

VISHNU REDDY

CURRICULUM VITAE

PROFESSOR
LUNAR AND PLANETARY LABORATORY
UNIVERSITY OF ARIZONA
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BIOGRAPHICAL SUMMARY

Vishnu Reddy is a planetary scientist and an infrared spectroscopist interested in connections between asteroids and meteorites to understand Solar System formation. His research also focuses on surveillance and characterization of space objects in cislunar space for the United States Space Force. He received his doctorate from University of North Dakota in Earth System Science and Policy (2009) where his dissertation focused on a mineralogical survey of the near-Earth asteroid population. He was a post-doctoral researcher at Observatório Nacional, Brazil (2010) and Research Assistant Professor at UND (2010-2013) during which he was the science lead for the framing camera team at the Max-Planck Institute for Solar System Research, Germany on NASA's Dawn mission to asteroid (4) Vesta. He subsequently worked at the Planetary Science Institute (2013-2016) before moving to the University of Arizona (2016-present) where he is a Professor in the Lunar and Planetary Laboratory. At UA, he serves as the director of the Space4 Center and the Biosphere 2 Space Domain Awareness Observatory Complex responsible for all ground-based optical/infrared and passive radio frequency space surveillance assets. He served as the investigation team lead (2015-2020) on NASA Near-Earth Object Surveyor Mission to discover 90% of near-Earth objects (NEOs) larger than 140 meters to fulfill the George E. Brown Congressional mandate. Asteroid 1981 EQ28 has been named (8068) vishnureddy by the International Astronomical Union in recognition of his contribution to planetary defense.

EDUCATION

Ph.D., Earth System Science and Policy, University of North Dakota, Grand Forks, 2009
M.S., Space Studies, University of North Dakota, Grand Forks, 2005
M.A., Communication, Madurai Kamraj University, 2001
B.S., Visual Communication, Bharathiar University, 1998

ACADEMIC APPOINTMENTS

Professor, Lunar and Planetary Laboratory, University of Arizona, Aug 2022 - present
Associate Professor, Lunar & Planetary Laboratory, University of Arizona, Aug 2018 – Aug 2022
Assistant Professor, Lunar & Planetary Laboratory, University of Arizona, Aug 2016 - Aug 2018
Adjunct Faculty, Lunar & Planetary Laboratory, University of Arizona, Jan 2016 - Aug 2016
Research Scientist, Planetary Science Institute, Dec 2013 - Aug 2016
Associate Research Scientist, Planetary Science Institute, Jun 2013 - Dec 2013
Research Assistant Professor, University of North Dakota Jan 2010 - Jun 2013
Visiting Scholar, Max Planck Institute for Solar System Research Dec 2009 - Jun 2013

ADMINISTRATIVE LEADERSHIP EXPERIENCE

Director, Space Safety, Security and Sustainability Center, 2022 - present
Director, Biosphere 2 Space Domain Awareness Observatory Complex, 2016 – present
Deputy Director, Space Situational Awareness Arizona Initiative, 2017-2021
Investigation Team Lead, NASA NEO Surveyor Mission, 2017-2020
Chief sub-Editor, The Asian Age Newspaper, 1999-2002

HONORS AND AWARDS

NASA Group Achievement Award: Dawn Science Operations Team 2019
NASA Group Achievement Award: Dawn Science Operations Team 2016
NASA Group Achievement Award: Dawn Science Team Ceres Phase 2016
NASA Sagan Early Career Fellowship, NASA PMDAP, 2013
NASA Group Achievement Award: Dawn Science Operations Team 2013
NASA Group Achievement Award: Dawn Science Team Vesta Phase 2013
Brazil Observatório Nacional Institutional Capacity Building Program Fellowship 2010
Pellas-Ryder Award, Meteoritical Society/Geological Society of America, 2009.
Eugene M. Shoemaker Impact Cratering Award, Geological Society of America, 2006.
Grant-in-Aid of Research Program Award, Sigma Xi Physics Society, 2004.
Asteroid (8068) Vishnureddy named by the International Astronomical Union.
Flight Cadet, National Cadet Corps, Indian Air Force (2 years mandatory service)

PROFESSIONAL SOCIETIES

American Astronomical Society
American Geophysical Union
Geological Society of America
Meteoritical Society

PROFESSIONAL LEADERSHIP AND SERVICE (LAST 10 YEARS)

IAWN Manager, International Asteroid Warning Network. Manage day-to-day interaction of IAWN signatories around the world, process IAWN signatory applications and coordinate induction of new signatories. 2025-Present.

