# Mars Exploration Program Analysis Group (MEPAG)



# MEPAG VM 12

*Introduction*

R. Aileen Yingst, MEPAG Chair

21 June 2021

Perseverance Navcams 360-Degree Panorama: This panorama, taken on Feb. 20, 2021, by the Navigation Cameras, or Navcams, aboard NASA's Perseverance Mars rover, was stitched together from six individual images after they were sent back to Earth. Credit: NASA/JPL-Caltech

# Agenda and Logistics:

- Please mute your phone
- Use chat box on WebEx; moderators will track questions
- Feedback/questions during and after meeting? → MEPAGmeetinggs@jpl.nasa.gov
- Presentations and recording will be online after meeting

**MEPAG VM12 June 21, 2021**

Agenda Version v4 6-01-2021

| *PDT* | *Topic* | *Speaker* | *EDT* |
|---|---|---|---|
| | **MEPAG & MEP Updates** | | |
| 10:00 AM | MEPAG Update | R. A. Yingst | 1:00 PM |
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| 10:40 AM | Mars Ice Mapper: Next Steps | E. Ianson M. Meyer | 1:40 PM |
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| 1:20 PM | Insight | B. Banerdt | 4:20 PM |
| 1:35 PM | MSL | A. Vasavada | 4:35 PM |
| 1:50 PM | Wrap-Up | R. A. Yingst | 4:50 PM |
| 2:00 PM | End | | 5:00 PM |

# MEPAG Programmatics

- Steering Committee (Chair: R. Aileen Yingst (PSI), appointed June 2019)
  - W. Calvin (Univ. Nevada Reno)
  - J. Eigenbrode (GSFC; rotating off)
  - D. Banfield (Cornell)
  - J. Filiberto (LPI; IDEA representative)
  - S. Hubbard (Stanford University)
  - S.S. Johnson (Georgetown University)
  - K. Lynch (LPI; IDEA representative)
  - J. Johnson (past Chair, JHU/APL)
  - M. Meyer (NASA HQ)
  - D. Beaty, R. Zurek (JPL)
  - J. Bleacher/P. Niles (HEOMD, NASA HQ) Ex Officio members

- Goals Committee (D. Banfield, Chair) New member
  - Goal I <*Life*> (J. Stern, GSFC; A. Davila, ARC)
  - Goal II <*Climate*> (D. Brain (Univ. Colorado), Claire Newman (Aeolis Research))
  - Goal III <*Geology*> (B. Horgan, Purdue, Becky Williams, PSI)
  - Goal IV <*Human Exploration*> (J. Bleacher, NASA HQ HEOMD; M. Rucker, P. Niles JSC)

# Mars Exploration Program Analysis Group (MEPAG)

## Steering Committee

R. Aileen Yingst
*PSI*
MEPAG Chair

Jeff Johnson,
*JHU/APL*
Past Chair

Wendy Calvin
*UNR*

Scott
Hubbard
*Stanford U.*

Sarah Stewart
Johnson
*Georgetown*

Don
Banfield
*Cornell U.*

Goals
Committee
Chair

Jen Eigenbrode
*GSFC (rotating off)*

Justin Filiberto
*LPI*
*IDEA Rep*

Kennda Lynch
*LPI*
*IDEA Rep*

Michael Meyer
*NASA HQ*

Rich Zurek
*MPO/JPL*

Dave Beaty
*MSR/JPL*

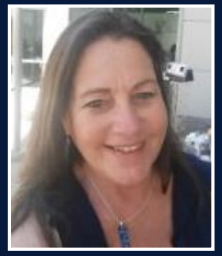
Jake Bleacher
*NASA HQ*

Paul Niles
*JSC*

# Mars Program Office associates

(Jet Propulsion Laboratory)

