

DANTE S. LAURETTA

Lunar and Planetary Laboratory
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CHRONOLOGY OF EDUCATION

Washington University, St. Louis, MO, Dept. of Earth and Planetary Sciences

Ph.D. in Earth and Planetary Sciences, 1997

Thesis: Theoretical and Experimental Studies of Fe-Ni-S, Be, and B
Cosmochemistry

Advisor: Bruce Fegley, Jr.

University of Arizona, Tucson, AZ, Depts. of Physics, Mathematics, and East Asian Studies

B.S. in Physics and Mathematics, Cum Laude, 1993

B.A. in Oriental Studies (emphasis: Japanese), Cum Laude, 1993

CHRONOLOGY OF EMPLOYMENT

Visiting Professor, Star and Planet Formation Center, Globe Institute, University of
Copenhagen, Denmark; 2025-2026.

Director, Arizona Astrobiology Center, Research, Innovation, and Impact, University of
Arizona, Tucson, AZ; 2023 – present.

Arizona Regents Professor, Lunar and Planetary Laboratory, Dept. of Planetary Sciences,
University of Arizona, Tucson, AZ; 2021 – present.

Principal Investigator, OSIRIS-REx Asteroid Sample Return Mission, NASA New Frontiers
Program, 2011 – present.

Professor, Lunar and Planetary Laboratory, Dept. of Planetary Sciences, University of
Arizona, Tucson, AZ; 2012 – 2021.

Deputy Principal Investigator, OSIRIS-REx Asteroid Sample Return Mission, NASA New
Frontiers Program, 2008 – 2011.

Associate Professor, Lunar and Planetary Laboratory, Dept. of Planetary Sciences,
University of Arizona, Tucson, AZ; 2006 – 2012.

Assistant Professor, Lunar and Planetary Laboratory, Dept. of Planetary Sciences,
University of Arizona, Tucson, AZ; 2001 – 2006.

Associate Research Scientist, Dept. of Chemistry & Biochemistry, Arizona State
University, Tempe, AZ; 1999 – 2001.

Postdoctoral Research Associate, Dept. of Geology, Arizona State University, Tempe, AZ
Primary project: Transmission electron microscopy of meteoritic minerals.
Supervisor: Peter R. Buseck; Dates: 1997 – 1999.

Research Assistant, Dept. of Earth and Planetary Sci., Washington Univ., St. Louis, MO

Primary project: Experimental studies of sulfide formation in the solar nebula.

Advisor: Bruce Fegley, Jr.; Dates: 1993 – 1997.

Research Intern, NASA Undergraduate Research Program, Univ. of Arizona, Tucson, AZ

Primary project: Development of a logic-based language for S.E.T.I.

Advisor: Carl Devito; Dates: 1992 – 1993.

HONORS AND AWARDS (OSIRIS-REX TEAM)

Physics World Top 10 Breakthrough (2025)

Fred Kavli Plenary Lectureship from the American Astronomical Society (2025)

Michael Collins National Air and Space Museum Trophy for Current Achievement (2025)

Collier Trophy – US National Aeronautical Association (2024)

Citation of Merit – Explorers Club (2024)

Grand Laureate Award for Space – Aviation Week (2024)

Neil Armstrong Space Flight Achievement Award – American Astronautical Society (2024)

Goddard Memorial Trophy – National Space Club (2024)

NASA Group Achievement Award – OSIRIS-REx Sample Collection (2023)

John L. "Jack" Swigert Jr. Award for Space Exploration – Space Foundation (2022)

Space Technology Award – American Astronautical Society (2021)

NASA Group Achievement Award – OSIRIS-REx Approach and Preliminary Survey (2019)

Guinness World Record – The Smallest Object to be Orbited by a Spacecraft (2019)

Guinness World Record – The Closest Orbit of a Planetary Body (2019)

NASA Group Achievement Award – OSIRIS-REx Earth Gravity Assist (2018)

NASA Silver Achievement Medal – OSIRIS-REx Asteroid Astronomy Science Team (2017)