Campaign Coordinator, International Asteroid Warning Network. Coordinate ground- and space-based assets from around the world to respond to an imminent asteroid impact threat. 2023-2025.

Science Lead, NASA Planetary Defense Exercise 2023 DZ2 Campaign. Leading a team of ~70 scientists from >45 observatories in 16 countries, involving NASA HQ, and the International Asteroid Warning Network. 2023-2024

Science Chair, European Commission Review Board on Near-Earth Object Characterization. 2021-2022.

Campaign Lead, International Asteroid Warning Network Timing Campaign. Leading a team of ~56 observers from >70 observatories in 24 countries, involving NASA HQ, and the International Asteroid Warning Network. 2021-2022

Science Lead, NASA Planetary Defense Exercise Apophis Campaign. Leading a team of ~50 scientists from >40 observatories in 16 countries, involving NASA HQ, and the International Asteroid Warning Network. 2020-2021

Science Lead, NASA Planetary Defense Exercise KW4 Campaign. Leading a team of ~30 scientists from >10 observatories in 5 countries, involving NASA HQ, and the International Asteroid Warning Network. 2019-2020

Science Lead, NASA Planetary Defense Exercise TC4 Campaign. Leading a team of ~50 scientists from >20 observatories in 5 countries, involving NASA HQ, National Security Council, White House OSTP, National Military Command Center, US Strategic Command, Homeland Security (FEMA), US Northern Command and the US State Department. 2017-2018

Chair Scientific Organizing Committee, Local Organizing Committee, Future of the NASA IRTF Workshop Feb. 15-16, 2018, Biosphere 2. Sponsored by NASA Planetary Defense Coordination Office

Chair Local Organizing Committee, TC4 Campaign Debrief Feb. 14, 2018, Biosphere 2. Sponsored by NASA Planetary Defense Coordination Office

Chair Local Organizing Committee, NASA Near-Earth Object Observation Program Review 2018, Biosphere 2. Sponsored by NASA Planetary Defense Coordination Office

Chair Local Organizing Committee, Scientific Organizing Committee, NASA Near-Earth Object Observation Program Review 2017, Tucson. Sponsored by NASA Planetary Defense Coordination Office

Chair Local Organizing Committee, Scientific Organizing Committee, Non-Imaging Space Object Identification (NISOI) Conference 2017, sponsored by United States Air Force Research Laboratory (AFRL), Maui

Press Officer, Division for Planetary Sciences, American Astronomical Society, Organized and Participated in 8 press conferences at the DPS Meeting in Pasadena in 2016 October

Prize Committee Chair, 2016 Jonathan Eberhart Award, Division for Planetary Sciences, American Astronomical Society

Session Chair, 2017 Annual Meteoritical Society Meeting, Santa Fe, NM

Chair, NASA IRTF Keck Users Group (NIKUG) Oversees operations of NASA's ground-based telescope investments

Chair, Member, NASA IRTF/Keck Management Operations Working Group (MOWG) Oversees operations of NASA's ground-based telescope investments

Member, Standing Review Board, NASA Lucy Mission.

NASA Planetary Science Division Review for Spacecraft Missions, Reviewed NASA's Dawn extended mission to asteroid Adeona

NASA Planetary Data, Archiving and Tools (PDART) Program Review

DEPARTMENT AND UNIVERSITY SERVICE

Chair (2024, 2023, 2022, 2019, 2018), Member (2016, 2017) Faculty Peer Evaluation Committee

Member (2022) College of Engineering Space Domain Awareness Hiring Committee

Member (2020) University Net Tuition Revenue Modeling Committee

Chair (2019) Department Teaching Buyout Committee

Member (2018) College of Science CubeSat Faculty Hiring Committee

Member, (2018) University of Arizona Strategic Planning Committee for Space Science
Member (2016, 2017) Graduate Admissions and Advising Committee
Member (2016, 2017) Steward Observatory Arizona Telescope Time Allocation Committee

