

Indujaa Ganesh

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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 APPOINTMENTS

- 2022–now **Postdoctoral Research Fellow**, GI, University of Alaska Fairbanks
- 2017–2022 **Graduate Research Assistant**, LPL, University of Arizona, Tucson
- 2020 **Summer Research Intern (virtual)**, Lunar & Planetary Institute, Houston
- 2015–2017 **Graduate Research Assistant**, IIT Bombay
- 2013 **DAAD Summer Intern**, Institute of Geography, Universität Heidelberg
- 2012 **Summer Research Fellow**, Physical Research Laboratory, Ahmedabad

MISSION INVOLVEMENT

- 2022–2027 **VenSAR science team member, Envision**, ESA medium-class mission
- 2022–2025 Postdoc Collaborator, VERITAS, NASA Discovery program
- 2017–2022 Student Collaborator, MRO SHARAD science team

GRANT FUNDING

- 2022–2027 **Principal Investigator**, VenSAR radiometry observations of Venus: characterizing surface dielectric properties and potential volcanic activity, *EnVision VenSAR Science Team (VeST) participation via NASA*

SERVICE & PROFESSIONAL ACTIVITIES

- 2022–now **Committee member**, Organization for Venus Early-career Networking (OVEN)
- 2021–2022 **Reconnaissance/Science team, Early-career member**, International – Mars Ice Mapper (I-MIM) mission
- 2021–now **Outreach and Social media team**, Venus Exploration and Analysis Group

- 2020–2022 **Executive secretary** on NASA review panels
- 2020–now **Reviewer** for Journal of Geophysical Research Planets, Planetary Science Journal, 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
- 2019–2022 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

- Oct 2022 Georgia Tech – School of Earth and Atmospheric Sciences – Planetary & Astrobiology Seminar
- 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
PTYS 170B2 – The Universe and Humanity: Origin and Destiny
- Fall 2016 **Graduate Teaching Assistant**, IIT Bombay
GNR 603 – Introduction to Principles of Remote Sensing

UNDERGRADUATE MENTORSHIP

- 2022–now Co-mentoring **Ellen Jesina (current undergraduate student at the University of Arizona)** on mapping potential landslides on Venus.
- 2021–2022 Co-mentored **Triana Henz (currently at the Planetary Science Institute)** on the measurement of radar backscatter properties of pyroclastic deposits on Venus.

FIELD EXPEDITIONS

- 2022 **Ground penetrating radar (GPR)** measurements of lava flows in the Lava Beds National Monument, northern California
- 2021 **Anisotropy of Magnetic Susceptibility (AMS)** measurements of the Nine Hill Tuff outcrops, northern California, and Nevada.
- 2019 **NASA Planetary Volcanology Workshop.** Studying effusive and explosive mafic deposits as planetary volcanic analogs in Hilo, Hawaii.

PEER-REVIEWED PUBLICATIONS

- 2022 **Ganesh, I.,** Carter, L. M., and Henz, T.N. Radar Backscatter and Emissivity models of proposed Pyroclastic Density Current deposits on Venus. *Journal of Geophysical Research: Planets.* doi.org/10.1029/2022JE007318
- Kumari, N., Bretzfelder, J., **Ganesh, I.,** Lang, A., and Kring, D. Surface Conditions and Resource Accessibility at Potential Artemis Landing Sites 007 And 011. *The Planetary Science Journal.* doi.org/10.3847/PSJ/ac88c2
- 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.org/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.org/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.org/10.1016/j.jvolgeores.2019.106748

COMMENTARY / REPORTS / WHITE PAPERS

- 2022 I-MIM Measurement Definition Team. Final Report of the International Mars Ice Mapper Reconnaissance/Science Measurement Definition Team. 239 pp., *posted online at <https://science.nasa.gov/researchers/ice-mapper-measurement-definition-team>.*
- 2022 Santos, A. R., Filiberto, J., **Ganesh, I.,** Gilmore, M., Lewis, J. A., and Treiman, A. H. Venus Petrology: The Need for New Data. *White Paper #177 Submitted to the Planetary Science and Astrobiology Decadal Survey 2023–2032. Bulletin of the AAS, Vol. 53, Issue 4.* doi: 10.3847/25c2cfcb.c73e5040.

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