



HULC
HUMAN LANDER CHALLENGE

Q&A Session #1

April 28, 2023

<https://hulc.nianet.org>

Please mute your mics

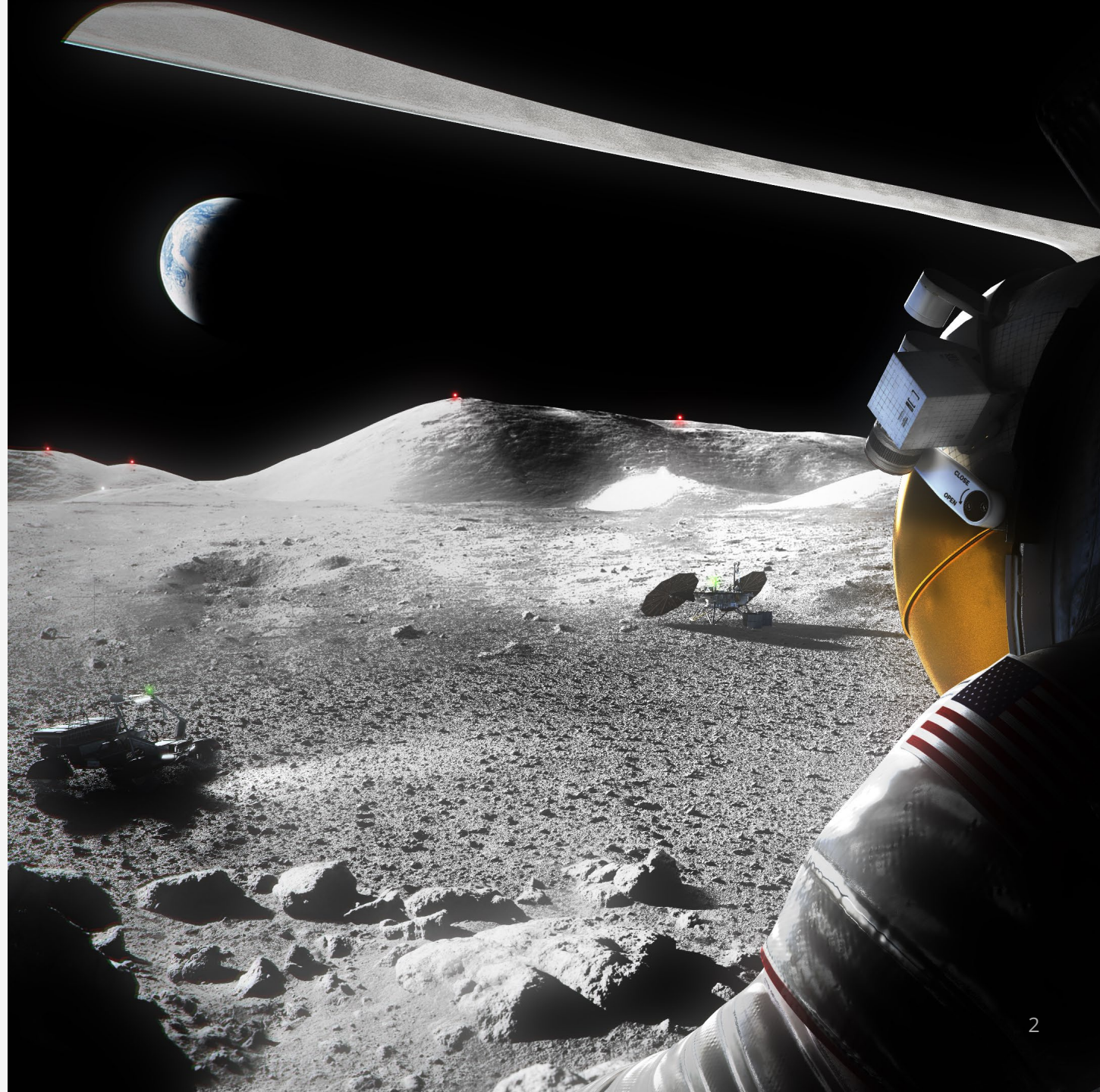
NATIONAL
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AEROSPACE



