

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

DIVISION ON ENGINEERING AND PHYSICAL SCIENCES
SPACE STUDIES BOARD

Committee on Extraterrestrial Sample Analysis Facilities
Meeting #3: April 3-5, 2018

Tuesday, April 3, 2018
Room: Keck 101

National Academy of Sciences Keck Building

500 5th St NW
Washington, DC

CLOSED SESSION

9:00 a.m. – 10:20 a.m. Closed committee-only discussion

OPEN SESSION

Remote Access Information

Link: <https://nasem.zoom.us/j/784169426>

Toll-free dial: 1 855 880 1246

Meeting ID 784 169 426

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| 10:30 a.m. | RELAB | Ralph Milliken, Brown University (<i>via Zoom</i>) |
| 11:15 a.m. | Experiences from a Stardust Laboratory | Andrew Westphal, UC Berkeley (<i>via Zoom</i>) |
| 12:00 p.m. | <i>Working lunch for committee members and guests</i> | |
| 1:00 p.m. | NASA Goddard Astrobiology Analytical Lab and Working with Challenging Materials | Jason Dworkin, NASA Goddard |
| 1:45 p.m. | Challenges Facing Curation of Samples for Organic and Life Detection Studies
Andrew Steele, Geophysical Laboratory, Carnegie Institution of Washington | |
| 2:30 p.m. | Discussion of Astromaterials Science and Exploration Science (ARES) Facility Strategy | Lisa Pace, NASA JSC (<i>via Zoom</i>) |
| 3:30 p.m. | <i>Break</i> | |

CLOSED SESSION

4:00 p.m. – 5:30 p.m. Closed committee-only discussion

6:00 p.m. *Working dinner at District Chophouse, 509 7th St NW*

8:00 p.m. *Meeting adjourns for the day*

Wednesday, April 4, 2018
Room: Keck 101

CLOSED SESSION

8:30 a.m. – 5:30 p.m. Closed committee-only discussion

Thursday, April 5, 2018
Room: Keck 101

CLOSED SESSION

8:30 a.m. – 1:00 p.m. Closed committee-only discussion

1:00 p.m. *Meeting adjourns*

Statement of Task

To prepare for the analysis of diverse extraterrestrial samples in the coming decade, NASA requires information on the current capabilities of the planetary science community's analytical laboratory facilities, their future requirements, and any associated challenges. Therefore, the National Academies of Sciences, Engineering, and Medicine will assemble a committee to perform a study addressing the following questions:

- What laboratory analytical capabilities are required to support the NASA Planetary Science Division's (and partners') analysis and curation of existing and future extraterrestrial samples?
- Which of these capabilities currently exist, and where are they located (including international partner facilities)?
- What existing capabilities are not currently accessible that are/will be needed?
- Whether the current sample laboratory support infrastructure and NASA's investment strategy meets the analytical requirements in support of current and future decadal planetary missions.
- How can NASA ensure that the science community can stay abreast of evolving techniques and be at the forefront of extraterrestrial sample analysis?

NOTES

Note to Observers: This meeting is being held to gather information to help the committee conduct its activities. The committee will examine the information and material obtained during open sessions in an effort to inform its work. Although opinions may be stated and lively discussion may ensue, no conclusions are being drawn at this time. Therefore, observers who draw conclusions about the committee's work based on discussions during this meeting will be doing so prematurely. Furthermore, individual committee members often engage in discussion and questioning for the specific purpose of probing an issue and sharpening an argument. The comments of any given committee member may not necessarily reflect the position he or she may actually hold on the subject under discussion, to say nothing of that person's future position as it may evolve in the course of the committee's activities.

Note to Presenters: If your presentation contains unpublished data, ITAR controlled and/or other sensitive information, please be aware that the open sessions at the meeting will be webcast and presentation materials given to the committee may be posted on a publicly accessible website. Please edit your presentations accordingly.

Working Dinner: All meeting participants can attend. The Academies will only pay for members of the committee and guest speakers. Unfortunately, the Academies cannot pay for civil servants. The cost of the dinner is \$50.00. Checks, payable to the National Academy of Sciences, are preferred.