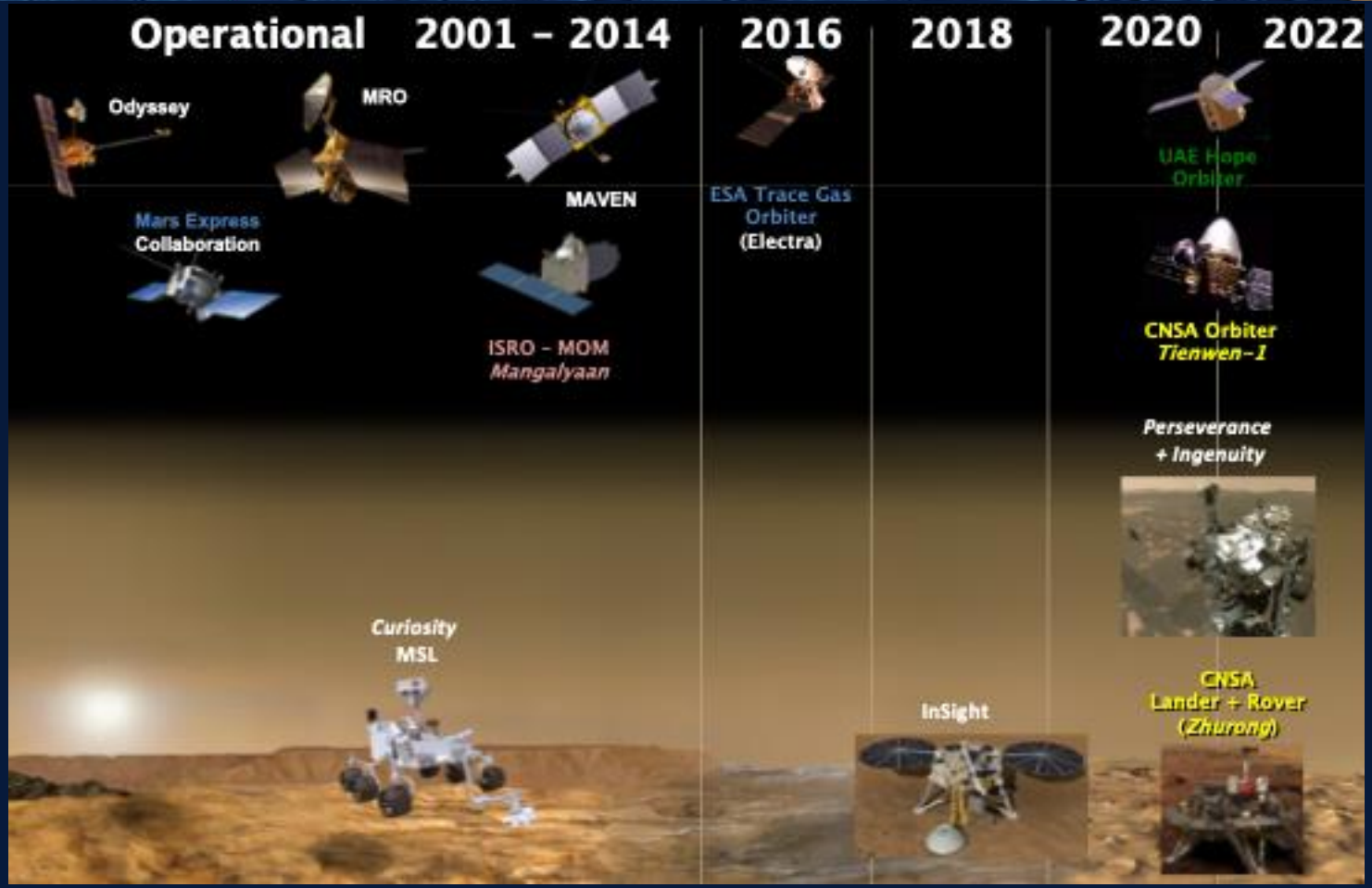
Brandi Carrier



Barbara Saltzberg

Sona Hosseini

# Mars Exploration Program Analysis Group (MEPAG)




Future Planning

ExoMars
Lander + Rover
in 2023

# Decadal Survey tentative schedule

- NASA-NASEM negotiate Statement of Task Done
  https://sites.nationalacademies.org/SSB/SSB_198165
- Web Site opens for White Paper Done
- Co-Chairs for DS announced (Canup, Christensen) Done
- Deadline for *Science* White Paper Submittal Done
- DS Steering Committee/Panel Chairs organize Done
  - Sign up at the NAS website for updates of open sessions

- First complete draft of survey report assembled ~10/2021
- Final Report released March 2022 (LPSC)

## MEPAG Active Findings

Mars Sample Return

- MEPAG commends the great effort between the Mars Exploration Program (MEP) and the Mars Sample Return (MSR) program to communicate smoothy and effectively, including the MOA between MSR & MEP. MEPAG will continue to assess how well the organization, balancing of duties, and lines of communication are working, as the challenges of coordinating a complex, international program arise.

Mars Exploration Program

- MEPAG encourages NASA to address the important MASWG report requested by the mid-term Decadal review. MEPAG believes that it defines the non-MSR aspects of the MEP and as a standalone report, it should be assessed on its own rather than waiting for the Decadal Survey report. MEPAG is ready to stand up committees that would investigate further the recommendations of this report.

