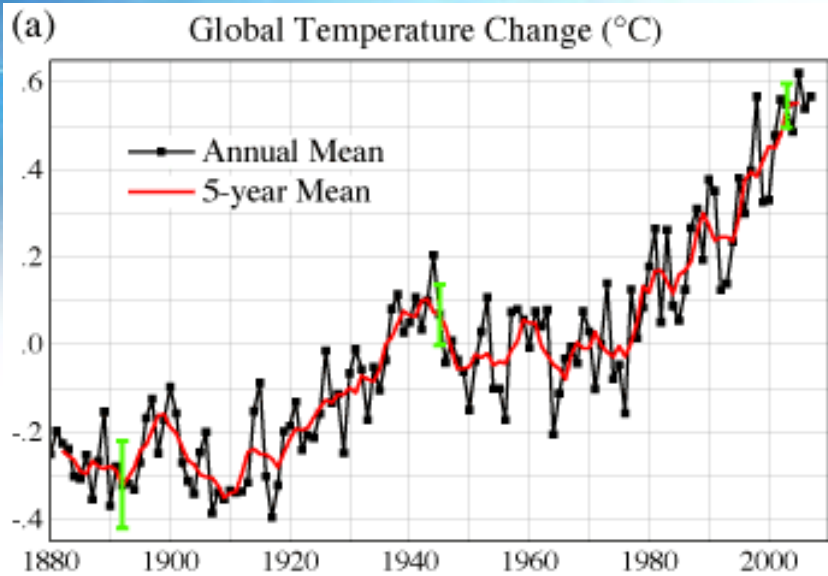
NASA Glory Mission: Fundamental physics, societal benefits, and taxpayers money

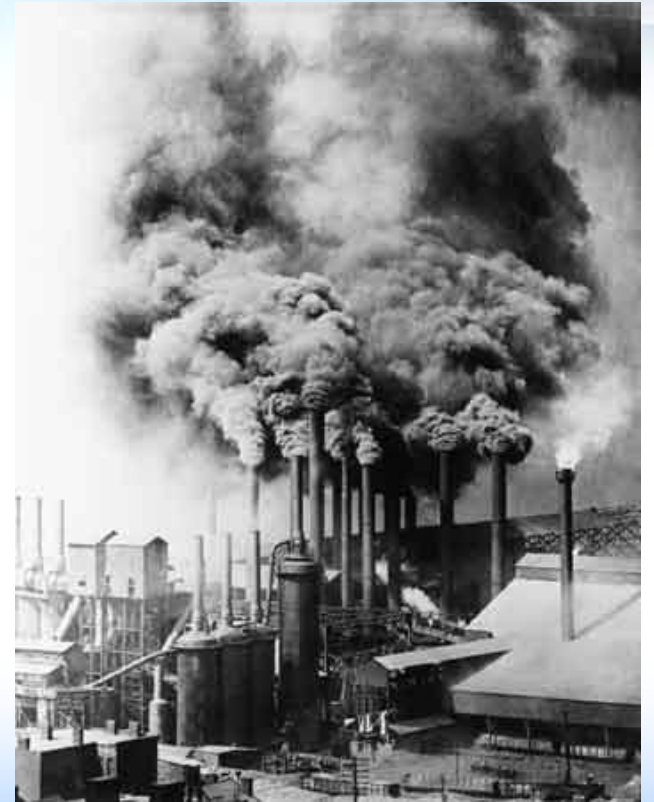
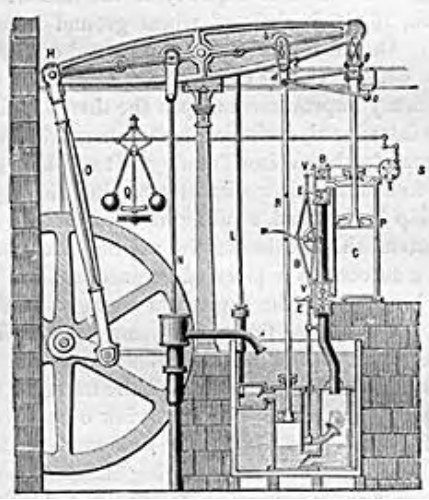
Michael Mishchenko