FEDERAL GRANTS

Co-Principal Investigator, United States Air Force Research Lab (AFRL) Space Technology
Advanced Research (STAR) program \$7,499,847 (01/15/2022-01/14/2027)
Co-Principal Investigator, United States Air Force Research Lab (AFRL) Cislunar Highway Patrol
System (CHPS) \$60,000,000 (Phase A study)
Principal Investigator, NASA Yearly Opportunities for Research in Planetary Defense Program,
\$1,239,469 (02/01/2022-01/31/2027)
Principal Investigator, NASA Solar System Observations Program, \$342,357 (02/14/2020-
02/13/2023)
Principal Investigator, NASA Near-Earth Object Observation Program \$735,643 (01/11/2017-
01/10/2023)
Principal Investigator, NASA Solar System Observations Program, \$524,670 (02/01/2020-
01/31/2023)
Principal Investigator, NASA Earth and Space Science Fellowship (B. Sharkey), \$135,000
(01/07/2019-01/06/2022)
Principal Investigator, NASA Future Investigators in NASA Earth and Space Science and
Technology (A. McGraw), \$135,000 (09/01/2019-08/31/2022)
Co-Investigator (Role: Investigation Team Lead), NASA NEO Surveyor Mission (PI: Mainzer)
\$49,000,000 (2018-2020)
Principal Investigator, NASA Near Earth Object Observations Program, \$329,992 (12/08/2013-
12/07/2016)
Co-Investigator, NASA Planetary Astronomy (PI: Hardersen), \$278,586 (05/01/2014-
04/30/2017)
Principal Investigator, NASA Planetary Geology and Geophysics, \$264,092 (01/01/2014-
12/31/2016)
Co-Investigator, NASA Planetary Geology and Geophysics (PI: Gaffey), \$497,840 (07/25/2014-
07/24/2017)
Principal Investigator, NASA Planetary Mission Data Analysis Program, \$118,427 (04/13/2014-
04/12/2017)
Principal Investigator, NASA Planetary Mission Data Analysis Program, 1,002,877 (04/12/2013-
04/11/2017)
Co-Investigator, NASA Planetary Mission Data Analysis Program (PI: Le Corre), \$1,060,847
(04/12/2014-04/11/2018)
Co-Investigator, NASA Dawn Participating Scientist Program (PI: Gaffey), \$358,041 (08/01/2010-
07/31/2013)
Co-Investigator, NASA Planetary Geology and Geophysics Program (PI: Gaffey), \$465,833
(06/01/2011-05/31/2014)
Co-Investigator, NASA Near-Earth Object Observations Program (PI: Gaffey), \$350,000
(02/01/2012-01/31/2015)

TEACHING EXPERIENCE

PTYS 170A1, Alien Earths, University of Arizona, Fall 2024
LAW664, Space Law, University of Arizona, Spring 2024
PTYS 520 and GEOS 520, Meteorites, University of Arizona, Spring 2022
PTYS 595B, Communicating Science, University of Arizona, Fall 2018
PTYS 516 & 416, Asteroids, Comets and KBOs, University of Arizona, Fall 2017
PTYS 170B2 and ASTR 170B2, The Universe and Humanity: Origin and Destiny, University of Arizona, Spring 2016, Spring 2017
Introduction to Observational Astronomy, University of North Dakota, Summer 2007

ACADEMIC MENTORING

Graduate Student Advisees

David Cantillo (doctoral student, University of Arizona, 2022-Present)
Adam Battle (doctoral student, University of Arizona, 2018 – 2024)
Luke Meyer (doctoral student, University of Arizona, 2021-2025) (Co-advisor with Prof. Kim)
Allison McGraw (doctoral student, University of Arizona, 2018 – 2023)
Tanner Campbell (doctoral student, University of Arizona, 2016 – 2023) (Co-advisor with Prof. Furfaro)
Benjamin Sharkey (University of Arizona, PhD 2022, currently staff scientist at University of Maryland)
Teddy Kareta (University of Arizona, PhD 2021, currently postdoctoral fellow at Lowell Observatory)
Juan Sanchez (Max Planck Institute for Solar System Research, PhD 2012, currently staff scientist at Planetary Science Institute)

Postdoctoral and Other Advisees

Adam Battle (Postdoctoral Researcher, Space4 Center, 2025-Present)
Tanner Campbell (Postdoctoral Researcher, Space4 Center, 2024-Present)
Michael McCraig (Postdoctoral Researcher, Lunar and Planetary Lab, UArizona, 2016-2018; Currently at University of Guelph, Ontario, Canada)
Juan Sanchez (Postdoctoral Researcher, Planetary Science Institute, 2013-2016; currently staff scientist at Planetary Science Institute)
Karsten Schindler (Co-Advisor, Max Planck Institute for Solar System Research, 2012-2014; currently support astronomer at Deutsches SOFIA Institut (DSI))
Megha Bhatt (Co-Advisor, Max Planck Institute for Solar System Research, 2010-2014; currently scientist at Physical Research Laboratory, India)
Mario De Florio (Research Mentor, Department of Systems and Industrial Engineering, University of Arizona, 2020-present)
Haris Khan Niazi (Research Mentor, Optical Sciences, University of Arizona, 2016-2017)
Guneshwar Thangjam (Co-Advisor, Max Planck Institute for Solar System Research, 2012-2014; currently assistant professor at National Institute of Science Education and Research, India)