# MEPAG Active Findings

Mars Exploration Program – Mars Ice Mapper

- The community continues to follow the progress of Mars Ice Mapper, and recommends early input from the Mars community as plans develop.

NASA Humans to Mars

- MEPAG is excited about the first stages of discussions regarding humans to Mars but is concerned regarding the lack of input the Mars community has had in the initial formation of science objectives for human exploration of Mars. Science community input into HEOMD architectures at the earliest stages will be crucial for coordination and better understanding of knowledge needed for a successful human mission to Mars. MEPAG intends to continue to publicize and support efforts that seek to broaden community input and open discussion, especially early in the process before any major architectural decisions are made.

# Other Upcoming Mars Activities

- 5th Planetary Data Workshop – Registration Deadline
  - June 23, 2021
- Deadline for comments on draft call for proposals, 2022 Planetary Mission Senior Review
  - June 25, 2021
- Planetary Science: The Young Solar System – Abstract Deadline
  - July 1, 2021
- Geological Society of America – Abstract Deadline
  - July 20, 2021
- Planetary Science: The Young Solar System – Early Registration Deadline
  - July 22, 2021

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# Mars Exploration Program Analysis Group (MEPAG)

## President's FY22 Budget Request ($M) Mars Exploration

| Budget Authority (in $ millions) | Op Plan FY 2020 | Enacted FY 2021 | Request FY 2022 | FY 2023 | FY 2024 | FY 2025 | FY 2026 |
|---|---|---|---|---|---|---|---|
| Mars Ice Mapper 3 | 0.0 | 7.2 | **15.0** | 40.0 | 40.0 | 30.0 | 30.0 |
| Mars Organic Molecule Analyzer (MOMA) | 7.3 | 5.1 | **4.9** | 7.3 | 6.5 | 3.0 | 0.0 |
| Mars Rover 2020 1 | 353.0 | 150.0 | **95.7** | 60.0 | 60.0 | 60.0 | 60.0 |
| ExoMars | 1.9 | 2.2 | **2.0** | 2.0 | 2.0 | 2.0 | 2.0 |
| Mars Program Management | 11.2 | 11.2 | **12.5** | 10.9 | 9.6 | 13.2 | 15.3 |
| Mars Future Missions | 65.5 | 23.3 | **7.5** | 5.8 | 15.0 | 13.0 | 15.0 |
| Mars Mission Operations | 5.9 | 6.7 | **6.7** | 5.5 | 5.5 | 5.5 | 5.6 |
| Mars Research and Analysis 4 | 9.9 | 14.0 | **15.0** | 15.7 | 15.7 | 15.7 | 15.7 |
| Mars Technology | 3.7 | 8.5 | **3.2** | 5.0 | 6.0 | 6.0 | 6.0 |
| 2011 Mars Science Lab | 47.0 | 47.5 | **45.0** | 40.0 | 30.0 | 20.0 | 20.0 |
| Mars Reconnaissance Orbiter 2005 (MRO) | 26.9 | 27.0 | **26.0** | 25.5 | 24.5 | 24.5 | 25.0 |
| Mars Odyssey 2001 | 11.7 | 11.0 | **11.0** | 11.0 | 11.0 | 11.0 | 11.0 |
| Mars Express | 1.1 | 0.0 | **0.3** | 0.3 | 0.3 | 0.3 | 0.3 |
| Mars Atmosphere & Volatile EvolutioN | 20.5 | 21.0 | **23.0** | 23.0 | 23.0 | 24.0 | 24.0 |
| **Total Budget** 2 | **565.7** | **334.8** | **267.8** | **251.9** | **249.1** | **228.1** | **229.8** |

## Mars Sample Return 2

| Budget Authority (in $ millions) | Op Plan FY 2020 | Enacted FY 2021 | Request FY 2022 | FY 2023 | FY 2024 | FY 2025 | FY 2026 |
|---|---|---|---|---|---|---|---|
| **Total Budget** | **0.0** | **246.3** | **653.2** | **772.3** | **800.0** | **700.0** | **600.0** |

### Notes

1. Reflects end of M2020 development and transition to prime and extended mission operations
2. MSR funding moved to separate budget Line
3. Planning for international Mars Ice Mapper (iMIM)
4. R & A increase

**Blue Box**: In-guide budgets for those missions proposing for extended missions in FY23-25 as part of the *2022 Planetary Mission Senior Review* (2022 PMSR)

- MEX: DSN support only (not reviewed in PMSR)