Indujaa Ganesh

University of Alaska Fairbanks
Geophysical Institute
2156 Koyukuk Drive, Fairbanks, AK 99775

iganesh@alaska.edu
indujaa.com
github.com/iganache

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** Geophysical Institute, University of Alaska Fairbanks
2017–2022	**Graduate Research Assistant** Lunar and Planetary Laboratory, University of Arizona, Tucson
2020	**Summer Research Intern (virtual)** Exploration Science Summer Intern, Lunar & Planetary Institute, Houston
2015–2017	**Graduate Research Assistant** Centre for Studies in Resource Engineering, IIT Bombay
2013	**DAAD Summer Intern** Institute of Geography, Universität Heidelberg
2012	**Summer Research Fellow** Space and Atmospheric Sciences division, PRL, 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

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

NON-REFEREED / 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: 10.3847/25c2cfeb.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