NASA Group Achievement Award – OSIRIS-REx Mission Team (2017)

Arizonan of the Year (awarded to OSIRIS-REx) – Arizona Republic (2016)

Robert H. Goddard Award for New Opportunities Captured for the OSIRIS-REx Team (2014)

HONORS AND AWARDS (INDIVIDUAL)

J. Robert Oppenheimer Memorial Lecturer (2026)

Ole Rømer Lecturer (2025)

Arnold C. Ott Lectureship (2025)

Eric & Wendy Schmidt Explorers Club Visionary Award (2024)

von Kármán Lecturer – American Institute of Aeronautics and Astronautics (2024)

Eugene Shoemaker Lecturer – American Geophysical Union (2023)

Distinguished Lecturer – Sigma Xi (2023)

Robert M. Walker Distinguished Lecturer – Washington University in St. Louis (2022)

University of Arizona Commencement Speaker (2022)

University of Arizona Regents Professor (2021)

MOCA Tucson Local Genius Award (2021)

University of Arizona Galileo Circle Dean's Award (2020)

Silver Prize (for Constellations) – International Serious Play Board Game Award (2018)

Mensa Select Award (for Constellations) – Mensa Mind Games (2018)

University of Arizona, College of Humanities Alumni of the Year (2017)

University of Arizona Alumni Achievement Award (2017)

Boys and Girls Clubs of America Alumni Hall of Fame (2017)
 Best Family Board Game of 2016 (for Xtronaut) – Good Housekeeping Magazine (2016)
 Ceremonial First Pitch – Arizona Diamondbacks STEM Showcase (2016)
 Arizona Governor's Celebration of Innovation Award – Innovator of the Year (2011)
 Antarctica Service Medal of the United States of America (2010)
 Kavli Fellow of the National Academy of Sciences (2008)
 Award of Excellence Top 10 Oral Presentation AAPG Annual Convention (2008)
 U of A College of Science Distinguished Early Career Teaching Award (2006)
 Top 100 Science Discoveries – Discover Magazine (2004)
 The Alfred O. Nier Prize of the Meteoritical Society (2002)
 Asteroid 5819 named Laurretta (2002)
 Stephen E. Dworkin Planetary Geoscience Award (1997)
 Harvey H. Nininger Meteorite Award (1996)
 Meteoritical Society Student Travel Grant (1994, 1996)
 McDonnell Fellowship for the Space Sciences (1993-95)
 NASA Undergraduate Research Space Grant (1992-93)
 Silver Prize, Southwest Regional Japanese Essay Contest (1992)
 Arizona Regents Presidential Scholarship (1988-91)

PROFESSIONAL SOCIETIES

American Association for the Advancement of Science, Fellow
 The Meteoritical Society, Fellow
 The Explorers Club, National Fellow
 American Geophysical Union
 The Geochemical Society
 Sigma Xi

INVITED TALKS (PAST FIVE YEARS)

1. "Quantum Astrobiology: From Asteroid Organics to the Quantum Architecture of Life," Niels Bohr Institute, May 20, 2026, Copenhagen, Denmark
2. "What Samples from Asteroid Bennu Reveal About Solar System History," University of Groningen, May 6, 2026, Groningen, The Netherlands
3. "From Stardust to the Origins of Life," Lund University, April 21, 2026, Lund, Sweden
4. "Bringing Asteroids Down to Earth," Natural History Museum Denmark, February 25, 2026, Copenhagen, Denmark
5. "From Bennu to Earth: How NASA's OSIRIS-REx Mission Transformed Our Understanding of the Solar System," National Technical University of Athens, January 28, 2026, Athens, Greece
6. "OSIRIS-REx and Asteroid Bennu: Implications of Returned Samples for the Early Solar System," Endeavor Greece, January 23, 2026, Athens, Greece
7. "From Asteroids to Earth: Discoveries from NASA's OSIRIS-REx Mission to Bennu," Universidade de Coimbra, December 3, 2025, Coimbra, Portugal
8. "From An Asteroid to Earth: What Bennu is Teaching Us About the Solar System," Ole Rømer Lecture, Aarhus University, November 12, 2025, Aarhus, Denmark

