

# Restructuring PSD R&A Program

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Presentation to VEXAG

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# Timeline: Planetary R&A Restructuring

Past

1995-2010: NRC Report: An Integrated Strategy for the Planetary Sciences

2010: NRC Report: Enabling Foundation for NASA's Earth & Space Science Missions

2010: Community R&A survey 2010

2011: Planetary Decadal Survey

2011: Supporting Research and Technology Working Group of the PSS

2011: R&A Discipline Scientists Retreat

2012: Reorganization of Instrument Development Programs

2012: Planetary Workforce Survey

2013: December 3, 2013: Virtual Town Hall on R&A Restructuring

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Future

Early January 2014: Draft ROSES 2014 release

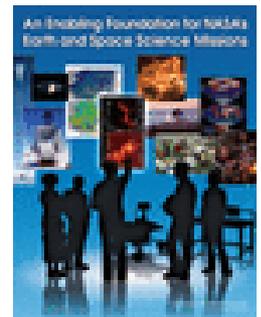
Mid-February 2014: ROSES 2014 release

Early to Mid-March 2014: Pre-proposal Briefing

# Findings from the NRC report: An Enabling Foundation for NASA's Earth and Space Science Missions (2010)

- NASA should ensure that SMD mission-enabling activities are linked to the strategic goals of the agency and of SMD.
- NASA's SMD should develop and implement an approach to actively managing its portfolio of mission-enabling activities.
- NASA should increase the number of scientifically and technically capable program officers so that they can devote an appropriate level of attention to the tasks of actively managing the portfolio of research... [we have addressed this concern, but not through reorganization of the portfolio]
- **NASA response was in agreement with these recommendations**

**“By explicitly tying the ROSES .. to SMD Science Plan research objectives, SMD ensures that sponsored research contribute directly and substantially to Agency goals.”**





# In Response to the NRC Report

- PSD requested an assessment of the Planetary R&A program by the Planetary Sciences Subcommittee (PSS) as a Response to the NRC report
  - Ron Greeley (chair) formed SR&T Working Group to perform the review
- Charge:
  - Map PSD mission-enabling activities to the PSD strategic science plan
  - Provide recommendations regarding "active portfolio management"
- The SR&T Working Group used the NRC report as a guide for the study, reviewed the various mission-enabling activities of the Division, held discussions with NASA Program Officers, and solicited comments from the planetary science community

# Summary of the Supporting Research and Technology Working Group of the PSS (2011)

Co-Chairs: Ron Greeley, Mark Sykes

- “The SR&T Working Group found that the current Planetary Science Division mission- enabling activities can be mapped clearly to the specific scientific objectives contained in the NASA 2010 Science Plan. **However, many of the research and analysis programs overlap. Because the workload on the scientific community and NASA Program officers has increased substantially in the last decade with regard to proposal preparation, review, and implementation, the Planetary Science Division should consider consolidating programs to eliminate overlap as a part of the portfolio management strategy.**”
- Based on these recommendations PSD started the process to consolidate and reorganize the R&A program in 2012

# Goals in Response to Stakeholder Needs

(Congress, OMB, OSTP, NASA, SMD)

- To make the structure of the R&A program explainable to those outside of NASA.
- To make it easy for those outside of NASA to compute the amount of money spent on grants.
- To reduce the time between proposal submission and award announcement.
- To encourage interdisciplinary research.
- To enable PSD strategic decision making.
- To be more flexible in responding to changing research priorities.
- To reduce overlaps between program elements.

# New Core Research Programs Defined

The five new core programs are aligned with PSD's guiding principles.

