



# GEER (Glenn Extreme Environments Rig): Current Operation and Proposed Community Test

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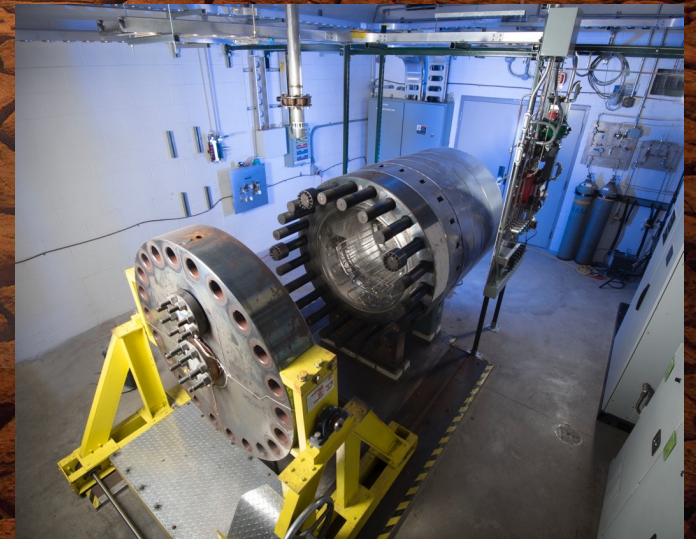
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21<sup>st</sup> Meeting of the Venus Exploration Analysis Group (VEXAG)  
October 30-31, 2023  
Albuquerque, New Mexico

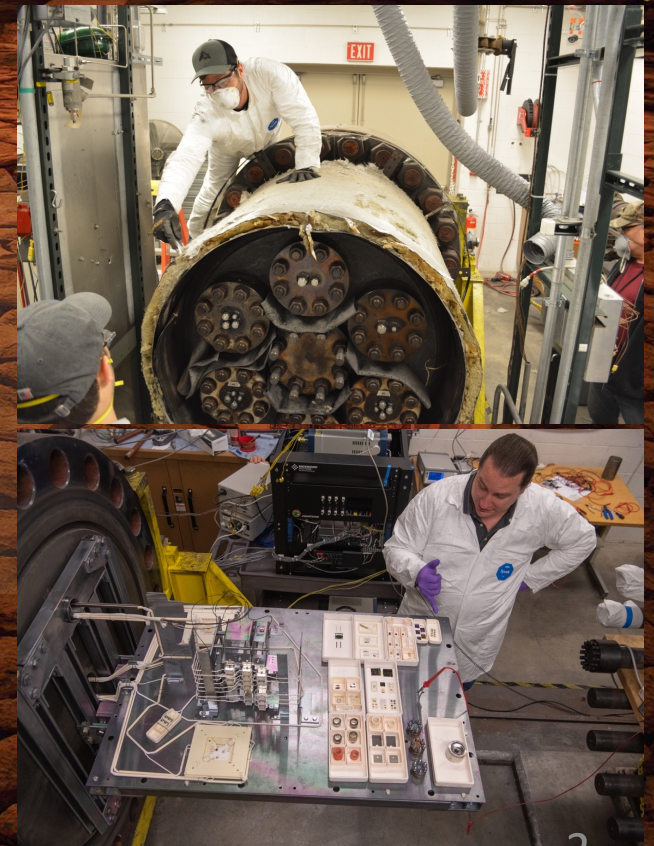


# GEER Operation and Accomplishments

National Aeronautics and  
Space Administration



- Recognized NASA Center of Excellence for Venus technology and science
  - Unique facility is originally designed to support NASA's Venus R&T activities and potential mission V&V campaigns
- High Tech pressure vessel capable of simulating a variety of temperature, pressure & atmospheric gas mixes to simulate extreme environments in the solar system & beyond
- Major Accomplishments in last few months
  - HOTTech-1 Test: Collection of high temperature technologies from a variety of research groups (i.e., government, university & private industry)
  - Vessel Recertification: Completed a full 10-year recertification
  - Baseline Test 1: "empty vessel" test to determine GEER's baseline SO<sub>2</sub> consumption during testing
  - HOTTech-2 year 1 test completed

