Indujaa Ganesh

PhD candidate, University of Arizona

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IndujaaGanache

EDUCATION

expected 2022	**PhD**, Planetary Sciences, University of Arizona, Tucson *Thesis:* Investigating pyroclastic deposits near large volcanic structures on Mars and 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 – now	**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 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– 2022	**Reconnaissance/Science team member,** International – Mars Ice Mapper mission
2020– now	**Executive secretary** on NASA review panels
2020– now	**Reviewer** for Journal of Geophysical Research: Planets
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

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

WORKSHOPS

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

PEER-REVIEWED PUBLICATIONS

In preparation	**Ganesh, I.**, Carter, L. M., and Henz, T.N. Radar Backscatter and Emissivity models of proposed Pyroclastic Density Current deposits on Venus. To be submitted to *Journal of Geophysical Research: Planets*.
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

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

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

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.

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

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

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