9. "Organics in Asteroid Bennu: Insights from OSIRIS-REx Samples," Center for Interstellar Catalysis, Aarhus University, November 11, 2025, Aarhus, Denmark
10. "Biological Time Crystals and the Quantum Architecture of Life," Frontiers in Nanoscience – Joint CeNS/CRC 392 Workshop, September 24, 2025, Venice, Italy
11. "Phosphate-Rich Environments as Cradles for Prebiotic Chemistry," Danish Origins of Life Symposium, August 26, 2025, Royal Danish Academy of Sciences and Letters
12. "Asteroid Bennu and the Early Solar System," University of Copenhagen, May 7, 2025, Copenhagen, Denmark
13. "OSIRIS-REx: Unravelling the Mysteries of Asteroid Bennu," April 10, 2025, Grand Valley State University, Grand Rapids, MI
14. "Exploring Quantum Astrobiology," March 27, 2025, Howard University, Washington, DC
15. "Discussion on Quantum Consciousness," March 23, 2025, Amazon MARS, Orlando, FL
16. "The Evolution of Intelligence: Insights from Systems Biology and SETI," March 2, 2025, AI for Animals Conference, Virtual
17. "Quantum Astrobiology," October 19, 2024, Institute of Noetic Sciences, Los Gatos, CA
18. "Life in Deep Space," August 24, 2024, National Book Festival, Washington, DC
19. "Unlocking the Secrets of Our Solar System's History: The OSIRIS-REx Journey," July 30, 2024, AIAA von Kármán Lectureship in Astronautics, Las Vegas, NV
20. "Exploring the Origin of Life and Consciousness in the Universe," July 12, 2024, The Festival of Consciousness, Barcelona, Spain
21. Club Augusta Breakfast Seminar, July 11, 2024, Augusta Abogado, Barcelona, Spain
22. "OSIRIS-REx: Unravelling the Mysteries of Asteroid Bennu," June 26, 2024, The OHP Summer School for Sample Returns, Observatoire de Haute-Provence, France
23. "Adventures in Asteroid Hunting," June 21, 2024, University of Lausanne, Switzerland
24. "Leading a Billion-dollar Space Mission," June 12, 2024, NASDAQ Town Hall, Virtual
25. "OSIRIS-REx: Revealing Secrets from the Dawn of our Solar System," May 22, 2024, National Air and Space Museum in Washington, DC
26. "From Bennu to the Brain," Starmus Festival, May 17, 2024, Bratislava, Slovakia
27. "Molecules of Life & Consciousness from the Asteroid Bennu," Keynote Lecture, The Science of Consciousness Conference, April 26, 2024, Tucson, AZ
28. "Exploring Asteroid Science and Astrobiology with OSIRIS-REx," March 26, 2024, Amazon MARS, Ojai, CA
29. "Astrobiology and OSIRIS-REx," Keynote Lecture, 61st Goddard Space Science Symposium, March 22, 2024, College Park, MD
30. "To Bennu and Back," Colloquium, February 15, 2024, Hokkaido University, Sapporo, Japan
31. "Biogenic Element Distribution in Samples Returned by OSIRIS-REx," February 13, 2024, Solar System Symposium, Sapporo, Japan

