Planetary Science R&A Program Update

Michael New

Planetary Science Subcommittee Meeting

2016 Mar 9-10
## PSD R&A ROSES 16 Deadlines

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Step-1 Due Date</th>
<th>Step-2 Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exoplanets (XRP)</td>
<td>03/29/2016</td>
<td>05/26/2016</td>
</tr>
<tr>
<td>Emerging Worlds (EW)</td>
<td>03/31/2016</td>
<td>06/03/2016</td>
</tr>
<tr>
<td>Cassini Data Analysis (CDAPS)</td>
<td>04/06/2016</td>
<td>06/06/2016</td>
</tr>
<tr>
<td>Solar System Obs. (SSO)</td>
<td>04/08/2016</td>
<td>06/10/2016</td>
</tr>
<tr>
<td>MatISSE</td>
<td>04/21/2016</td>
<td>06/21/2016</td>
</tr>
<tr>
<td>Laboratory Analysis of Returned Sample (LARS)</td>
<td>04/22/2016</td>
<td>06/24/2016</td>
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<tr>
<td>Planetary Data Archiving, Resto, Tools (PDART)</td>
<td>05/13/2016</td>
<td>07/15/2016</td>
</tr>
<tr>
<td>Exobiology (EXOB)</td>
<td>05/20/2016</td>
<td>07/22/2016</td>
</tr>
<tr>
<td>Planetary Protection Research (PPR)</td>
<td>06/24/2016</td>
<td>09/02/2016</td>
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<tr>
<td>Mars Data Analysis (MDAP)</td>
<td>08/26/2016</td>
<td>09/30/2016</td>
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<tr>
<td>Lunar Data Analysis (LDAP)</td>
<td>09/30/2016</td>
<td>10/28/2016</td>
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<tr>
<td>PICASSO</td>
<td>09/14/2016</td>
<td>11/14/2016</td>
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<tr>
<td>Discovery Data Analysis (DDAP)</td>
<td>09/08/2016</td>
<td>11/17/2016</td>
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<tr>
<td>Habitable Worlds (HW)</td>
<td>11/18/2016</td>
<td>01/20/2017</td>
</tr>
<tr>
<td>Solar System Workings (SSW)</td>
<td>11/17/2016</td>
<td>02/23/2017</td>
</tr>
</tbody>
</table>
Timeline for SSW 15 & 16

Single Step 1 per year

Two Step 2 deadlines for SSW 2015

One Step 2 deadline for SSW 2016+

SSW2015
Step 1
Due
6/11/2015

SSW2015
Step 2.1
1st Funding
Decision
1/2016

SSW2015
Step 2.2
2nd Funding
Decision
4/2016

SSW2016
Step 2
Due
2/23/2017

SSW2015
Step 2.1
Due
9/10/2015

SSW2015
Step 2.2
Due
2/25/2016

SSW2016
Step 1
Due
11/17/2016

~40% of step 1’s

~60% of step 1’s

~40% of step 1’s

~60% of step 1’s

~60% of step 1’s
Calendar Crunch: ROSES Step-2 Deadlines

ROSES 2014

ROSES 2015

ROSES 2016
## Change in Proposal Numbers

<table>
<thead>
<tr>
<th>Program</th>
<th>ROSES 2014 Step-2 Submissions</th>
<th>ROSES 2015 Step-2 Submissions</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>EW</td>
<td>158</td>
<td>137</td>
<td>-13</td>
</tr>
<tr>
<td>SSW</td>
<td>384</td>
<td>315</td>
<td>-18</td>
</tr>
<tr>
<td>EXOB</td>
<td>144</td>
<td>179</td>
<td>+24</td>
</tr>
<tr>
<td>SSO</td>
<td>71</td>
<td>51*</td>
<td>-28</td>
</tr>
<tr>
<td>PDART</td>
<td>100</td>
<td>97</td>
<td>-3</td>
</tr>
<tr>
<td>CDAPS</td>
<td>78</td>
<td>84</td>
<td>+8</td>
</tr>
<tr>
<td>DDAP</td>
<td>27</td>
<td>39</td>
<td>+44</td>
</tr>
<tr>
<td>LARS</td>
<td>24</td>
<td>18</td>
<td>-25</td>
</tr>
<tr>
<td>XRP</td>
<td>134</td>
<td>112</td>
<td>-16</td>
</tr>
<tr>
<td>MDAP</td>
<td>104</td>
<td>100</td>
<td>-4</td>
</tr>
<tr>
<td>LDAP</td>
<td>51</td>
<td>47</td>
<td>-8</td>
</tr>
<tr>
<td>PSTAR</td>
<td>46</td>
<td>48</td>
<td>+4</td>
</tr>
<tr>
<td>HW</td>
<td>72</td>
<td>63</td>
<td>-13</td>
</tr>
<tr>
<td>MatISSE</td>
<td>44</td>
<td>Not solicited</td>
<td></td>
</tr>
<tr>
<td>PICASSO</td>
<td>96</td>
<td>113</td>
<td>+18</td>
</tr>
<tr>
<td>Total</td>
<td>1533</td>
<td>1403</td>
<td>-15</td>
</tr>
</tbody>
</table>

*NEOO proposals not solicited in 2015.
A Selection Metric

Shown are proposals submitted to ROSES-2014, including all core programs (EW, SSW, HW, SSO, EXO) and all DAPs (MDAP, DDAP, LDAP, CDAPS).
Where’s my money?

