

NOTE ADDED BY JPL WEBMASTER: This content has not been approved or adopted by NASA, JPL, or the California Institute of Technology. This document is being made available for information purposes only, and any views and opinions expressed herein do not necessarily state or reflect those of NASA, JPL, or the California Institute of Technology



National Aeronautics and
Space Administration

EXPLORE MARS

Eric Ianson

Mars Exploration Program Director

Michael Meyer

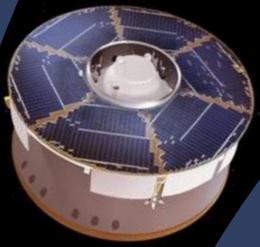
Lead Mars Scientist

Jeff Gramling

Mars Sample Return Program Director

Mars Exploration Program Analysis Group

January 27, 2021



Mars Exploration Status Highlights

- Mars 2020 / Perseverance is 22 days from landing – February 18, 2021. The spacecraft is healthy, all subsystems are operating nominally, and the mission team is making final preparations for EDL and initial surface operations.
 - L-22 media briefing scheduled for 4:30pm EST today on NASA TV and <https://www.youtube.com/nasa>
 - Get ready for landing with webinars, events, and participate via #CountdownToMars:
 - <https://mars.nasa.gov/mars2020/participate/countdown-to-mars/>
 - <https://mars.nasa.gov/mars2020/timeline/landing/watch-online/>
- InSight made a final attempt on January 9 to penetrate further with the HP³ mole. Unable to gain the friction it needs to dig, the team has called an end to their efforts. InSight will spend its extended mission listening for more marsquakes. To help get the clearest signal, the team plans to bury the cable that runs between the lander and the seismometer. More science to come.

Other Updates

- 2019 Senior Review letters have been sent to MSL, MRO, MAVEN, Odyssey, and Mars Express
- 2020 Senior Review letter has been sent to InSight
- Mars Ice Mapper Statement of Intent for the four partners is in the signature cycle
 - NASA is planning a “pre-Acquisition Strategy Meeting” this winter
- Ongoing NASA missions are healthy, productive, and funded through FY21
 - Odyssey: Providing most of the relay support for InSight
 - MRO: Testing of “Bent Pipe Communications” for Mars 2020 landing complete
 - MSL: Achieved 3,000 sols on Mars
 - MAVEN: In 7th year in orbit; exciting science ahead during solar cycle 25
 - ExoMars/TGO (ESA): Providing ~50% of NASA’s relay data from Mars ground assets (Curiosity and InSight)
- Integration of Mars activities (HEOMD, SMD) across the Agency
 - SMD is participating in the NASA Federated Board to better integrate Lunar and Mars activities
 - Significant studies are underway to better understand Moon-Mars exploration synergies and to guide future work and collaboration.
- MEP is working with NASEM to start a study on planetary protection for Mars missions

Budget Status

- FY21 Appropriation provides the resources to fulfill MEP's objectives and priorities:
 - Supports initiation of Perseverance's science & sample caching campaign on the surface of Mars
 - Ensures continued successful operation of existing missions
 - Supports Mars fundamental research & analysis
 - Supports and cultivates existing and future international partnerships
 - Promotes future mission opportunities for Mars science
 - Supports planning for the receiving and curation of returned samples
- Mars Sample Return budget fully supports planned FY21 Phase A activities