Glory

OBSERVING THE EARTH'S AEROSOLS AND SOLAR IRRADIANCE



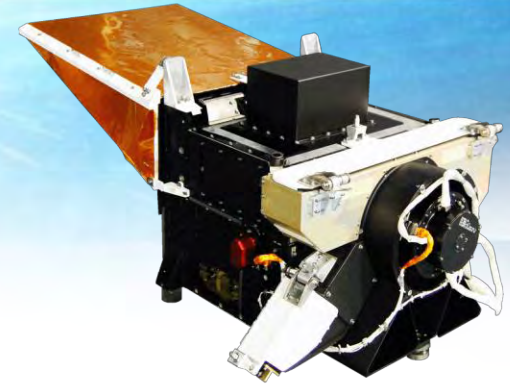




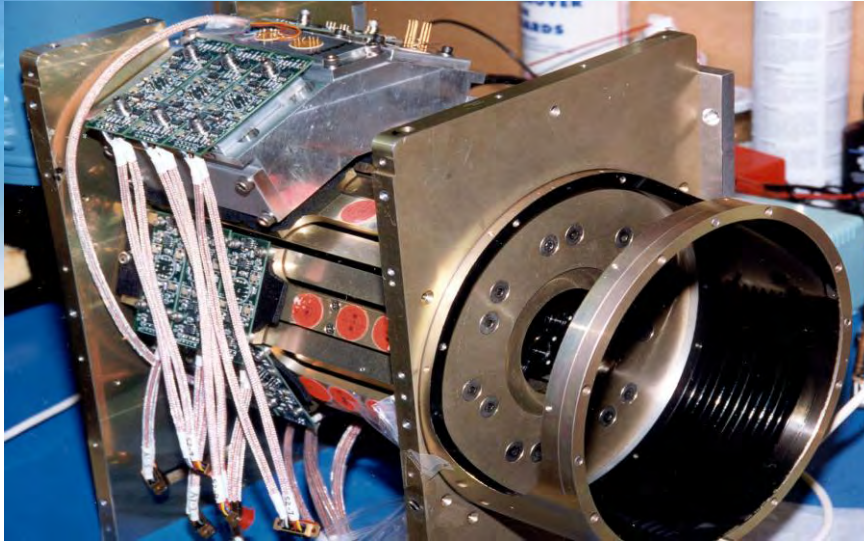
Glory Mission provides timely key data for climate change research

The Glory Mission objectives are to:

- ✓ *Quantify the role of aerosols as natural and anthropogenic agents of climate change by flying the Aerosol Polarimetry Sensor (APS)*
- ✓ *Continue measuring the total solar irradiance (TSI) to determine its direct and indirect effects on climate by flying the Total Irradiance Monitor (TIM)*



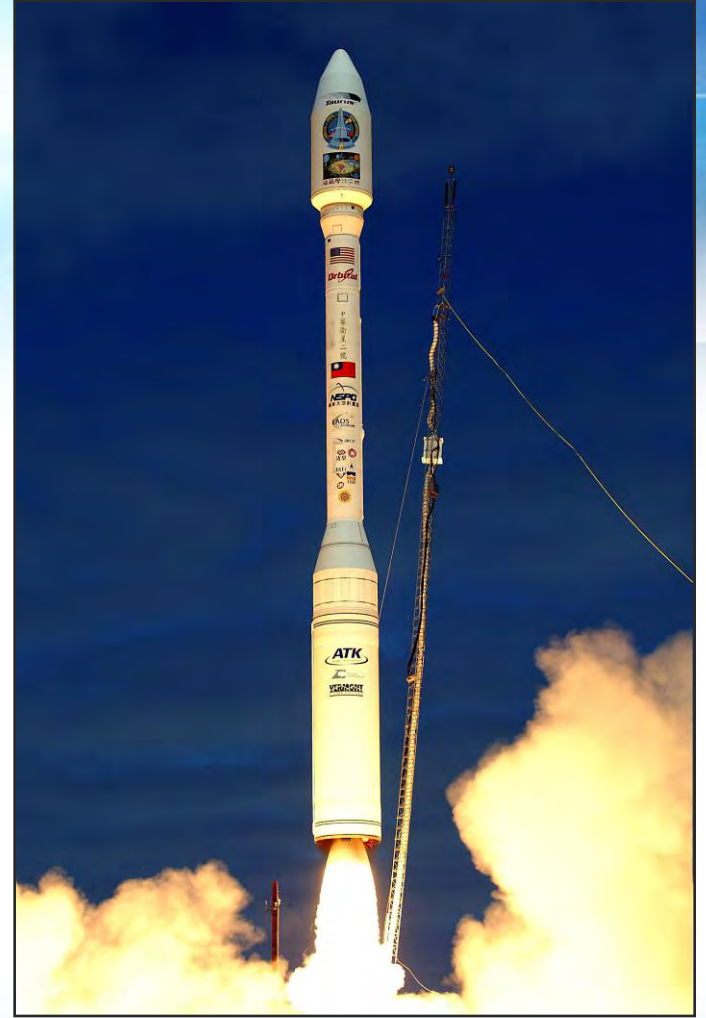
Airborne Research Scanning Polarimeter (RSP)



- To explore and evaluate the theoretical basis for using polarimetric measurements to remotely sense aerosols we have developed an instrument that can be used on an aircraft.
- Recently deployed on the Proteus aircraft at 58,000 feet.

