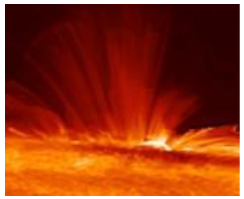
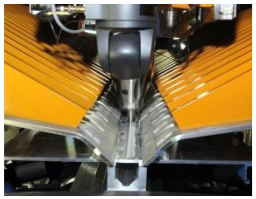
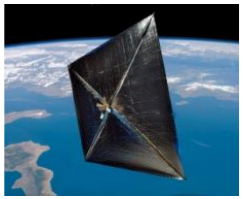
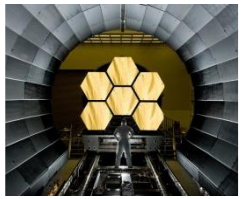
National Aeronautics and Space Administration

MSFC input to the NAS Review Committee on NASA's Planetary Science Division's Restructured Research and Analysis Programs



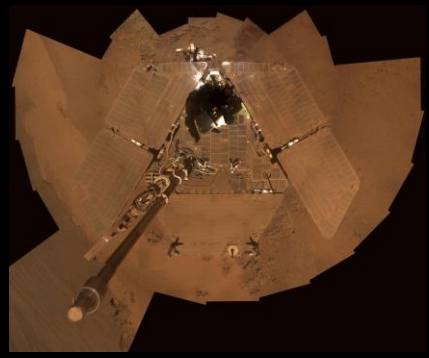




marshall

James Spann, Chief Scientist
NASA MSFC
Science & Technology Office

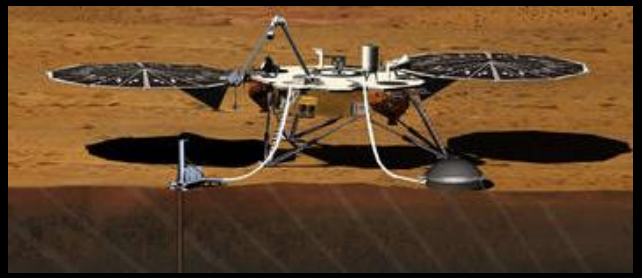
MSFC Planetary Research at MSFC

- Planetary R&A at MSFC is lead by a team of 10 PhD planetary scientists – supported by MSFC engineering and project management
  - 5 FTE (including two new hires that begin in September)
  - 3 Post Docs (2 NPP's)
  - 2 Research Scientists



- R&A Focus
  - Geochemistry/Geochronology, Geophysics as applied to planetary surfaces and interiors, planetary formation and evolution
  - dusty plasma and planetary atmospheres

- Mission participation/Application
  - Science lead and team membership (Lunar Flashlight, InSight, Cassini, MER, MSL)
  - Mission Operations – MER and MSL
  - Instrument & technology development
  - Sample analysis, laboratory experiments
  - In situ resource utilization (ISRU)



MSFC Planetary Proposals

- 2015 - 2016
  - PDART Planetary Data Archiving, Restoration, and Tools
  - Hayabusa 2 Participating Scientist
  - MSL Participating Scientist
  - LDAP Lunar Data Analysis Program
  - EW Emerging Worlds
  - MATISSE Maturation of Technology and Instrumentation for Solar System Exploration
  - SSW Solar System Workings

MSFC input to PSD R&A restructure assesment

2. Impact of PSD R&A restructure on MSFC and NASA strategic direction

+ All of MSFC areas of research are related to one or more program elements

- Some program elements have accrued more proposals
    - Reviewer pool is even more limited since the scope of program element is increased
    - Greater potential for proposal overt/covert conflict

3. Impact on morale

+ Implementation has caused some angst in the community because of availability gaps of some program elements

4. Refocused resources on priorities

- Better mapped to the Decadal Survey

- Focus is a function of prioritization, and relevant priority of the program elements is not clear

MSFC input to PSD R&A restructure assesment

5. Thoughts for improvements
   - *Consistency*: Establish consistent phasing of non-core program elements so the community can plan their proposals and funding profiles
   - *Transparency*: Frequent and early communication with the community on forecasting calls; clarity of intent
6. Transparency

+ The restructure is transparent

- The relative priority of the program and its various elements is not transparent

MSFC input to PSD R&A restructure assessment

7. Committee task and future directions for NASA research
   - Commit to broader cross-directorate research
   - Example: In Situ Resource Utilization (ISRU)
     - ISRU is homeless; who owns this area of research, and technology development &application
     - ISRU is critical for the success of the NASA Exploration as it is currently envisioned.
     - Within SMD there is the capability to address many unresolved ISRU issues
     - *Encourage SMD & HEOMD to jointly develop and support ISRU R&A*
     - The former LASER program element would have been a place for this research – but the letter “E” has been removed
       - Recall the1939 novel entitled GADSBY by Ernest Vincent Wright
8. Effect on interdisciplinary research

   + Positive
     - Creation of PDART was a good move
     - Made the call very relevant