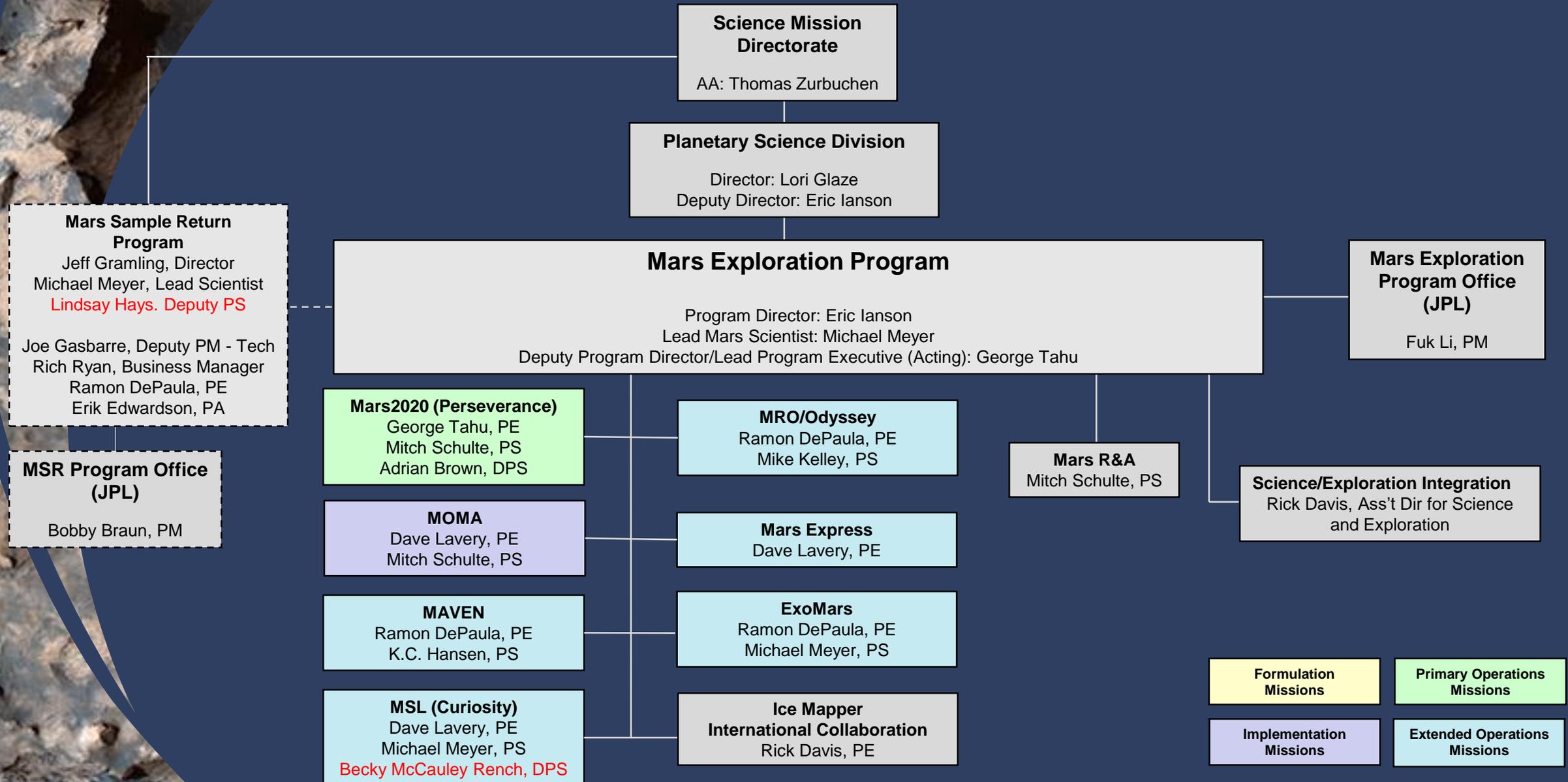
Science Highlights

- Caching strategy workshop, 21 January 2021
 - Workshop attendance: 255 participants
 - Inputs preserved in the chat, and will be accepted online through Jan. 25
 - CSSC report delivery: 19 February 2021
 - Agreed-to guidelines will be posted
- MSR Science Planning Group-2 been meeting regularly
 - Weekly meetings with focus groups and entire team
 - Interim report to HQ Dec 1, 2020
 - Report in Spring 2021
- Sample Safety Assessment Protocol report out, 43rd COSPAR Assembly Jan/Feb 2021
- Mars missions
 - UAE Hope MOI Feb 9
 - Tianwen-1 MOI Feb 10
 - Perseverance EDL Feb 18
- Deputy Program Scientists
 - Becky McCauley Rensch – Curiosity
 - Lindsay Hays – MSR

Relationship of the MEP and MSR Programs

- Over multiple decades, the success of the MEP has enabled ground-breaking science and built the engineering and science foundation for MSR.
- Establishing the MSR program as a separate implementation organization conforms with the NASA policy that Agency flagship missions are directly accountable to the responsible Mission Directorate Associate Administrator (AA).
- As the campaign to return samples from Mars is a highly challenging effort with a significant international partnership with ESA, the creation of an MSR program distinct from MEP provides for a focused approach to mission implementation and objectives for both programs.
 - MSR is tasked with retrieving and returning collected samples safely to Earth.
 - MEP continues to manage and organize the scientific exploration of Mars, including:
 - Operation of the Perseverance Rover (the “first leg” of the MSR campaign),
 - The future project to establish the sample receiving/curation facility, and
 - Curation of the samples returned to Earth by MSR.

SMD Mars Exploration Organization



Coordination between MEP and MSR (1 of 2)

- MEP and MSR are working on finalizing a “Memorandum of Agreement” (MOA) to codify the relationship between the two organizations
- Some of the key areas of coordination in the draft MOA, include:
 - MEP and MSR Directors (and their staffs) will conduct bi-weekly coordination meetings.
 - PSD’s Lead Mars Scientist shall serve as both the MEP Lead Scientist and as MSR Program Scientist to facilitate coordination and provide cohesion.
 - A Joint Steering Group (JSG) between MEP and MSR will be used to resolve any issues between the programs
 - Co-chaired by the MEP and MSR Program Directors.
 - The JSG will be convened on an as-needed basis and the Co-Chairs will present the results of meetings to the PSD Director, SMD AA and/or NASA AA, as appropriate.
 - The MEP Director will serve as a member of the MSR NASA/ESA Joint Steering Board.
 - The MEP Director will present the MEP recommendation at MSR decisional meetings (DPMCs, APMCs, etc).

Coordination between MEP and MSR (2 of 2)

- Key areas of coordination in the draft MOA (continued):
 - MEP personnel will participate in MSR Life Cycle Reviews.
 - MSR personnel will participate in Mars 2020 Critical Event Reviews.
 - MEP and MSR will coordinate on MSR Campaign outreach and communication.
- The MSR and MEP Program Offices are both at JPL and the only two NASA programs in the JPL Planetary Science Directorate
 - The MSR and MEP Program Managers report institutionally to the JPL Director for Planetary Science.
- Weekly HQ/JPL Planetary Science Leadership teleconference (not MEP/MSR specific) participants:
 - NASA HQ: PSD Director, MSR and MEP Program Directors, PSD Flight Programs Associate Director.
 - JPL: Planetary Science Director, MSR and MEP Program Managers.