Graduate Student Committees

Kayla Smith (University of Arizona, PhD Minor Advisor 2025)
Kiana McFadden (University of Arizona, PhD dissertation committee member 2023-Present)
Naman Bajaj (University of Arizona, Graduate Mentor, 2023-Present)
Carson Fuls (University of Arizona, PhD dissertation committee member 2024-Present)
Ricardo Maciel (University of Arizona, Graduate Mentor, 2022-2025)
Induja Ganesh (University of Arizona, Graduate Mentor, 2020-2022)
John Noonan (University of Arizona, PhD dissertation committee member 2022)
Cassandra LeJoly (University of Arizona, PhD dissertation committee member 2022)
Lucas Smith (University of Arizona, PhD Academic Mentor 2020-present)
Rachel Fernandes (University of Arizona, PhD Academic Mentor 2017-2023)
Sondy Springmann (University of Arizona, PhD Academic Mentor 2016-2022)
Zarah Brown (University of Arizona, PhD Academic Mentor 2018-2020)
Chet Maleszewski (University of Arizona, PhD Academic Mentor 2016-2018)

Undergraduate Student Advisees

Vrinda McBride (UA, Planetary Geosciences, 2024-Present: Research Advisor)
Miren Miranda (UA, Astronomy, 2024-Present: Research Advisor)
Grace Godinez (UA, Optical Sciences, 2024-Present: Research Advisor)
Payten Nagel (UA, Computer Science, 2024-Present: Research Advisor)
Andrew Avalos (UA, Aerospace Engineering, 2024-Present: Research Advisor)
Kaycee Ridenhour (UA, Astronomy, 2021-Present: Research Advisor)
Rebecca Lersch (UA, Electrical Engineering, 2022-Present: Research Advisor)
Owen Miller (UA, Pre-Business, 2022-Present: Research Advisor)
Thomas Joyce (UA, Astronomy, 2022-Present: Research Advisor)
Ryland Phipps (UA, Aerospace Engineering, 2022-2023: Research Advisor)
Bryn Bowen (UA, Planetary Sciences, 2019-2023: Research Advisor)
Grace Halferty (UA, Aerospace Mech. Engineering, 2018-2022: Research Advisor)
David Cantillo (UA, Geosciences, 2018-2022: Honors Thesis Advisor)
Jamie Rike (UA, Biosystems Engineering, 2018-2020: Research Advisor)
Adriana Mitchell (UA, Optical Sciences, 2017-2019: Senior Design Advisor)
Sierra Rose (UA, Aerospace and Mech. Engineering, 2018-2019: Research Advisor)
Joseph Padish (UA, Aerospace Mech. Engineering, 2018-2019: Senior Design Advisor)
Dillion Dayea (ASU, Astrophysics, 2018: Summer Internship Advisor)
Parker Kaufmann (UA, Computer Science, 2018-2019: Research Advisor)
Sameep Arora (UA, Aerospace Mech. Engineering, 2016-2017: Senior Design Advisor)
Evelyn Hunten (UA, Computer Sciences, 2016-2017: Senior Design Advisor)
Lindsie Jefferies (UA, Biomedical Engineering, 2016-2017: Senior Design Advisor)
Ryan Bronson (UA, Optical Sciences, 2016-2017: Senior Design Advisor)
Damon Colpo (UA, Optical Sciences, 2016-2018: Senior Design/Research Advisor)
Maxwell Maloney (SUNY Albany, Physics, 2017: Summer Internship Advisor)

Honors and Awards (As Mentor)

LPL Andersson Award for Service and Outreach, Adam Battle (as graduate student at UArizona, 2023)
 College of Science Galileo Circle Fellowship, Allision McGraw (as graduate student at UArizona, 2022)
 Lunar and Planetary Laboratory Gerard P. Kuiper Memorial Award, Teddy Kareta (as graduate student at UArizona, 2021)
 University of Arizona College of Science Excellence in Scholarship Award, Teddy Kareta (as graduate student at UArizona, 2021)
 NASA Future Investigators in Earth and Space Science and Technology, Allison McGraw (as graduate student at UArizona, 2020)
 LPL Andersson Award for Service and Outreach, Allison McGraw (as graduate student at UArizona, 2020)
 NASA Spacegrant Graduate Fellowship, Allison McGraw (as graduate student at UArizona, 2018)
 NASA Earth and Space Science Fellowship, Ben Sharkey (as graduate student at UArizona, 2019)
 Stephen E. Dornik Award (Geological Society of America) for best oral presentation, Allison McGraw (as an undergraduate student at UArizona, 2017)