ROSES-2015 Released
~ 14 Feb 2015

Step-1s Due
NET Mar 2015

Step-2s Due
NOIs + 2 mo or 60 days from release

Props + 2-4 mo
Review
STOP

Selection
Decision
Award
Paperwork Complete

Release $ in RAPTOR

Send $ to Ctrs, Feds

Y
N

Grant?

Individual Programs' FY16 Budgets Set

Congress debates
Repeat until approved

Congress debates
Continue Resolution

Congress debates more

Appropriation or Year-long CR

Average over last 5 years is about 4 months after start of FY

Approximately 1 mo

NSCC Completes Award

PI Receives Award

Approve Progress Report

Receive Progress Report

President’s 2016 Budget Request
Feb 2015

Congress debates
End of FY15 30 Sept 2015

Repeat monthly, weekly or daily!
The speed of money

Data and analysis provided by Jared Leisner.
Facilities

Objective
Ensure that NASA-funded, science-enabling research facilities support the needs of PSD R&A community

Current PSD Funded Facilities
Summarize *Lessons Learned* from PSD-Funded Facilities

Community Needs Assessment
– *Assess Community Needs* through RFI
– *Identify Existing Facilities* via LPSC session (PSD funded or not)

Future Plans for Support of Facilities
– Release a CAN to fund facilities that would answer the needs of the community
– Estimated release date in calendar year 2016
Current PSD Funded Facilities – Lessons Learned

➢ Progress Report from all PSD Funded Facilities:
  ✓ Planetary Aeolian Lab (PAL) October 12, 2015
  ✓ Reflectance Lab (RELAB), October 14, 2015
  ✓ Glenn Extreme Environments Rig (GEER), November 16, 2015
  ✓ Ames Vertical Gun Range (AVGR), November 16, 2015

➢ Each Facility had ~1 hour to present and ~1 hour Q&A

➢ Presentation to the Panel:
  ✓ Current Objectives and Accomplishments
  ✓ Impact on Missions, Planetary Science, and Planetary Science Community
  ✓ Management Plan
  ✓ Unique Distinguishing Features
  ✓ Usage of the Facilities (hours, groups..)
  ✓ Lessons Learned
  ✓ Publications List

➢ Panel Composed of community members and users

➢ Panel provided a summary with lessons learned, to PSD management

➢ Report: PSD Facilities' Website: [http://www.lpi.usra.edu/psd-facilities/]
RFI – Communities Needs Assessment

✧ Gauge interest & community needs through RFIs
  • Released: January 28, 2016
  • Responses Due: April 30, 2016
  • PDF file format, attached to an E-mail, sent to Doris.Daou@nasa.gov
  • Email Subject Line: RESPONSE to Facilities RFI

✧ RFI solicits community feedback on any or all of the following questions:

1. Do you use any existing planetary science facility that serves the broader community? What extent? How did you find out about it? Describe your experiences in using that facility.

2. What capabilities are missing or unavailable in the implementation of your research activities that could be supported through the Facilities Program? Are you aware of existing facilities that could meet your needs if they were made available to the community?

3. Do you currently manage, or plan to develop, a facility that could serve the broader community? Describe the facility and what needs it would fill.
LPSC Session – Identify Existing Facilities

Thursday afternoon, March 24, 1:30 p.m., Waterway Ballroom 4

✧ 13 oral presentations and 49 poster
✧ Five invited talks
  ✓ The NASA Regional Planetary Image Facility Network: A Globally Distributed Resource For The Planetary Science Community
  ✓ The NASA Reflectance Experiment Laboratory (RELAB) Facility: Past, Present, And Future
  ✓ NASA Facility Overview: Planetary Aeolian Laboratory
  ✓ Glenn Extreme Environments Rig (GEER) For Planetary Science
  ✓ The Ames Vertical Gun Range
NASA'S PLANETARY SCIENCE DIVISION FACILITIES

NASA's Planetary Science Division (PSD) is evolving how it deals with funded facilities. As part of this activity, NASA is working to identify current facilities, how they are working, and the extent to which they serve the science needs of the broader planetary community. Consequently, NASA's PSD has released an RFI to the Planetary Science Community and will hold a special session on this topic at the 2016 LPSC meeting and is inviting members of the community to submit abstracts for oral or poster presentation, describing their facility, its capabilities, its uses, and its potential service to the community at large. This process is initiated in the effort to assess best practices and identify a series of lessons learned, as well as provide information for future plans and strategies supporting a balanced PSD R&A portfolio.