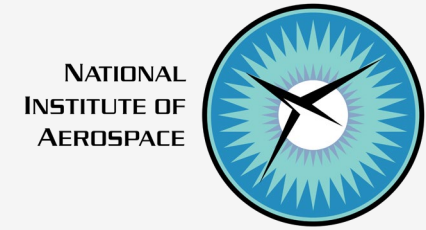
The Human Lander Challenge is sponsored by NASA's Exploration Systems Development Mission Directorate's (ESDMD's) Human Landing System (HLS) Program Office and managed by the National Institute of Aerospace.

AGENDA

- Welcome & Introductions
- Context for the Challenge
- General Remarks
- Programmatic Remarks
- Questions
- Wrap Up



NIA PROGRAM TEAM



Robin L. Ford



Victoria O'Leary

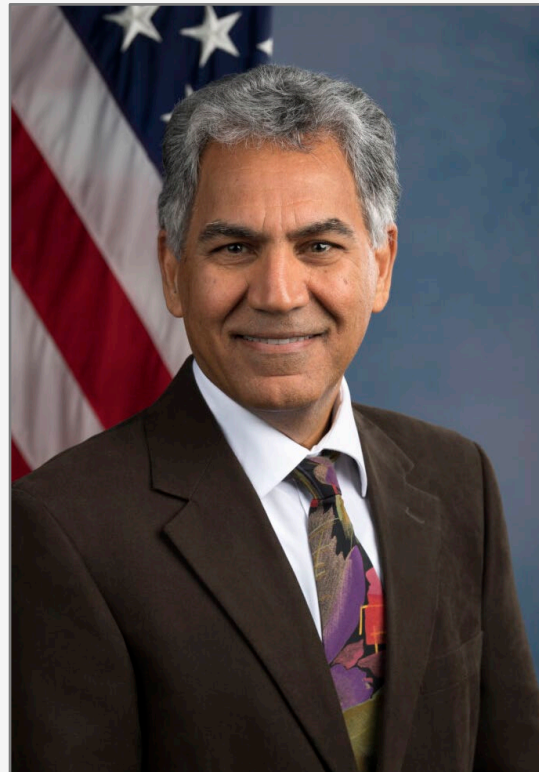
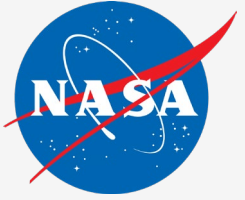


Stacy Dees



Shelley Spears

NASA SPONSORS

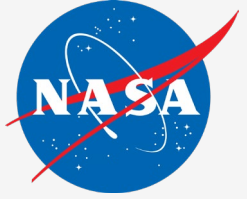


Jamshid Samareh
NASA's Langley Research Center



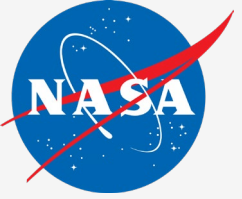
Lynn Bowman
NASA's Langley Research Center

JUDGES ON THE CALL



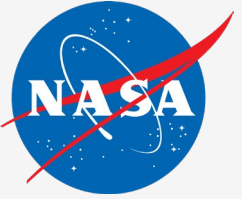
- **Wesley Chambers**, NASA's Marshall Space Flight Center
- **Samantha Shine Harris**, NASA's Marshall Space Flight Center
- **Ashley Korzun**, NASA's Langley Research Center
- **Manish Mehta**, NASA's Marshall Space Flight Center

CONTEXT FOR THE HuLC COMPETITION



- Why is NASA sponsoring this competition and what do we hope to get out of it?
- Overview of the Competition Background & Purpose

2024 THEME: MITIGATING THE IMPACTS OF LUNAR PLUME-SURFACE INTERACTION (PSI)



Teams are invited to submit proposals for **innovative, systems-level solutions to understand, mitigate, and manage the impacts of lunar PSI that can be implemented within 3-5 years.**