INVITED LECTURES AND COLLOQUIA

'Characterizing Exotic Near-Earth Asteroids,' Catalina Sky Survey Meeting, August, 2024
 'Building an Academic SSA Program,' United States Space Command, Academic Engagement Enterprise, June 2024
 'State of Ground-based Optical Cislunar SSA,' Applied Physics Lab Cislunar Summit, December 2023
 'State of Ground-based Optical Cislunar SSA,' AFRL program review Maui, September 2023
 'State of Ground-based Optical Cislunar SSA,' Air Force Research Lab Cislunar Summit, March 2023
 'Cislunar Observational Opportunities for Project ROCKET,' Space Force 19th Space Defense Squadron briefing, March 2022
 'Cislunar Space Domain Awareness,' Federal Bureau of Investigation briefing, March 2022
 'Opportunities and Challenges in Cislunar Object Characterization,' United States Air Force Research Laboratory Voltron Workshop, March 2022.
 'Moon Impact,' Lunar Reconnaissance Orbiter Science Team Meeting, NASA Goddard Spaceflight Center, March 2022.
 'Space Domain Awareness,' Engineering Café, School of Earth and Space Exploration Colloquium, Arizona State University, March 2022.
 'Characterizing Exotic Near-Earth Asteroids,' School of Earth and Space Exploration Colloquium, Arizona State University, March 2022.
 'Space Junk, Literally,' University of Arizona Senior Leadership Quarterly Meeting, March 2022.
 'Spectral Characterization of 2020 SO,' United States Air Force Research Laboratory Voltron Workshop, March 2021.
 'Role of Spectroscopy in Space Domain Awareness' United States Air Force Research Laboratory Voltron Workshop, March 2020.
 State of Space Situational Awareness (2019) to Army Intelligence Officers from Ft. Huachuca
 'Carbon Contamination in the Asteroid Belt' American Geophysical Union Meeting (2019).

‘NASA’s Dawn Mission to Asteroid Vesta and Dwarf Planet Ceres’ XXVIII Canary Islands Winter School of Astrophysics.

Is Asteroid (16) Psyche Exposed Core of a Protoplanet?’ Department of Earth, Planetary and Space Sciences, University of Tennessee, Knoxville.

‘Characterizing Space Debris Reentry using NEXRAD Doppler Radar,’ JASON Defense Advisory Panel, Department of Defense. *(Presentation was given by my collaborator as I did not have Top Secret SCI clearance to be at that panel and he did)*

‘Get Rich or Die: Separating Facts from Fiction about Asteroids and Meteors,’ Tohono O’odham Community College

‘Career Opportunities for Planetary Scientists in National Defense’ Department of Earth, Planetary and Space Sciences, University of Tennessee, Knoxville.

‘Research Interests in Moving Objects,’ Joint Workshop between Lockheed Martin and Steward Observatory.

‘Space Object Behavior Sciences Scholarly Activities at Lunar and Planetary Laboratory,’ Workshop Organized by University of Arizona RDI Office.

‘Space Material Characterization,’ Joint Industry Partnership Workshop Between Jacobs Technology and University of Arizona on application of Spectropolarimetry for Space Situational Awareness.

‘Space Situational Awareness Program,’ Presentation to the Lunar and Planetary Laboratory Board of Directors.

‘Student Opportunities in NASA Planetary Defense Exercise,’ Presentation to the Lunar and Planetary Laboratory Board of Directors.

‘Remote Material Characterization Techniques,’ Extraterrestrial Manufacturing Workshop, College of Engineering, University of Arizona.

The Role of Universities in Space Situational Awareness and Global Space Traffic Management. Briefing to the US Senate and House Armed Services Committees Staff, 2017. (Panel Included, V. Reddy, E. Pearce, M. Jah, M. Hart from the University of Arizona)

‘Recovery of Chinese Long March 7 Second Stage using Doppler Radar,’ United States Air Force Research Lab Program Review, Maui.

‘Ground-based Spectral Characterization of Satellites,’ Non-Imaging Space Object Identification Conference 2016, Maui High Performance Computing Center.

‘Tracking and Recovering Space Debris,’ Raytheon Missile Systems Inventors and Authors Gala 2017 Keynote Speaker.

‘Psyche: State of Knowledge from Ground-based Observations,’ International Meteorite Collectors Association Annual Dinner 2017 Keynote Speaker, Lunar and Planetary Laboratory.

