

Indujaa Ganesh

University of Arizona
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EDUCATION

- 2022 **PhD**, Planetary Sciences, University of Arizona, Tucson
Thesis: Investigating late-stage explosive eruptions on the volcanic rises of Mars & Venus
- 2020 **MS (en route)**, Planetary Sciences, University of Arizona, Tucson
- 2017 **MTech**, Geoinformatics & Natural Resources Engineering, IIT Bombay
Thesis: Morphometric analyses of Interior Layered Deposits in Valles Marineris, Mars
- 2014 **BEng**, Geoinformatics, Anna University, Chennai

RESEARCH EXPERIENCE

- 2017 –2022 **Graduate Research Assistant**, University of Arizona
Inverting for dielectric properties of volcanic deposits on Mars and Venus from orbital radar data, using statistical and analytical approaches.
Numerical modeling of mass flow processes on Venus.
- 2020 **Exploration Science Summer Intern**, Lunar & Planetary Institute
Geologic and in-situ resource utilization studies of potential landing sites on the Moon for NASA's Artemis program.
- 2015 –2017 **Graduate Research Assistant**, IIT Bombay
Geomorphologic and morphometric studies of Interior Layered Deposits (ILDs) of Valles Marineris, Mars.
- 2013 **DAAD Summer Intern**, University of Heidelberg
Statistical analysis of LiDAR data over forested areas (LVISA project)
- 2012 **Summer Research Fellow**, PRL, Ahmedabad
Analysis of seasonal variations in Mars's lower atmosphere

SERVICE & PROFESSIONAL ACTIVITIES

- 2021–now **Reconnaissance/Science team**, International – Mars Ice Mapper mission
- 2021–now **Outreach and Social media team**, Venus Exploration and Analysis Group
- 2020–now **Executive secretary** on NASA review panels
- 2020–now **Reviewer** for Journal of Geophysical Research Planets, Journal of the Indian Society of Remote Sensing
- 2018–2021 **Organizing committee**, Lunar and Planetary Laboratory Conference

AWARDS & SCHOLARSHIPS

- 2021 Amelia Earhart Fellowship, Zonta International
- 2021, 2018 Lunar and Planetary Laboratory Curson Education Plus Fund Award
- 2021, 2020 University of Arizona Galileo Circle Scholarship

- 2019 Venus Exploration and Analysis Group (VEXAG) Travel Award
- 2019 Future Investigators in NASA Earth and Space Science and Technology (FINESST) Grant
- 2018 University of Arizona Graduate & Professional Student Council Travel Grant
- 2015 Government of India Postgraduate Scholarship
- 2013 German Academic Exchange Service's (DAAD) WISE Scholarship
- 2012 Indian Academy of Sciences Summer Research Fellowship

INVITED TALKS

- Apr 2022 VEXAG – *Second Planet Second Tuesdays* colloquium series
- Feb 2022 Purdue University – Department of Earth, Atmospheric, and Planetary Sciences Crater Cafe
- Feb 2022 University of California Santa Cruz – Institute for Geophysics and Planetary Physics Seminar.

TEACHING

- Fall 2018 **Graduate Teaching Assistant**, University of Arizona
PTY5 170B2 – The Universe and Humanity: Origin and Destiny
- Fall 2016 **Graduate Teaching Assistant**, IIT Bombay
GNR 603 – Introduction to Principles of Remote Sensing

WORKSHOPS

- 2019 NASA Planetary Volcanology Workshop, Hilo, Hawaii
- 2018 Workshop on Geology and Geophysics of the Solar System, Petnica, Serbia

PEER-REVIEWED PUBLICATIONS

- In revision **Ganesh, I.**, Carter, L. M., and Henz, T.N. Radar Backscatter and Emissivity models of proposed Pyroclastic Density Current deposits on Venus. In revision with the *Journal of Geophysical Research: Planets*.

Kumari, N., Bretzfelder, J., **Ganesh, I.**, Lang, A., and Kring, D. Surface Conditions and Resource Accessibility at Potential Artemis Landing Sites 007 And 011. Submitted to *The Planetary Science Journal*.
- 2021 **Ganesh, I.**, McGuire, L. A., and Carter, L. M. Modeling the dynamics of dense pyroclastic flows on Venus: insights into pyroclastic eruptions. *Journal of Geophysical Research: Planets*. doi: 10.1029/2021JE006943.

McGuire, L. A., Youberg, A. M., Rengers, F. K., Abramson, N. S., **Ganesh, I.**, Gorr, A. N., Hoch, O., Johnson, J. C., Lamom, P., Prescott, A. B., Zanetell, J., Fenerty, B. Extreme Precipitation Across Adjacent Burned and Unburned

Watersheds Reveals Impacts of Low Severity Wildfire on Debris-Flow Processes. *Journal of Geophysical Research: Earth Surface*. doi: 10.1029/2020JF005997.