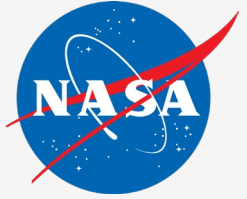
The potential solutions teams can propose to could include, but are not limited to, the following categories:

- Trade Studies on Landing Trajectories that Minimize PSI
- Reduction / Mitigation of Erosion (Cratering) and Ejecta during Descent, Landing, and Ascent
- Development of PSI Flight Instrumentation / Measurement Methods and Concepts
- Tracking Dust During Descent, Landing, and Ascent
- Instrumentation Performance Through the Dust Cloud During Landing
- HLS Asset Safety (ejecta damage, excessive lander heating, etc.)
- PSI Modeling and Validation



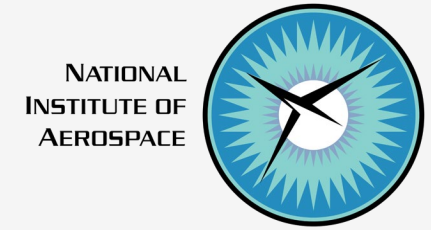
**View the complete
HuLC Challenge
Guidelines PDF**

PROPOSAL & VIDEO EXPECTATIONS

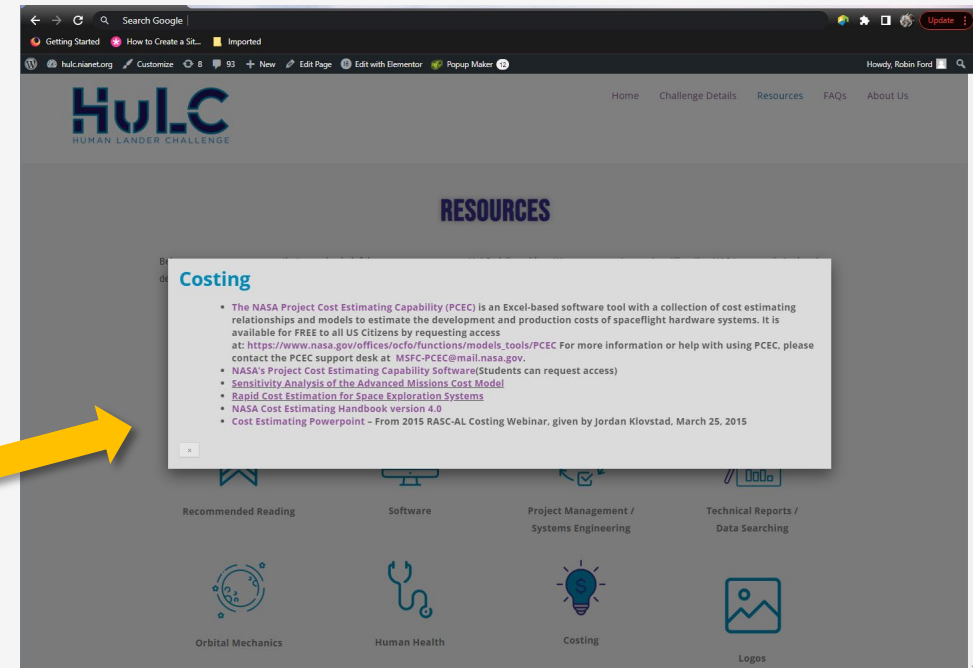
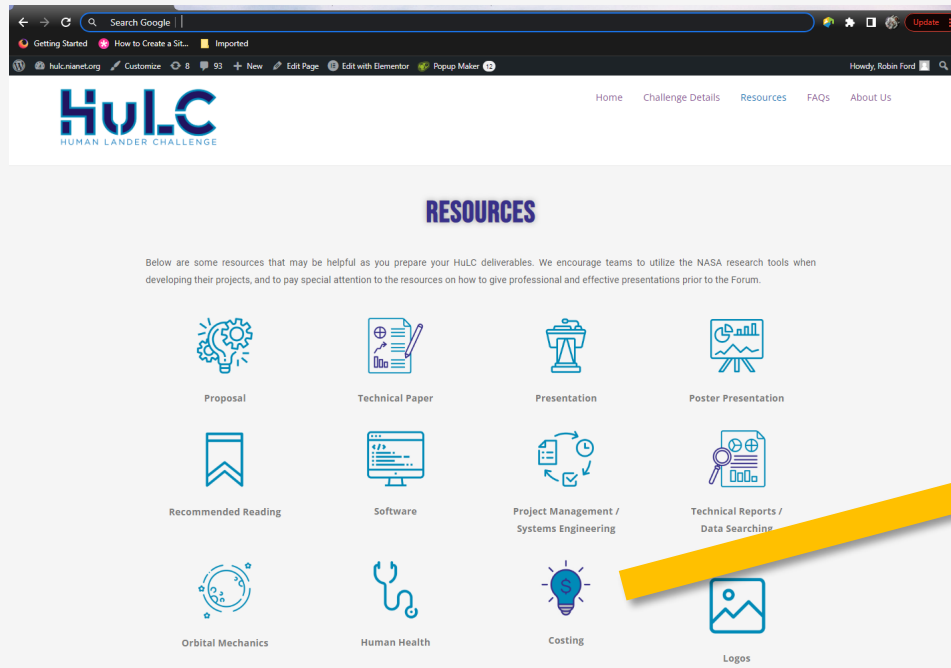