PUBLICATIONS

Total Citations (Google Scholar, Mar. 13, 2025): 6142
h-index (Google Scholar, Mar. 13, 2025): 43
i10-index (Google Scholar, Mar. 26, 2024): 98

CHAPTERS IN SCHOLARLY BOOKS

1. Burbine, T. H., DeMeo, F. E., Rivkin, A. S., and Reddy, V. 2017. Evidence for Differentiation among Asteroid Families. In *Planetesimals*. (L.T. Elkins-Tanton and B. P. Weiss) Cambridge University Press. P 298-320.
2. Reddy, V., Dunn, T., Thomas, C.A., Moskovitz, N., Burbine, T., 2015. Mineralogy and Surface Composition of Asteroids. In *Asteroids IV*. (P. Michel et al., eds.) University of Arizona Press, Tucson. Arizona.
3. Binzel, R.P., Reddy, V., and Dunn, T., 2015. The Near-Earth Object Population: Connections to Comets, Main-Belt Asteroids, and Meteorites. In *Asteroids IV*. (P. Michel et al., eds.) University of Arizona Press, Tucson. Arizona.

PEER-REVIEWED ARTICLES

(**Students or postdoctoral researchers supervised by V. Reddy)

2025

1. **Battle, A., **Reddy, V.**, Sanchez, J.A., Pearson, N., Sharkey, B.N.L., Kareta, T. 2025. Long-term Spectral Monitoring of Active Asteroid (6478) Gault: Implications for the H Chondrite Parent Body. *The Planetary Science Journal*, 6:31.
2. **McGraw, A.M., **Reddy, V.**, Sanchez, J.A. 2025. The Gefion Asteroid Family: parent body puzzles and ordinary chondrite pieces. *Monthly Notices of the Royal Astronomical Society*, Volume 537, 3145-3159.

2024

3. **Reddy, V.**, and 70 co-authors. 2024. 2023 DZ2 Planetary Defense Campaign. *The Planetary Science Journal*, Volume 5, Issue 6, id.141, 16 pp.
4. **Ridenhour, K.I., **Reddy, V.**, Battle, A., Cantillo, D., Pearson, N.C., Sanchez, J.A. 2024. Grain Size Effects on Visible and Near-infrared (0.35–2.5 μm) Laboratory Spectra of Rare Meteorite Classes. *The Planetary Science Journal*, Volume 5, Issue 11, id.256, 18 pp.
5. **Battle, A., **Reddy, V.**, Furfaro, R., Campbell, T. 2024. Visible Spectral Atlas of Geostationary Satellites from Tucson, AZ for Differentiating Between Natural and Artificial Objects. *The Planetary Science Journal*, Volume 5, Issue 11, id.240, 19 pp.
6. **Sanchez, J.A., **Reddy, V.**, Thirouin, A., Bottke, W.F., Kareta, T., Florio, M.De., Sharkey, B.N.L., Battle, A., Cantillo, D.C., Pearson, N. 2024. The Population of Small Near-Earth Objects: Composition, Source Regions, and Rotational Properties. *The Planetary Science Journal*, 5:6.
7. **Battle, A., **Reddy, V.**, Sanchez, J.A., Sharkey, B., Campbell, T., Chodas, P., Conrad, A., Engelhart, D.P., Frith, J., Furfaro, R., Farnocchia, D., Kuhn, O., Pearson, N., Rothberg, B., Veillet, C., Wainscoat, R. 2024. Challenges in Identifying Artificial Objects in the Near-Earth Object Population: Spectral Characterization of 2020 SO. *The Planetary Science Journal*, 5:4.
8. Marsset, M., Vernazza, P., Brož, M., Thomas, C.A., DeMeo, F.E., Burt, B., Binzel, R.P., **Reddy, V.**, McGraw, A., Avdellidou, C., Carry, B., Slivan, S., Polishook, D. 2024. The Massalia asteroid family as the origin of ordinary L chondrites. *Nature*, Volume 634, Issue 8034, pp. 561-565
9. **Cantillo, D.C., Ridenhour, K.I., Battle, A., Joyce, T., Nunez, J.B., Pearson, N., **Reddy, V.** 2024. Laboratory Spectral Characterization of Ribbeck Aubrite: Meteorite Sample of

Earth-impacting Near-Earth Asteroid 2024 BX1. The Planetary Science Journal, Volume 5, Issue 6, id.138, 14 pp.

