



Lunar Surface Innovation

C O N S O R T I U M

LSIC Dust Mitigation Focus Group

Monthly Meeting

September 16, 2021



JOHNS HOPKINS
APPLIED PHYSICS LABORATORY

Dr. Jorge Núñez
Senior Scientist
Space Exploration Sector

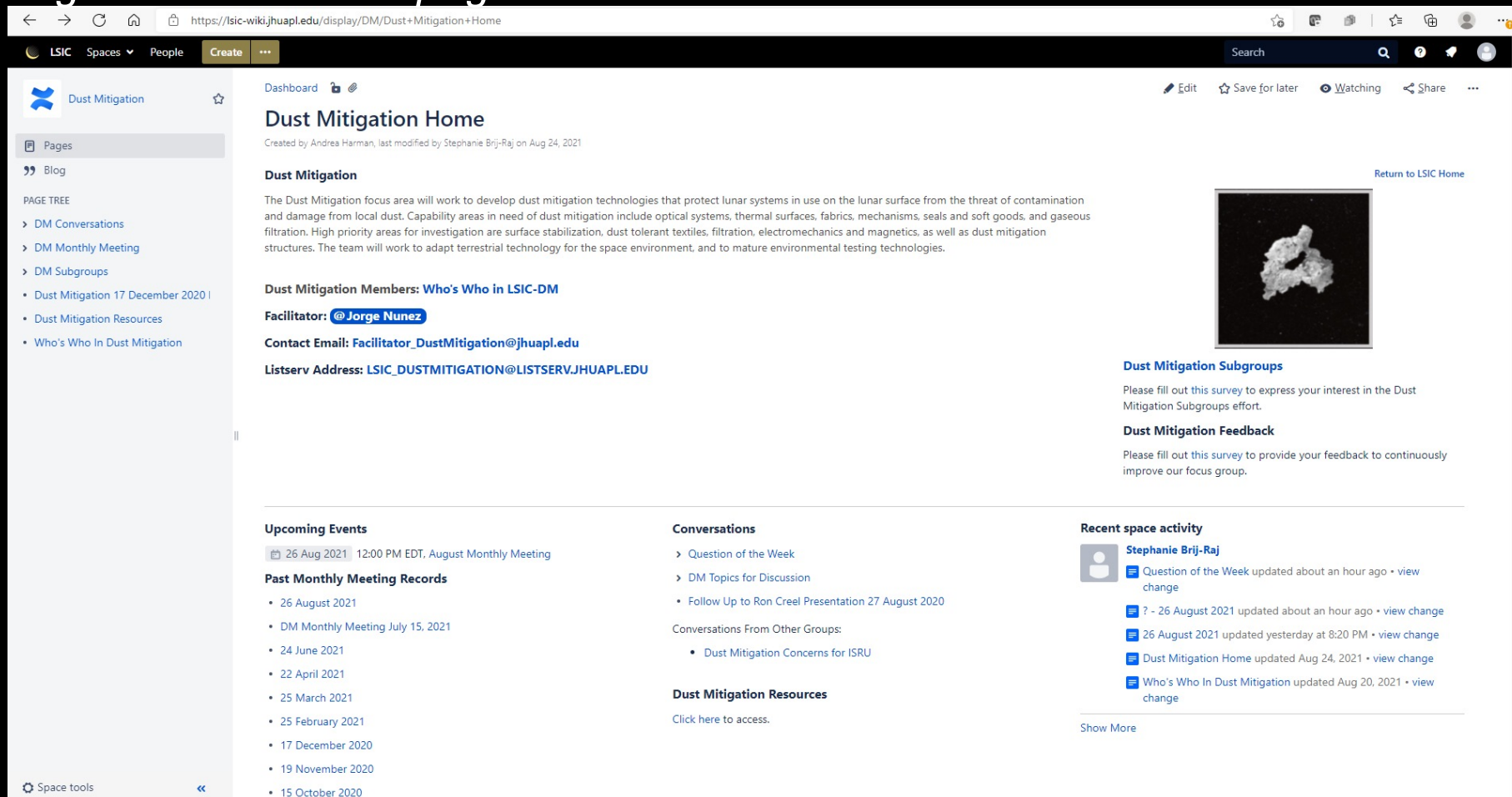
Facilitator: DustMitigation@jhuapl.edu

Agenda

- LSIC welcome and Intro to CLPS and PRISM Discussion Topic
 - Dr. Jorge Núñez, APL (5min)
- Overview of Dust Mitigation Payloads on NASA CLPS missions
 - Michael Johansen, NASA STMD (5 min)
- Regolith Adherence Characterization (RAC) and the CLPS payload process
 - Allison Goode, Aegis Aerospace, Inc. (10 min)
- INO Technologies for Lunar Dust Sensing
 - Dr. Denis Dufour, INO (10 min)
- Overview of 2021 NASA PRISM Call
 - Dr. Ryan Watkins, NASA ESSIO and NASA Program Scientist for 2021 PRISM Solicitation (10 min)
- Discussion of Dust Mitigation needs and NASA PRISM opportunity (20 min)
 - Everyone