32. "From Asteroid to Earth: First Results from the OSIRIS-REx Mission and Implications for Planetary Science," Lunar and Planetary Laboratory Colloquium, January 16, 2024, University of Arizona, Tucson, AZ
33. "From Asteroid to Earth: First Results from the OSIRIS-REx Mission and Implications for Planetary Science," Eugene Shoemaker Lecture, December 11, 2023, American Geophysical Union, San Francisco, CA
34. AIAA Distinguished Speaker Lecture, November 29, 2023, Virtual
35. "OSIRIS-REx and Near-Earth Asteroid Bennu – Returning a Sample of the Early Solar System," November 14, 2023, Space Studies Board, Irvine CA
36. "Astrobiology and Astroconsciousness," Neuroscience Needs a Revolution to Understand Consciousness Symposium – Encinitas, CA, August 19, 2023
37. "The Economic Impact of Space Exploration," International Economic Development Council – Keynote – Tucson, AZ, January 30, 2023
38. "OSIRIS-REx and Near-Earth Asteroid Bennu - Returning a Sample of the Early Solar System," Colloquium, Washington University, St. Louis, MO, October 19, 2022
39. "Playing Tag with an Asteroid - NASA's OSIRIS-REx Mission at Asteroid Bennu," Public Lecture, St. Louis, MO, October 20, 2022
40. "To Bennu and Back: NASA's OSIRIS-REx Mission," Colloquium, York University, Toronto, ON, August 5, 2022
41. "OSIRIS-REx - Status of NASA's Near-Earth Asteroid Sample Return Mission," International Astronomical Union General Assembly, August 1, 2022
42. "OSIRIS-REx Sample Acquisition and Implications for the Nature of the Returned Sample from Asteroid (101955) Bennu," Goldschmidt Geochemistry Conference, Honolulu, HI, July 11, 2022
43. "OSIRIS-REx Samples of Near-Earth Asteroid (101955) Bennu: Testing Theories of the Origin of Life," Astrobiology Science Conference, Atlanta, GA, May 19, 2022
44. "What is Astrobiology", Increasing Student Interest and Engagement in Space Exploration Conference, April 29, 2022
45. "Science and Humanities United – Why We Explore", Arizona Junior Science and Humanities Symposium Keynote Speaker, March 18, 2022
46. "Astrobiology and Astroconsciousness: An illustrated discussion with UArizona professors Dante Lauretta and Stuart Hameroff", Museum of Contemporary Art, Tucson, AZ, December 9, 2021
47. "OSIRIS-REx: Updates and Expectations", Planetary Science Symposium Physical Research Laboratory, Ahmedabad, India, November 30, 2021
48. "OSIRIS-REx Overview," October 14, 2021, NASA Lucy Mission Science Team Meeting, Cape Canaveral, FL
49. "Calibration Challenges for NASA's OSIRIS-REx Mission," September 1, 2021, CalCon Keynote Speaker, Space Dynamics Laboratory, North Logan, Utah

SERVICE/OUTREACH (PAST FIVE YEARS)

OUTREACH PRESENTATIONS – LOCAL/STATE

1. Tucson Amateur Astronomy Association, May 2, 2025
2. Knight Science Journalism Workshop, April 26, 2025
3. Nerd Nite – April 11, 2024
4. Tucson Festival of Books – March 9, 2024
5. SARSEF Science Fair – March 7, 2024
6. Gem & Mineral Show – A Day at the Alfie – January 27, 2024
7. Bennu on Display – Norville Gem & Mineral Museum – November 30, 2023,
8. University of Arizona Astronomy Club – November 17, 2023
9. Sands Club – Public Lecture OSIRIS-REx Follow Up – November 8, 2023
10. Ten West Panel, Tucson Convention Center – November 7, 2023
11. Fuel Wonder Insiders Campaign Event – November 2, 2023
12. TEDx Talk – Centennial Hall – November 1, 2023
13. SETI Live, October 12, 2023
14. NASA Science Live – September 26, 2023
15. Sands Club – Public Lecture – January 25, 2023
16. ΦBK Honorary Society – Keynote Speaker – May 1, 2022
17. Space Camp at Biosphere 2 Lecturer, February 17, 2022
18. Sonoran Science Academy Mars Presentation – September 9, 2021