2023

10. **Bowen, B., **Reddy, V.**, De Florio, M., Kareta, T., Pearson, N., Furfaro, R., Sharkey, B., McGraw, A., Cantillo, D., Sanchez, J.A., Battle, A. 2023. Grain Size Effects on Visible and Near-infrared (0.35-2.5 μm) Laboratory Spectra of Ordinary Chondrite and HED Meteorites. The Planetary Science Journal, Volume 4, Issue 3, id.52, 15 pp.
11. **Sharkey, B.N.L., **Reddy, V.**, Kuhn, O., Sanchez, J.A., Bottke, W.F. 2023. Spectroscopic Links among Giant Planet Irregular Satellites and Trojans. The Planetary Science Journal, Volume 4, Issue 11, id.223, 20 pp.
12. **Cantillo, D.C., **Reddy, V.**, Battle, A., Sharkey, B.N.L., Pearson, N.C., Campbell, T., Satpathy, A., De Florio, M., Furfaro, R., Sanchez, J. 2023. Grain Size Effects on UV-MIR (0.2-14 μm) Spectra of Carbonaceous Chondrite Groups. The Planetary Science Journal, Volume 4, Issue 9, id.177, 23 pp.
13. **Kareta, T., **Reddy, V.** 2023. Nuclear and Orbital Characterization of the Transition Object (4015) 107P/Wilson-Harrington. The Planetary Science Journal, Volume 4, Issue 9, id.174, 10 pp.
14. Farnocchia, D., **Reddy, V.**, Bauer, J.M. et al. The Second International Asteroid Warning Network Timing Campaign: 2005 LW3. The Planetary Science Journal, Volume 4, Issue 11, id.203, 8 pp.
15. **Campbell, T., Battle, A., Gray, B., Chesley, S.R., Farnocchia, D., Pearson, N., Halferty, G., Reddy, V., Furfaro, R. 2023. Physical Characterization of Moon Impactor WE0913A, The Planetary Science Journal, Volume 4, Issue 11, id.217, 12 pp.
16. Le Corre, L., Sanchez, J.A., **Reddy, V.**, Battle, A., Cantillo, D.C., Sharkey, B., Jedicke, R., Scheeres, D.J. 2023. Mineralogical Characterization and Phase Angle Study of Two Binary Near-Earth Asteroids, Potential Targets for NASA's Janus Mission. The Planetary Science Journal, Volume 4, Issue 5, id.91, 9 pp.
17. Polishook, D., DeMeo, F.E., Burt, B.J., Thomas, C.A., Rivkin, A.S., Sanchez, J.A., **Reddy, V.** 2023. Near-IR Spectral Observations of the Didymos System: Daily Evolution Before and After the DART Impact Indicates that Dimorphos Originated from Didymos. The Planetary Science Journal, Volume 4, Issue 12, id.229, 12 pp.
18. Nandakumar, S., Eggl, S., Tregloan-Reed, J., Adam, C., Anderson-Baldwin, J., Bannister, M.T., Battle, A., Benkhaldoun, Z., Campbell, T., Colque, J.P., Damke, G., Plauchu Frayn, I., Ghachoui, M., Guillen, P.F., Kaeouach, A.E., Krantz, H.R., Langbroek, M., Rattenbury, N., **Reddy, V.**, Ridden-Harper, R., Young, B., Unda-Sanzana, E., Watson, A.M., Walker, C.E., Barentine, J.C., Benvenuti, P., Di Vruno, F., Peel, M.W., Rawls, M.L., Bassa, C., Flores-Quintana, C., García, P., Kim, S., Longa-Peña, P., Ortiz, E., Otarola, Á., Romero-Colmenares, M., Sanhueza, P., Siringo, G., Soto, M. 2023. The high optical brightness of the BlueWalker 3 satellite. Nature, Volume 623, Issue 7989, p.938-941.
19. Sidhu, S., Cloutis, E.A., Mann, P., Applin, D., Hiroi, T., Mengel, K., Kareta, T., **Reddy, V.**, Beck, P., Mertzman, S.A. 2023. Spectral and mineralogical effects of heating on CM chondrite and related asteroids. Icarus, Volume 398, article id. 115522

2022

20. **Reddy, V.**, Kelley, M.S., Dotson, J., Landis, R.R., et al. 2022. Near-earth asteroid (66391) Moshup (1999 KW4) observing campaign: Results from a global planetary defense characterization exercise. *Icarus* Volume 374, 1 March 2022, 114790
21. **Reddy, V.**, Kelley, M.S., Dotson, J., Farnocchia, D. et al. 2022. Apophis Planetary Defense Campaign. *The Planetary Science Journal*, Volume 3, Issue 5, id.123, 16 pp.
22. **Halferty, G., **Reddy, V.**, Campbell, T., Battle, A., Furfaro, R. 2022. Photometric characterization and trajectory accuracy of Starlink satellites: implications for ground-based astronomical surveys. *Monthly Notices of the Royal Astronomical Society*, Volume 516, Issue 1, pp.1502-1508
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News Stories

CNN: What is Kessler Syndrome

<https://www.cnn.com/2024/12/27/science/space-junk-earth-kessler-syndrome/index.html>
(12/27/2024)

UA Press Release: Taking law to the final frontier.