LSIC Dust Mitigation Confluence Site

- Please contact Andrea Harman (ams573@alumni.psu.edu) to get set up with an account!
- *Dust Mitigation Discussion page and wiki*



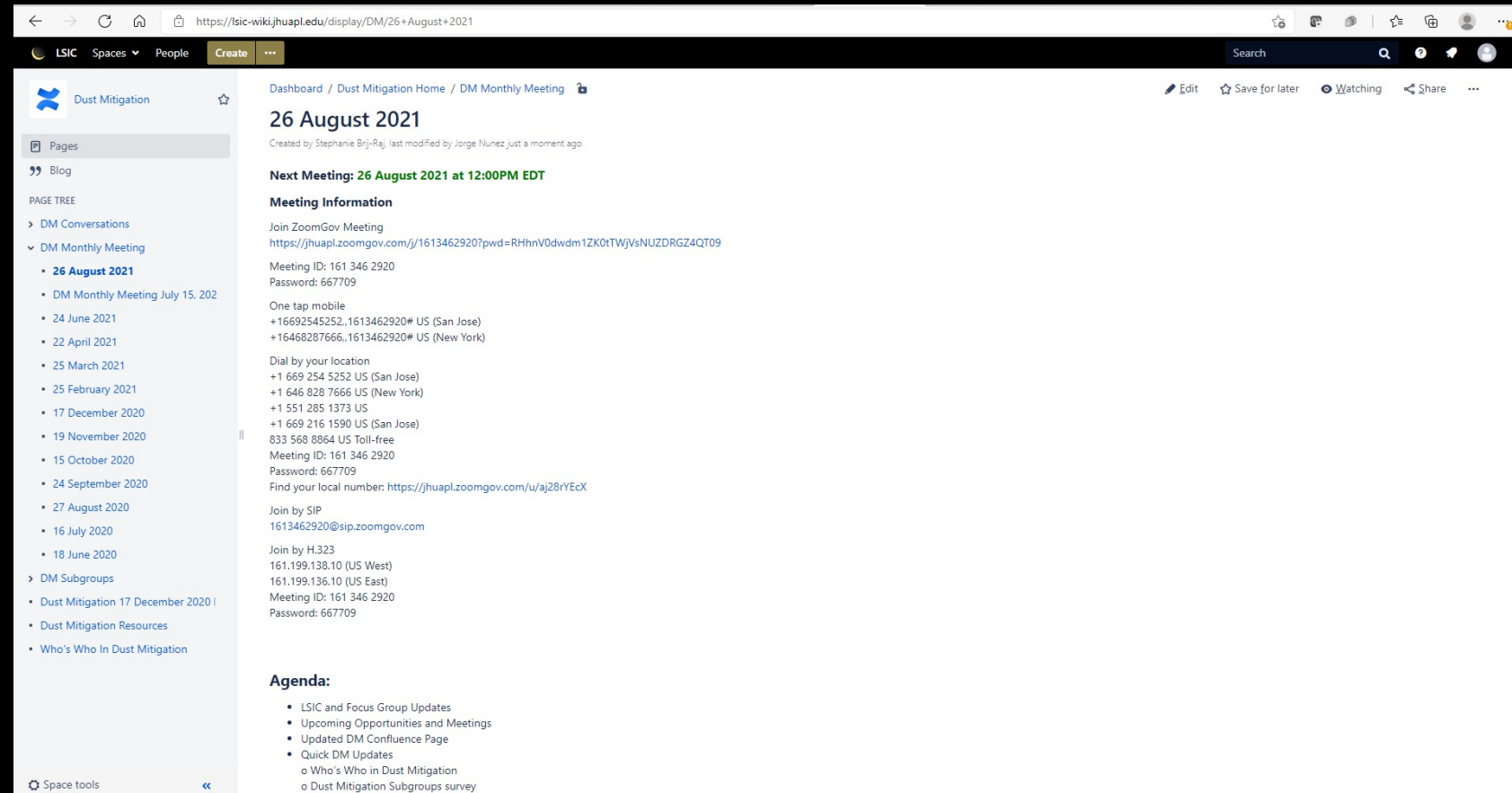
The screenshot shows the Confluence page for the Dust Mitigation Home. The page is titled "Dust Mitigation Home" and was created by Andrea Harman, last modified by Stephanie Brij-Raj on August 24, 2021. The page content includes:

- Dust Mitigation:** A paragraph describing the focus area's goal to develop dust mitigation technologies for lunar systems, mentioning areas like optical systems, thermal surfaces, and dust filtration.
- Dust Mitigation Members: Who's Who in LSIC-DM:** Lists the facilitator as @Jorge Nunez and provides contact information: Contact Email: Facilitator_DustMitigation@jhuapl.edu and Listserv Address: LSIC_DUSTMITIGATION@LISTSERV.JHUAPL.EDU.
- Upcoming Events:** A calendar entry for "26 Aug 2021 12:00 PM EDT, August Monthly Meeting".
- Past Monthly Meeting Records:** A list of dates from 2020 to 2021, including 26 August 2021, DM Monthly Meeting July 15, 2021, 24 June 2021, 22 April 2021, 25 March 2021, 25 February 2021, 17 December 2020, 19 November 2020, and 15 October 2020.
- Conversations:** A list of discussion topics such as "Question of the Week", "DM Topics for Discussion", and "Follow Up to Ron Creel Presentation 27 August 2020".
- Dust Mitigation Resources:** A link to access resources.
- Dust Mitigation Subgroups:** A section with a photo of a lunar rock and a link to a survey to express interest in the subgroups effort.
- Dust Mitigation Feedback:** A section with a link to a survey to provide feedback on the focus group.
- Recent space activity:** A list of recent updates, including "Question of the Week updated about an hour ago" and "26 August 2021 updated yesterday at 8:20 PM".

Join the Discussion on Confluence Site

- Please contact Andrea Harman (ams573@alumni.psu.edu) to get set up with an account!
- *Dust Mitigation Discussion page and wiki*

- 1. Sign-in to add a comment
- 2. Add comment at bottom of page
- 3. You can comment before, during, or after today's meeting



The screenshot shows a Confluence page titled "Dust Mitigation" with a sub-page "DM Monthly Meeting" for "26 August 2021". The page content includes:

- Next Meeting: 26 August 2021 at 12:00PM EDT**
- Meeting Information**
 - Join ZoomGov Meeting: <https://jhuapl.zoomgov.com/j/1613462920?pwd=RHhnV0dwdm1ZK0tTWjVsNUZDRGZ4QT09>
 - Meeting ID: 161 346 2920
 - Password: 667709
 - One tap mobile:
 - +16692545252,1613462920# US (San Jose)
 - +16468287666,1613462920# US (New York)
 - Dial by your location:
 - +1 669 254 5252 US (San Jose)
 - +1 646 828 7666 US (New York)
 - +1 551 285 1373 US
 - +1 669 216 1590 US (San Jose)
 - 833 568 8864 US Toll-free
 - Meeting ID: 161 346 2920
 - Password: 667709
 - Find your local number: <https://jhuapl.zoomgov.com/u/aj28rYEcX>
- Join by SIP: 1613462920@sip.zoomgov.com
- Join by H.323:
 - 161.199.138.10 (US West)
 - 161.199.136.10 (US East)
 - Meeting ID: 161 346 2920
 - Password: 667709

- Agenda:**
- LSIC and Focus Group Updates
- Upcoming Opportunities and Meetings
- Updated DM Confluence Page
- Quick DM Updates
 - Who's Who in Dust Mitigation
 - Dust Mitigation Subgroups survey

Updates and Communications

- Monthly LSIC newsletter – New edition came out September 1
 - <http://lsic.jhuapl.edu/Resources/>
- Mailing list
 - The listserv goes to all participants. Use with caution. But feel free to use!
 - Please make sure to add LSIC_DUSTMITIGATION@LISTSERV.JHUAPL.EDU to safe senders list.
 - If we need smaller, focused lists we can set those up
- Updates to the webpage - <http://lsic.jhuapl.edu/Focus-Areas/Dust-Mitigation.php>
 - Notes, slides, recordings from telecons posted here
- Wiki is ready!
 - Confluence is free to you and available to all registered LSIC members
 - To request an account, please email Andrea Harman: ams573@alumni.psu.edu
- Lightning Talks at monthly focus group meetings
 - Anyone can volunteer to give a featured talk (~15 mins)
 - Email me if you want to sign up: Facilitator_DustMitigation@jhuapl.edu