Managed for NASA by USRA's Lunar and Planetary Institute

Last updated February 9, 2016
## FY16 Research Budget by Funding Line

<table>
<thead>
<tr>
<th>Program</th>
<th>Budget ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planetary R&amp;A (Competed and supported activities)</td>
<td>154.0</td>
</tr>
<tr>
<td>Mars R&amp;A (Mars Data Analysis Program) (excluding Critical Data Products (CDP))</td>
<td>9.4</td>
</tr>
<tr>
<td>Outer Planets Research (Cassini Data Analysis Program &amp; PSP)</td>
<td>8.4</td>
</tr>
<tr>
<td>Discovery Research</td>
<td>11.4</td>
</tr>
<tr>
<td>Joint Robotics Program for Exploration (JRPE) (SSERVI Nodes)</td>
<td>10.0</td>
</tr>
<tr>
<td>NEOO (Competed activities)</td>
<td>20.9</td>
</tr>
<tr>
<td>Europa Technology</td>
<td>25.0*</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>214.1</strong></td>
</tr>
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</table>
National Academies R&A Study

Objective: Examine the program elements of the PSD R&A programs, as they currently exist following restructuring, for their consistency with past NRC advice.

The committee* will address the following questions:

1. Are the PSD and R&A program elements appropriately linked to, and do they encompass the range and scope of activities needed to support, the NASA Strategic Objective for Planetary Science and the PSD Science Goals, as articulated in the 2014 NASA Science Plan?

2. Are the PSD R&A program elements appropriately structured to develop the broad base of knowledge and broad range of activities needed both to enable new spaceflight missions and to interpret and maximize the scientific return from existing missions?

* Currently staffing ad hoc committee. Report anticipated by December.
Updates

• Feb: ROSES 2016 released
  – IMPORTANT CHANGE: All salaries (even civil servants!) should be included in cover page budget tables; these will be automatically redacted and hidden from reviewers. DO include the work effort table (FTEs); Do NOT include $ values of salaries (or overhead) in the budget justification.
  – Appendix C.1 explains general requirements that apply to all program elements; read it carefully!
  – Two-page DMP falls outside 15-page limit.
  – There is a new PSD-specific FAQ page for Data Management Plans.

• May 2016: Office of Chief Scientist to release Data Management website

• Later in 2016: Facilities RFIs and CAN

• Late 2016:
  – Mid decadal review start
  – New Frontiers Draft AO
Keyword Analysis

• Analysis of “Target Object” Keyword for 2011-2015, includes:
  – Competed ROSES programs
  – DAPS
  – Participating Science Programs

• Excludes:
  – NAI
  – SSERVI

• Caveats:
  – Keywords were not submitted for all tasks
QUESTIONS?

*JWST – Reminder, people intending to propose to work on JWST observations/data and who need to upgrade instrumentation should propose to ROSES 2016
BACKUPS
Important Change in ROSES-2016

• We must hide NASA Civil Servant (CS) salary and overhead from ROSES peer reviewers, but we currently do not hide salary and overhead of non-NASA proposers.

• Since we keep the NASA CS salary out the budgets and the cover pages, they sometimes get forgotten.

• Starting in ROSES-2016 we will treat all proposers equally: All salaries and overhead will be included in the NSPIRES cover pages, but automatically hidden from reviewers.

• Only level of effort (FTEs/WYE) will be in the body of proposals and assessed by peer reviewers.

• Because all salaries and overhead for everyone will be in the cover pages, NASA HQ will be less likely to miss these when awarding to Centers.
Procedure for USGS mapping

• Contact the USGS Map Coordinator (currently Jim Skinner) to discuss the mapping project. This should be done as early as possible in the proposal process.
  – The USGS has a form letter that lists the map’s technical specifications and affirms that the USGS is able to support the mapping effort.
  – This is purely a statement of technical support and does not constitute an endorsement of the proposal.

• In the proposal submission questions, indicate that a USGS geologic map would be published as part of the project.

• In the full (Step-2) proposal, the USGS letter of technical specifications must be included, as one would include a letter of support.
  – This letter does not remove the responsibility of the proposal to describe and justify the mapping effort within the 15R page main body.
  – Selection of a proposal is contingent upon the inclusion of this letter.

• The USGS will be notified by the Program Officer of selected proposals with a mapping component.
...and there’s leveraging!

• Astrophysics Division provides ~$1.5M to the NASA Astrobiology Institute.

• Astrophysics Division and R&A leverage joint investments in XRP: ~$6M/year in research with $2-2.5M for new awards.

• Human Exploration and Operations Mission Directorate (HEOMD) contributes $4-5M to fund SSERVI.