<https://news.arizona.edu/news/taking-law-final-frontier>
(04/16/2024).

UA Press Release: Like the Twilight Zone:

<https://news.arizona.edu/employee-news/twilight-zone-life-changing-experience-total-solar-eclipse> (03/04/2024).

UA Press Release: Tracking the Bennu Sample Capsule's separation from OSIRIS-REx.

<https://news.arizona.edu/story/tracking-bennu-sample-capsules-separation-osiris-rex>
(10/25/2023).

Federal News Network: Is it time to categorize space assets as critical infrastructure?

<https://federalnewsnetwork.com/space-hour/2023/06/is-it-time-to-categorize-space-assets-as-critical-infrastructure/> (06/02/2023)

UA Press Release: UArizona students track asteroid set to whiz by Earth this weekend.

<https://news.arizona.edu/story/uarizona-students-track-asteroid-set-whiz-earth-weekend> (03/24/2023)

Nature: Record number of asteroids seen whizzing past Earth in 2020 (03/11/2021)

<https://www.nature.com/articles/d41586-021-00641-8>

The New York Post: Perilous space junk travels at 10 times the speed of a bullet

(03/19/2021) <https://nypost.com/2021/03/19/space-junk-races-at-10-times-the-speed-of-a-bullet/>

Live Science: How do tiny pieces of space junk cause incredible damage? (03/09/2021)

<https://www.livescience.com/tiny-space-junk-damage.html>

UH News: Maunakea telescope playing vital role in tracking large asteroid flyby

(03/17/2021) <https://www.hawaii.edu/news/2021/03/17/maunakea-telescope-tracking-large-asteroid-flyby/>

Space.com: Planetary defense experts use infamous asteroid Apophis to practice spotting

dangerous space rocks (03/01/2021) <https://www.space.com/apophis-2021-flyby-for-planetary-defense-practice>

Air and Space Magazine: This Apollo-Era Rocket Stage, Lost For Half a Century, Turned Up in

a Telescope Search, (02/2021) <https://www.airspacemag.com/space/prodigal-boosters-returns-180976718/>

NASA NEWS: New Data Confirm 2020 SO to be the Upper Centaur Rocket Booster from the

1960's (12/02/2020) <https://www.nasa.gov/feature/new-data-confirm-2020-so-to-be-the-upper-centaur-rocket-boosters-from-the-1960s>

The Better India: Meet Vishnu Reddy, the Journalist Who Became an Asteroid Hunter

(06/11/2020) <https://www.thebetterindia.com/229673/indian-scientist-vishnu-reddy-asteroid-hunter-university-arizona-nasa-inspiring-journey-ros174/>

Public Lectures (Last Five Years)

Grand Canyon Star Party. Public Lecture on Planetary Defense: Surveying the Sky for Killer Asteroids (06/14/2023) in Person

Grand Canyon Star Party. Public Lecture on Planetary Defense: Surveying the Sky for Killer Asteroids (06/18/2021) on Zoom

San Diego Astronomy Association. Public Lecture on Planetary Defense: Surveying the Sky for Killer Asteroids (01/18/2020)

Tucson Festival of Books at the University of Arizona. Public Lecture on Planetary Defense during the book festival in the Science City. (03/02/2019)

Public Outreach (Last Five Years)

Public article on space junk around the Moon in The Conversation.

<https://theconversation.com/more-lunar-missions-means-more-space-junk-around-the-moon-two-scientists-are-building-a-catalog-to-track-the-trash-196645> (02/06/2023)

Public outreach star party to the members of the public at the Grand Canyon Star Party (06/16/2023)

Public outreach lecture to the members of the Rose City Astronomy Club, Portland, OR (10/19/2020)

NASA Science Nuggets: Four Science Nuggets Accepted by Science Mission Directorate.

- Detection of Water and/or Hydroxyl on Asteroid (16) Psyche
- Large Near-Earth Asteroid (3122) Florence Found To Be Ordinary Stony Chondrite
- Multi-facility study of asteroid 2016 RB1 during its near-Earth encounter
- Smallest Near-Earth Asteroid Characterized