Follow the Code of Conduct for all Focus Group communications

http://lsic.jhuapl.edu/Resources/files/Code%20of%20Conduct_05222020.pdf

LSIC Activities

Recent and Upcoming LSIC Workshops and Meetings (<http://lsic.jhuapl.edu/News-and-Events/>)

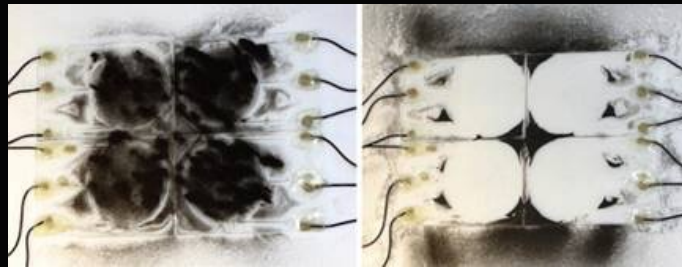
- LSIC Fall Meeting (11/3-4), Bowie State University
 - <https://lsic.jhuapl.edu/News-and-Events/Agenda/index.php?id=148>

Other Recent and Upcoming Dust Mitigation Related Workshop and Meetings

- PRISM Pre-Proposal Conference, September 28
- AIAA ASCEND 2021 Meeting in Las Vegas, NV (11/15-17)

Dust Mitigation Surveys

- Please fill out the short survey below to sign-up for Dust Mitigation Subgroups:
- <https://docs.google.com/forms/d/e/1FAIpQLScB6iT2fgPqj2zIaP0s-rwWQDQ04TPfgVyiC5zn0AQPAT5CZA/viewform>
- Please fill out the feedback survey:
- https://docs.google.com/forms/d/e/1FAIpQLSdjuTIK_TLMnCM4_aSMLAzLS762qtzbgmcOd2fgizlCsab6KQ/viewform



2021 PRISM Solicitation

- This year’s “PRISM call is for science investigations that will be delivered to the lunar surface in the first half of Calendar Year (CY) 2025 and late CY2025 or early CY2026 to predetermined lunar landing sites.
- These deliveries will go:
 - Gruithuisen Domes, a nearside silicic volcanic construct, between Q1-Q2 2025,
 - South Polar (84-90° S) location between Q4 2025 – early Q1 2026.
- “Investigations proposed to the South Polar delivery are required to address primarily the goals listed in the Artemis III SDT Objective 7, which are focused on environmental monitoring or biological sciences.” **Environmental monitoring includes understanding the lunar dust environment.**
- Goal 7k: Understand lunar dust behavior, particularly dust dynamics— and Goal 7l: Understand lunar electrodynamics

Agenda

- LSIC welcome and Intro to CLPS and PRISM Discussion Topic
 - Dr. Jorge Núñez, APL (5min)
- Overview of Dust Mitigation Payloads on NASA CLPS missions
 - Michael Johansen, NASA STMD (5 min)
- Regolith Adherence Characterization (RAC) and the CLPS payload process
 - Allison Goode, Aegis Aerospace, Inc. (10 min)
- INO Technologies for Lunar Dust Sensing
 - Dr. Denis Dufour, INO (10 min)
- Overview of 2021 NASA PRISM Call
 - Dr. Ryan Watkins, NASA ESSIO and NASA Program Scientist for 2021 PRISM Solicitation (10 min)
- Discussion of Dust Mitigation needs and NASA PRISM opportunity (20 min)
 - Everyone

Agenda

- LSIC welcome and Intro to CLPS and PRISM Discussion Topic
 - Dr. Jorge Núñez, APL (5min)
- Overview of Dust Mitigation Payloads on NASA CLPS missions
 - Michael Johansen, NASA STMD (5 min)
- **Regolith Adherence Characterization (RAC) and the CLPS payload process**
 - Allison Goode, Aegis Aerospace, Inc. (10 min)
- INO Technologies for Lunar Dust Sensing
 - Dr. Denis Dufour, INO (10 min)
- Overview of 2021 NASA PRISM Call
 - Dr. Ryan Watkins, NASA ESSIO and NASA Program Scientist for 2021 PRISM Solicitation (10 min)
- Discussion of Dust Mitigation needs and NASA PRISM opportunity (20 min)
 - Everyone