OUTREACH PRESENTATIONS – NATIONAL/INTERNATIONAL

1. Dust to DNA Summer School, August 21-25, 2025, Copenhagen, Denmark
2. Rosie Seymour Elementary School, Stswécem'c (Canoe Creek), British Columbia – May 27, 2025
3. Perot Museum, Dallas TX – November 2, 2024
4. Lockheed Martin, Littleton, CO – January 31, 2023
5. Space and Rocket Center, Huntsville, AL, January 17, 2023
6. Google Quantum AI Tech Talk, November 13, 2023
7. Asteroid Mining Summer Program, MDA, Brampton, ON – May 24, 2022

DEPARTMENTAL COMMITTEES AND SERVICE

LPL Curriculum Committee (2024 – 2025)

Director, LPL Electron Microprobe Laboratory (2016 – 2024)

Science and Technical Oversight Committee, Kuiper Materials Imaging Core Facility
(2017 – 2024)

LPL Graduate Admissions and Advising Committee (2021 – 2023, Chair)

LPL Awards Committee (2018 – 2022, Chair)

UNIVERSITY OF ARIZONA COMMITTEES

Senior Vice President for Academic Affairs Search Committee (2024)

College of Science Faculty Council (2022 – 2024)

College of Humanities Deans Advisory Committee (2019 – present)

Honors College Faculty Advisory Committee (2019 – 2022)

EXTRAMURAL – PEER REVIEWER

Journals: *Science*, *Science Advances*, *Nature*, *Nature Communications*, *Meteoritics and Planetary Science*, *Geochimica et Cosmochimica Acta*, *Icarus*, *Earth and Planetary Science Letters*, *Space Science Reviews*, *American Mineralogist*, *Journal of Atmospheric and Solar-Terrestrial Physics*, *Fuel*, *Transactions of the JSAS*, *Geological Society of London Special Publication*

European Research Council Executive Agency

Cambridge University Press

University of Arizona Press

NASA Research Opportunities in Space and Earth Science (ROSES)

NSF: OCE International Support

Agence Nationale de la Recherche - France

The Marsden Fund - New Zealand Government

Swiss National Science Foundation

MacArthur Fellows Program

The UK's Strategic Science Investment Agency, Particle Physics and Astronomy Research Council (PPARC)

The Leverhulme Trust, London, UK

Shota Rustaveli National Science Foundation of Georgia

EXTRAMURAL – OTHER

Advisor – AstroForge Asteroid Mining Company (2025 – present)

Co-Investigator – NASA OSIRIS-APEX Mission (2022 – present)

Co-Investigator – ESA Hera Asteroid Mission (2020 – present)

Science Advisory Board – United Launch Alliance (2022 – 2024)

Science Review Panel – United Arab Emirates MAX Mission (2022, 2024)

Chief Scientist – Peace Satellite Project, Space Trust (2020 – 2024)

Organizing Committee – The Science of Consciousness Conference (2022, 2024, 2025)

Board of Directors, Boys and Girls Clubs of Tucson (2018 – 2022)

Co-Investigator – JAXA Hayabusa2 Asteroid Sample Return Mission (2013 – 2022)