**How did the Sun's family of planets, satellites, and minor bodies form and evolve?**



**Emerging Worlds**

**How do the chemical and physical processes active in our solar system operate, interact and evolve?**



**Solar System Workings**

**What are the characteristics of the solar system that lead to habitable environments?**



**Habitable Worlds**

**How did life originate and evolve here on Earth and can that guide our search for life elsewhere?**



**Exobiology**

**What are characteristics of planetary objects and environments that pose threats to, or offer potential resources for, humans as we expand our presence into the solar system?**



**Solar System Observations**

Calls from previous ROSES Years

New Programs for ROSES 2014

Origins of Solar Systems

Emerging Worlds

Cosmochemistry

Planetary Geology & Geophysics

Solar System Workings

Planetary Atmospheres

Lunar Adv. Sci & Exp Research

Habitable Worlds

Outer Planets Research

Mars Fundamental Research

Exobiology

Exobiology & Evolutionary Biology

Planetary Observations

Solar System Observations

Near-Earth Object Observations

Calls from previous ROSES Years

New Programs for ROSES 2014

Lunar Adv. Sci & Exp Research

A very small component of all DAPS

Planetary Geology & Geophysics

Moon, Mars Analog Mission Activities

Astrobio Sci & Tech for Exploring Planets

Origins of Solar Systems

Planetary Atmospheres

Lunar Data Analysis Program

Planetary Data Archiving, Restoration, and Tools (PDART)

Planetary Science & Technology from Analog Research (PSTAR)

Exoplanets

# Reorganization at a glance

- ROSES13 has 20 calls; ROSES14 will have 17 calls with 8 that remain the same
- All calls address division science goals supporting NASA's strategic plan
- Strategic programs are more narrow in scope and address certain strategic needs
- Focused programs are narrow in scope and limited in time. They may be called for only one year or several, but not indefinitely. This provides flexibility the previous program did not have.

Core Research	Strategic	Focused
Emerging Worlds	PDART (data archiving, tools)	ETIPS (emerging topics)
Solar System Workings	PSTAR (analogues)	LDAP (lunar data analysis)
Habitable Worlds	Exoplanets (joint with Astro)	CDAP
Exobiology	PMDAP	
Solar System Observations	LARS	
<b>Core Technology</b>	MDAP	<b>New program Not solicited in ROSES2014</b>
MatISSE	Planetary Protection	Unchanged
PICASSO	NAI (not solicited in ROSES)	
Planetary Major Equipment	SSERVI (not solicited in ROSES)	

# Next Steps

- Virtual Town Hall provided an opportunity for the community to ask questions and indicate concerns relative to implementation
- PSD analysis underway:
  - Optimizing due dates: Evaluating detailed impact of due dates that could effect a break in funding
  - Looking at mitigation strategies: Altering due dates, making more selections from ROSES 13, bridge funding, etc.
- Provide draft of all changed ROSES 14 Calls in early January for community feed-back though the NASA advisory structure (AGs -> PSS)
- Final calls issued throughout the year starting with the initial release of ROSES 14

## V4 TOC FOR APPENDIX C. PLANETARY SCIENCE RESEARCH PROGRAM

C.1	Planetary Science Research Program Overview	C.1-1
C.2	Emerging Worlds	C.2-1
C.3	Solar System Workings	C.3-1
C.4	Habitable Worlds	C.4-1
C.5	Solar System Biology	C.5-1
C.6	Solar System Observations	C.6-1
C.7	Planetary Data Archiving, Restoration, and Tools	C.7-1
C.8	Lunar Data Analysis	C.8-1
C.9	Mars Data Analysis	C.9-1
C.10	Cassini Data Analysis and Participating Scientists	C.10-1
C.11	Planetary Mission Data Analysis	C.11-1
C.12	Planetary Instrument Concepts for the Advancement of Solar System Observations	C.12-1
C.13	Maturation of Instruments for Solar System Exploration	C.13-1
C.14	Planetary Science and Technology from Analog Research	C.14-1
C.15	Planetary Protection Research	C.15-1
C.16	Fellowships for Early Career Researchers	C.16-1
C.17	Planetary Major Equipment	C.17-1
-----	<b>Focused Research Opportunities</b>	
C.18	VCO (Akatsuki) Participating Scientist program	C.18-1
C.19	Hayabusa2 Participating Scientist program	C.19-1
C.20	Dawn Science & Data Analysis program (title TBD)	
-----	<b>Cross-Divisional Activities</b>	
E.3	Exoplanets	E.3-1

**DRAFT**  
**ROSES-14**