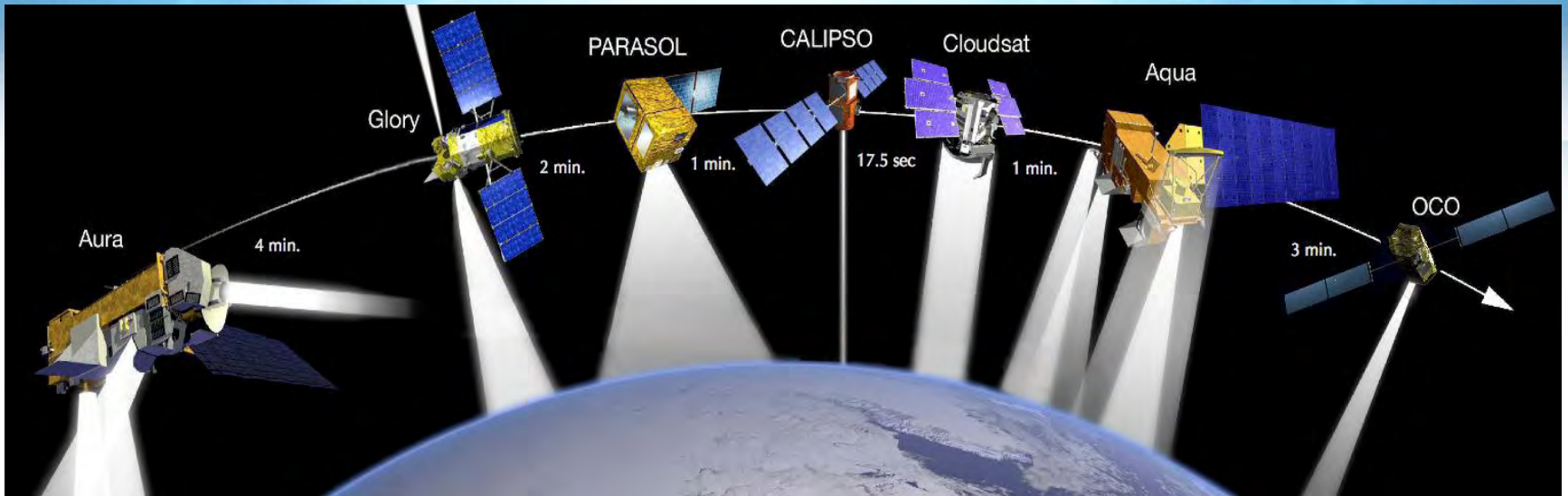


NASA Education Launch vehicle integration (typical)



Taurus Launch Vehicle On-Track To Support Glory

Glory in the A-Train



Federal Career Intern Program Notices

The Federal Career Intern Program (FCIP) Notices for NASA Education Program participants.

Students who have participated in NASA education programs (internships, scholarships, fellowships, competitions, flight projects, etc.) between 2007 and 2009 are eligible to apply for the following potential job openings.

Opened: 1/1/2011 Closes: 12/31/2011

NA09N0008 – Professional Engineering Positions

<http://jobsearch.usajobs.gov/ftva.asp?opmcontrol=1428808>

NA09N0009 – Physical Sciences/Biological Sciences

<http://jobsearch.usajobs.gov/ftva.asp?opmcontrol=1428816>

NA09N0010 – Accounting & Budget/Business and Ind/Administration/HR

<http://jobsearch.usajobs.gov/ftva.asp?opmcontrol=1428820>

NA09N0011 – Computer Engineer/Computer Scientist

<http://jobsearch.usajobs.gov/ftva.asp?opmcontrol=1428831>

NASA's Workforce

- Full-Time Permanent----- 16,566
- Term Appointment ----- 1,441
- Student ----- 234
- Other ----- 160
- Total -----18,401

NASA Resources

For more information about NASA and its programs:

NASA Portal

<http://www.nasa.gov>

For all NASA education opportunities

• <http://education.nasa.gov>

NASA Research Opportunities

<http://nspires.nasaprs.com/>

NASA Guidebook for Proposers

<http://www.hq.nasa.gov/office/procurement/nraguidebook/>

NASA Science Plan

<http://science.hq.nasa.gov/strategy/>

NASA Education Careers

<http://www.nasa.gov/education/careers>

NASA Education

- **Frank Scalzo, Ph.D.**
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212-678-6038 (voice)
212-678-5622 (fax)
Frank.Scalzo-1@nasa.gov

NASA's Mission: Inspire the next generation of explorers....as only NASA can.

<http://education.gsfc.nasa.gov> (GSFC Education)

<http://www.nasa.gov> (NASA Portal)

<http://education.gsfc.nasa.gov/nycri> (NASA New York City Research Initiative)



Questions?