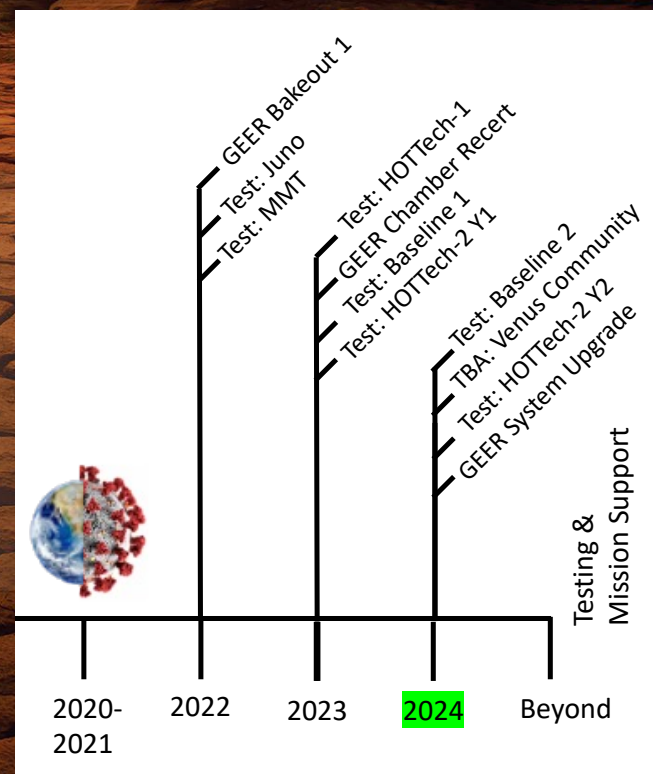


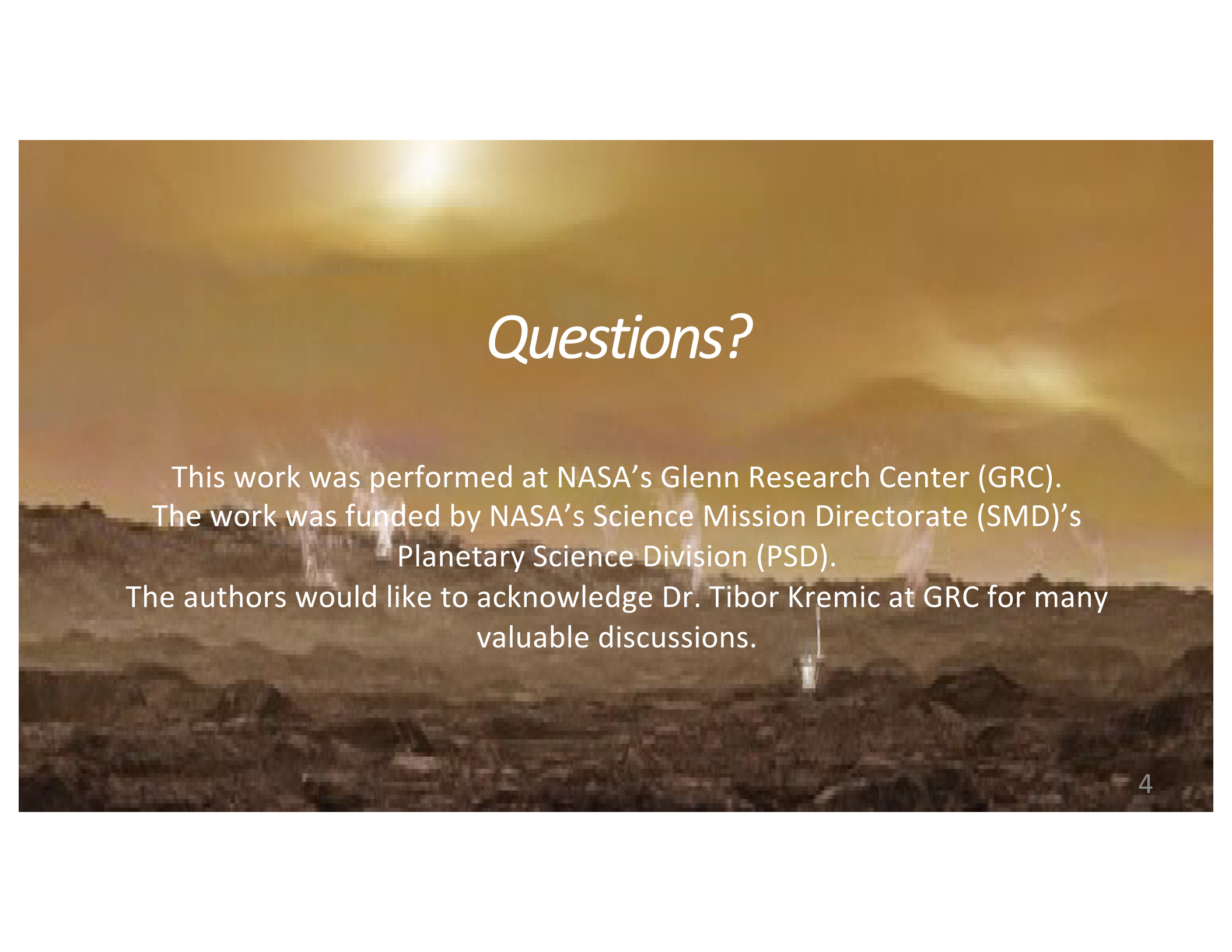
# Proposed Venus Community Test

National Aeronautics and  
Space Administration



- Proposed to NASA HQ to consider enabling / funding a community test open all
- Test Objectives:
  - Especially help early career and under-represented researchers
  - To enable boarder scientific understanding of Venus atmospheric and surface interactions and technology development in simulating Venus surface conditions
  - To facilitate the acquisition of preliminary data which can be used to prepare for future multi-year proposals
  - To do no harm to the facility or other occupants
- Projected Test Conditions:
  - Passive test duration (30 or 60 days) based on scientific merit
  - Notional: samples due: Jan 2024 (estimate test start: March 2024)
- *A supporting comment from VEXAG would help!*





# *Questions?*

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