- **What are we looking for in the 5 to 7-page proposal?**
 - Clearly articulate the innovation and design being proposed
 - YOU are selling your proposed concept to the judges!
 - Include enough details to give them confidence that your proposed concept has merit
 - Budget Assessment
 - A realistic budget assessment (including an assessment of cost margin) and an explanation of your assumptions. Use of NASA [costing tools](#) is strongly encouraged.
 - Balance of Innovation and Feasibility
 - Find a balance between sound technical analysis and revolutionary concepts. Innovation will be rewarded, and is highly desired, but not at the expense of fundamentals.
 - Reminder: Faculty advisors must sign the proposal for submission to be valid
- **What are we looking for in the 2-minute video?**
 - The intent is for the video to augment each team's proposal by including animation, graphics, or other creative ways of showcasing unique aspects of their proposed concept.

RESOURCES

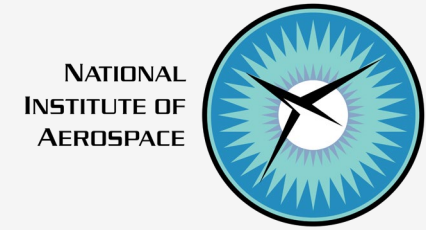


Please check out our extensive [Resources](#) page on the website for useful tools and information that will support your proposal development.