Agenda

- LSIC welcome and Intro to CLPS and PRISM Discussion Topic
 - Dr. Jorge Núñez, APL (5min)
- Overview of Dust Mitigation Payloads on NASA CLPS missions
 - Michael Johansen, NASA STMD (5 min)
- Regolith Adherence Characterization (RAC) and the CLPS payload process
 - Allison Goode, Aegis Aerospace, Inc. (10 min)
- **INO Technologies for Lunar Dust Sensing**
 - Dr. Denis Dufour, INO (10 min)
- Overview of 2021 NASA PRISM Call
 - Dr. Ryan Watkins, NASA ESSIO and NASA Program Scientist for 2021 PRISM Solicitation (10 min)
- Discussion of Dust Mitigation needs and NASA PRISM opportunity (20 min)
 - Everyone

Agenda

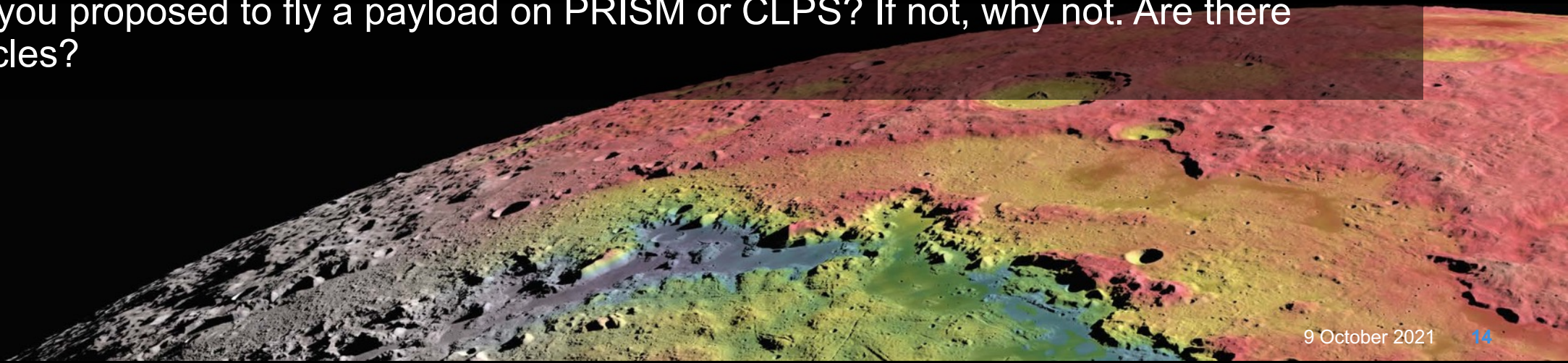
- LSIC welcome and Intro to CLPS and PRISM Discussion Topic
 - Dr. Jorge Núñez, APL (5min)
- Overview of Dust Mitigation Payloads on NASA CLPS missions
 - Michael Johansen, NASA STMD (5 min)
- Regolith Adherence Characterization (RAC) and the CLPS payload process
 - Allison Goode, Aegis Aerospace, Inc. (10 min)
- INO Technologies for Lunar Dust Sensing
 - Dr. Denis Dufour, INO (10 min)
- Overview of 2021 NASA PRISM Call
 - Dr. Ryan Watkins, NASA ESSIO and NASA Program Scientist for 2021 PRISM Solicitation (10 min)
- Discussion of Dust Mitigation needs and NASA PRISM opportunity (20 min)
 - Everyone

Agenda

- LSIC welcome and Intro to CLPS and PRISM Discussion Topic
 - Dr. Jorge Núñez, APL (5min)
- Overview of Dust Mitigation Payloads on NASA CLPS missions
 - Michael Johansen, NASA STMD (5 min)
- Regolith Adherence Characterization (RAC) and the CLPS payload process
 - Allison Goode, Aegis Aerospace, Inc. (10 min)
- INO Technologies for Lunar Dust Sensing
 - Dr. Denis Dufour, INO (10 min)
- Overview of 2021 NASA PRISM Call
 - Dr. Ryan Watkins, NASA ESSIO and NASA Program Scientist for 2021 PRISM Solicitation (10 min)
- Discussion of Dust Mitigation needs and NASA PRISM opportunity (20 min)
 - Everyone

PRISM Discussion

- What kind of measurements of lunar dust are still missing that can be addressed with a CLPS/PRISM mission?
- What kind of dust mitigation payloads/demonstrations would you like to see fly on a CLPS mission?
- Are there other destinations you think would be valuable for obtaining dust measurements or testing dust mitigation technology?
- Have you proposed to fly a payload on PRISM or CLPS? If not, why not. Are there obstacles?





JOHNS HOPKINS
APPLIED PHYSICS LABORATORY