TEACHING & EDUCATIONAL ACTIVITIES

COURSES TAUGHT

S02 NATS 102: The Universe and Humanity, 3 credit hours, 160 students

F02 PTYS 510: Principles of Cosmochemistry, 3 credit hours, 12 students

S03 PTYS 195A: First Year Colloquium: Meteorites, 1 credit hour, 15 students

S03 PTYS 900: Team X – Spacecraft Mission Design, 3 credit hours, 9 students

F03 NATS 102: The Universe and Humanity, 3 credit hours, 160 students

S04 NATS 102: The Universe and Humanity, 3 credit hours, 72 students

F04 PTYS 510: Principles of Cosmochemistry, 3 credit hours, 18 students

F04 PTYS 195A: Asteroids, Comets, and Meteorites, 1 credit hour, 20 students

S05 PTYS 499/699: Spacecraft Mission Design, 3 credit hours, 8 students
 F05 NATS 102: The Universe and Humanity, 3 credit hours, 160 students
 S06 NATS 102: The Universe and Humanity, 3 credit hours, 86 students
 F06 PTYS 510: Principles of Cosmochemistry, 3 credit hours, 14 students
 S08 PHYS 498: Senior Capstone, 3 credit hours, 1 student
 F08 PTYS 510: Principles of Cosmochemistry, 3 credit hours, 12 students
 S09 PTYS 195A: Asteroids, Comets, and Meteorites, 1 credit hour, 20 students
 F09 PTYS 407: Chemistry of the Solar System, 3 credit hours, 16 students
 S17 PTYS 495/595: Spacecraft Mission Design and Implementation, 19 students
 F17 PTYS 499/499H: Independent Study – Star and Planet Formation – 6 students
 F18 HNRS 499H/EDL 396B: Gameful Learning and Community Outreach – 8 students
 S19 HNRS 499H/EDL 396B: Gameful Learning and Community Outreach – 16 students
 F19 HNRS 499H/EDL 396B: Gameful Learning and Community Outreach – 18 students
 S20 EDL 396B: Gameful Learning and Community Outreach – 15 students
 F20 EDL 396B: Gameful Learning and Community Outreach – 15 students
 S21 PTYS 495B/595B: Special Topics – Spacecraft Mission Design and Implementation, 19 students
 F21 PTYS 214: Astrobiology – A Planetary Perspective, 42 students
 F22 PTYS 214: Life in the Cosmos, 79 students
 S23 PTYS 407: Chemistry of the Solar System, 24 students
 F23 PTYS 214: Life in the Cosmos, 80 students
 F24 PTYS 407: Chemistry of the Solar System, 22 students
 S26 PTYS 900: Reconstructing Briny Fluid Conditions on Bennu’s Parent Body
 F26 PTYS 407: Chemistry of the Solar System

CURRENT PH.D. STUDENTS

Nathalia Vega-Santiago (Ph.D.)
 Melissa Kontogiannis (Ph.D.)

FORMER POSTDOCTORAL RESEARCH ASSOCIATES

Eric Palmer (Ph.D. 2009 – University of Arizona)
 Jemma Davidson (Ph.D. 2009 – Open University)
 Andrew Ryan (Ph.D., 2018 – Arizona State University)
 Ronald Ballouz (Ph.D., 2018 – University of Maryland)

FORMER PH.D. STUDENTS

Fred Ciesla (Ph.D. 2003)
 Matthew Pasek (Ph.D. 2006)
 Jade Bond (Ph.D. 2008)
 Eric Palmer (Ph.D. 2009)
 Eve Berger (Ph.D. 2011)

Kathryn Gardner-Vandy (Ph.D., 2012)
Devin Schrader (Ph.D., 2012)
Kelly Miller (Ph.D., 2016)
Yuhui "Harry" Tang (Ph.D., 2024)
Sawsan Wehbi (Ph.D. – Co-Advisor)

FORMER M.S. STUDENTS

Celinda Marsh (M.S. 2007)

FORMER POSTBACCALAUREATE RESEARCH ASSOCIATES

1. Ruby Fulford (2022 – 2023)
2. Karla Parades-Aguilar (2025 – 2026)

UNDERGRADUATE RESEARCH INTERNS

1. Frances McQueen (2002 – 2003)
2. Virginia Smith (2003 – 2004)
3. Alyssa La Blue (2003 – 2005)
4. Daniella DellaGiustina (2004 – 2009)
5. Devin Schrader (2005 – 2007)
6. Matthew Rodriguez (2006 – 2007)
7. Adria Brooks (2006 – 2008)
8. Courtney King (2008 – 2011)
9. Katrina Jackson (2008 – 2011)
10. Lujhendra Ohja (2009 – 2011)
11. Rachel Maxwell (2010 – 2011)
12. Jennifer Sterchio (2010 – 2011)
13. Ashley Nied (2015 – 2018)
14. Katherina Marchese (2016 – 2019)
15. Kerst Kingsbury (2018)
16. Jessica Forelli (2017 – 2020) – Honors Thesis Advisor
17. Collin Lewin (2017 – 2020) – Honors Thesis Advisor, Goldwater Fellow
18. Kana Ishimaru (2018) – summer intern from University of Tokyo
19. Lindsey Koelbel (2018 – 2021) – Brooke Owens Fellow
20. Sarah Graham (2019 – 2021) – Honors Thesis Advisor
21. Shae Henley (2021 – 2022)
22. Ruby Fulford (2021 – 2022) – Honors Thesis Advisor
23. Melissa Kontogiannis (2021 – 2023)
24. Henry Bentson (2024)
25. Sarah Nielsen (2022 – 2025)
26. Karla Parades-Aguilar (2024 – 2025)