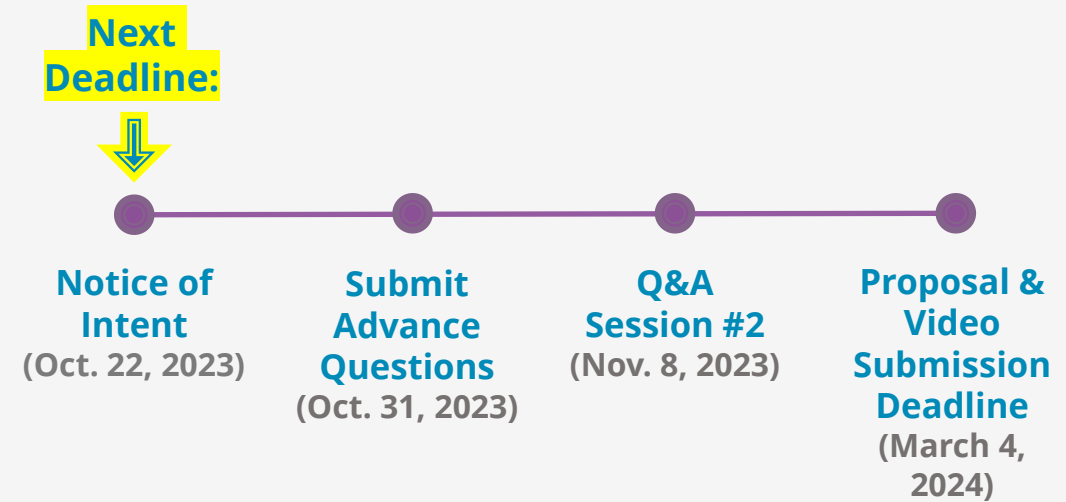


NOTE: Added "[NASA's Moon to Mars Strategy and Objectives Development](#)" and "[Phenomenology of soil erosion due to rocket exhaust on the Moon and the Mauna Kea lunar test site](#)" to the [Recommended Reading](#) list on 4/11/23 and 4/20/23.

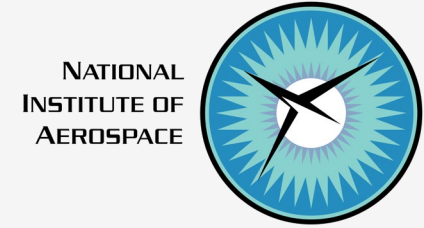
PROGRAMMATIC REMARKS



- Eligibility requirements:
 - **At a minimum, teams must contain one (1) faculty advisor at an accredited U.S.-based academic institution, and two (2) students from that institution** who work on the project and present at the HuLC Forum in June 2024. There is no limit to the number of students who participate throughout the year on a team.
 - A faculty advisor is **strongly encouraged** to attend the Forum with each team.
- Multi-disciplinary teams are encouraged!



PROGRAMMATIC REMARKS



Thoroughly review the Challenge Guidelines and Evaluation Criteria.

Carefully proof-read your submissions!

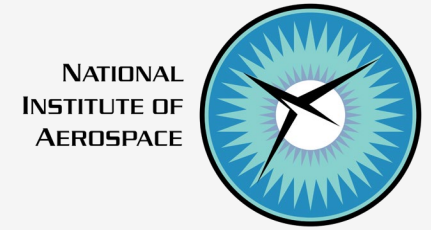
Ensure your concept adheres to the design guidelines and constraints.

Start early and plan ahead to have all of the supplemental elements required for the proposal submission. All deadlines are **FIRM**...no extensions will be granted.

A picture is worth a thousand words! Consider the use of graphs, charts, and images when appropriate.

Research and justify your assumptions!

FAQs



- **Are international students allowed to participate?**

Eligibility is limited to universities in the United States. **Foreign universities** are not eligible to participate in the HuLC competition.

Foreign Nationals attending the proposing U.S.-based university can fully participate on a HuLC Team, and at the HuLC Forum, with several notable exceptions. *Please refer to Page 7 of the [Challenge Guidelines](#) for full information.*

- **Can we work with industry, either formally or informally?**

Working with industry in a small capacity is acceptable, as long as this remains a student project with the students doing the bulk of the work. Teams can work with industry to receive mentorship, sponsorships, donations (cash or materials/supplies), or in-kind use of testing facilities.

- **Can we have a technical advisor who works for NASA?**

No. Teams are not permitted to use technical advisors who work for NASA, either as civil servants or contractors.

For a complete list of FAQs, visit <https://hulc.nianet.org/faqs>.

QUESTIONS?



Please use the “raise the hand” function to ask questions or enter them in the chat.



We will call on participants to unmute your mic and ask questions, one at a time.

FUTURE QUESTIONS?



Email all questions to: HuLC@nianet.org

- Each question will be responded to directly, as well as posted on the website (FAQs) for everyone to see.
- **Please do not contact the judges directly**

We encourage you to visit the website frequently for updates: <https://HuLC.nianet.org>



**View the complete
HuLC Challenge
Guidelines PDF**

**** Guidelines Change Log ****
located on Page 2 at the
bottom of the TOC