2020 **Ganesh, I.**, Carter, L. M., and Smith I. B. SHARAD mapping of Arsia Mons caldera. *Journal of Volcanology and Geothermal Research*. doi: 10.1016/j.jvolgeores.2019.106748

CONFERENCE ABSTRACTS

2022 **Ganesh, I.**, Carter, L. M., and Henz, T. N. Radar Backscatter and Emission Models of Possible Pyroclastic Deposits on Venus. 53rd Lunar and Planetary Science Conference (2022). # 1771

2021 **Ganesh, I.**, Carter, L. M., and Henz, T. N. A radiative transfer approach to modeling polarimetric radar backscatter from possible pyroclastic deposits on Venus. AGU Fall meeting (2021). # 92514

Ganesh, I., McGuire, L. A., and Carter, L. M. Modeling the emplacement of pyroclastic density current (PDC) deposits on Venus: a comparison between concentrated and dilute PDC transport regimes. AGU Fall meeting (2021). # 92589

Hager, J., Ort, M. H., Henry, C. D., Silleni, A., and **Ganesh, I.** Using Anisotropy of Magnetic Susceptibility (AMS) to Determine the Flow Characteristics of a Pyroclastic Density Current: The Nine Hill Tuff, Nevada and California. AGU Fall meeting (2021). # 922399

Ganesh, I., Carter, L. M., and Henz, T. N. Radar backscatter models of possible pyroclastic deposits on Venus. 19th Meeting of the Venus Exploration Analysis Group (2021). # 8038

Henz, T., **Ganesh, I.**, and Carter, L. M. Measuring the Radar Properties of Pyroclastic Deposits in Eistla Regio, Venus. 52nd Lunar and Planetary Science Conference (2021). Virtual conference. # 2150

Ganesh, I., McGuire, L., and Carter, L. M. Dynamics of Dense Pyroclastic Flows on Venus – Insights into Pyroclastic Eruptions. 52nd Lunar and Planetary Science Conference (2021). Virtual conference. # 1218

Kumari, N. **Ganesh, I.**, Lang, A., Bretzfelder J., M., and Kring, D. A. Geological Diversity at Two Potential Landing Sites in the Lunar South Pole. 52nd Lunar and Planetary Science Conference (2021). Virtual conference. #1197

- 2020 Bretzfelder J., M., Lang, A., **Ganesh, I.**, Kumari, N., and Kring, D. A. Geological Analysis and Possible EVA Targets for an Artemis III Landing Site Bounded by Shackleton and Slater Craters. 52nd Lunar and Planetary Science Conference (2021). Virtual conference. # 1148
- McGuire, L. A. et al. (including **Ganesh, I.**). Extreme precipitation reveals impacts of a low severity wildfire on debris-flow processes. AGU Fall meeting (2020). # 736986
- Ganesh, I.**, McGuire, L. A., and Carter, L. M. Modeling Deposition from Dense Pyroclastic Density Currents on Venus. 18th Meeting of the Venus Exploration and Analysis Group (2020). Virtual conference.
- Ganesh, I.**, McGuire, L. A., and Carter, L. M. Pyroclastic Flow deposition on Venus. 51st Lunar and Planetary Science Conference (2020). Cancelled.
- 2019 **Ganesh, I.**, Carter, L. M., and Smith, I. SHARAD mapping of the Caldera of Arsia Mons. 50th Lunar and Planetary Science Conference (2019), The Woodlands, Texas, # 1859
- 2018 **Ganesh, I.**, Carter, L. M., and Smith, I. Subsurface Interfaces in the Arsia Mons Caldera - Observations from SHARAD. 49th Lunar and Planetary Science Conference (2018), The Woodlands, Texas, # 2807
- 2017 **Ganesh, I.** and Porwal, A. A GIS Based Compilation of Morphometric Parameters of Valles Marineris ILDs. 48th Lunar and Planetary Science Conference (2017), The Woodlands, Texas, # 2324
- Sarkar, R., Singh, P., **Ganesh, I.**, and Porwal, A. Origin of mass wasting features in Juventae Chasma, Mars. 47th Lunar and Planetary Science Conference (2016), The Woodlands, Texas, # 1876
- Singh, P., Sarkar, R., **Ganesh, I.**, and Porwal, A. Origin of fluvial channels in the walls of Juventae Chasma: evidences of groundwater sapping? 47th Lunar and Planetary Science Conference (2016), The Woodlands, Texas, # 1878