GRANTS AND CONTRACTS – CURRENT

OSIRIS-REx Asteroid Sample Return Mission PI and Science Support – Phase-B/C/D/E
Role: Principal Investigator

Total Award: \$ 122.0M

Award Period: 12/16/2011 – 10/31/2026

Source: NASA MSFC New Frontiers Program Office – Contract NNM10AA11C

Annual Commitment (person months): 3

OSIRIS-APEX: An OSIRIS-REx Extended Mission to Apophis

Role: Emeritus Principal Investigator/ Co-Investigator

Total Award: \$18.4M

Award Period: 11/01/2023 – 9/30/2031

Source: NASA MSFC New Frontiers Program Office

Annual Commitment (person months): 1

The Kuiper Materials Imaging and Characterization Facility at the University of Arizona

Role: Co-Investigator

Total Award: \$2,919,856

Award Period: 12/7/2022 – 12/6/2026

Source: NASA Planetary Science Enabling Facilities

Annual Commitment: 0.01 person months/year

Expanding NASA's Community for Planetary Sample Science (ENCompSS)

Role: Co-Investigator

Total Award: \$ 118,207

Award Period: 11/11/2024 – 11/10/2026

Source: NNH23ZDA017C-NASA Support for Planetary Sample Science (SPSS)

Annual Commitment: 0.5 person months/year

PUBLICATIONS – BOOKS AND EDITED VOLUMES

2024: D. S. Lauretta, *The Asteroid Hunter*. Grand Central Publications.

2023: D. S. Lauretta, B. May, et al. *Bennu 3-D: Anatomy of an Asteroid*. London Stereoscopic Company/University of Arizona Press.

2011: D. S. Lauretta (ed.) *Elements: An International Magazine of Mineralogy, Geochemistry, and Petrology*. Special Issue on Cosmochemistry, Volume 7, Number 1.

2010: D. Apai and **D. S. Lauretta** (eds.) *Protoplanetary Dust: Astrophysical and Cosmochemical Perspectives*. Cambridge University Press.

2006: D. S. Lauretta and H. Y. McSween (eds.) *Meteorites and the Early Solar System II*. University of Arizona Press, Tucson, AZ.

2005: D. S. Lauretta and M. Killgore. *A Color Atlas of Meteorites in Thin Section*. Golden Retriever Publications, Tucson, AZ and Southwest Meteorite Press, Payson, AZ.

2002: M. K. Crombie, C. T. Gholson, **D. S. Lauretta**, and E. B. Melchiorre. *Rich Hill: The History of Arizona's Most Amazing Gold District*. Golden Retriever Publications, Tucson, AZ.

PUBLICATIONS – BOARD GAMES

2022: Pisces: A High-Stakes Fishing Competition. Xtronaut Enterprises.

2020: Xtronaut 2.0. Xtronaut Enterprises.

2019: Downlink: The Game of Planetary Discovery. Xtronaut Enterprises.

2017: Constellations: The Game of Stargazing and the Night Sky. Xtronaut Enterprises.

2016: Xtronaut: The Game of Solar System Exploration. Xtronaut Enterprises.

PUBLICATIONS – PEER-REVIEWED JOURNALS

2026:

320. Kawasaki, N., Matsumoto, T., Arakawa, S., Sakamoto, N., Bajo, K. I., Russell, S. S., ... & Lauretta, D. S. (2026). Refractory inclusions in Benu samples indicative of outer Solar System accretion. *Nature Communications*.

319. Sánchez, P., Azéma, E., Jardine, K., Hoover, C. G., Biele, J., Ryan, A. J., ... & Lauretta, D. S. (2026). A universal scaling framework for granular asteroid strength and its application to the surface of asteroid Benu. *Nature Communications*.

318. Righter, K., Gorce, J., Le, L., Thomas-Keppta, K., Wilbur, Z. E., Keller, L. P., ... & Lauretta, D. S. (2026). Mineralogy, mineral chemistry, and redox equilibria in ten aggregate particles from asteroid Benu. *Meteoritics & Planetary Science*.

317. Milliken, R. E., Hiroi, T., Hamilton, V. E., Schultz, C. D., Cloutis, E. A., Kaplan, H. H., ... & Lauretta, D. S. (2026). The role of composition in the spectral evolution of carbonaceous asteroids as informed by Benu sample return. *Meteoritics & Planetary Science*.

316. Hamilton, V. E., Cloutis, E. A., Milliken, R. E., Haenecour, P., Golish, D. R., Domanik, K. J., ... & Lauretta, D. S. (2026). Visible, near-, and thermal infrared spectra of asteroid Benu samples: Relationship to and implications for remote sensing of carbonaceous asteroids. *Meteoritics & Planetary Science*.

315. King, A. J., Schofield, P. F., Najorka, J., Bates, H. C., Russell, S. S., McCoy, T. J., ... & Lauretta, D. S. (2026). Low temperatures and high water/rock ratios in asteroid (101955) Benu's history based on X-ray powder diffraction of returned samples. *Meteoritics & Planetary Science*.

314. Foustoukos, D. I., Alexander, C. M. D., Cody, G. D., Stern, J. C., Bates, S. M., Furukawa, Y., ... & Lauretta, D. S. (2026). The H, C and N abundances and isotopic compositions of samples with outer Solar System heritage: asteroid Benu and the Tarda and Tagish Lake meteorites. *Geochimica et Cosmochimica Acta*.

313. Yurimoto, H., Tachibana, S., Homma, H., Komatani, S., Watanabe, T., Motomura, K., ... & Lauretta, D. S. (2026). Analysis of hydrogen, carbon, oxygen, sulfur, chlorine, and mercury in samples returned from asteroid (101955) Benu. *Meteoritics & Planetary Science*.

312. Russell, S. S., Franchi, I. A., Salge, T., Zhao, X., Jones, R. H., King, A. J., ... & Lauretta, D. S. (2026). Anhydrous minerals in asteroid Benu: Evidence for well-preserved primordial components. *Meteoritics & Planetary Science*.
311. Molaro, J.L. , McCoy, T.J., Ryan, A.J., Opeil, C.P., Hoover, C.G., Hanton, L.T.J., ... & Lauretta, D. S. (2026). Fatigue-crack formation in samples from asteroid Benu and petrologic controls on boulder properties and evolution. *Icarus*.
310. Hameroff, S., Bandyopadhyay, A., & Lauretta, D. S. (2026). Microtubules are ‘fractal time crystals’: Implications for life and consciousness. *Journal of Consciousness Studies*, 33(1-2), 211-247.
309. Ballouz, R. L., Ryan, A. J., Macke, R. J., Barnouin, O. S., Lê, M., Moreno, J., ... & Lauretta, D. S. (2026). Physical Analysis of Benu Samples Reveals Regolith Production by Collisional Disruption on Near-Earth Asteroids. *The Planetary Science Journal*, 7(4), 87.
308. Oba, Y., Koga, T., Takano, Y., Naraoka, H., Hirakawa, Y., Sunami, S., ... & Lauretta, D. S. (2026). Distribution of extraterrestrial nucleobases, other N-heterocycles, and their precursors in a sample from asteroid Benu. *Communications Chemistry*, 9, 132.
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