

Biography:

Jonathan I. Lunine is the David C. Duncan Professor in the Physical Sciences and Chair of the Department of Astronomy at Cornell University. He is interested in how planets form and evolve, how they maintain or lose their ability to host life, and whether life exists elsewhere in our solar system and beyond. He pursues these interests through theoretical modeling and participation in spacecraft missions. He was an interdisciplinary scientist on Cassini/Huygens, is co-investigator on the Juno mission, is on MISE (as co-I), gravity science (as team member) on Europa Clipper, and the 3GM gravity experiment on ESA's JUICE mission to Ganymede. He served on the Science Working Group of the James Webb Space Telescope as an Interdisciplinary Scientist, which he is currently using for characterization of extrasolar planets and Kuiper Belt objects. Lunine has contributed to concept studies for solar system and exoplanet characterization missions. Lunine is a member of the National Academy of Sciences and has chaired or co-chaired numerous advisory and strategic planning committees for the Academy and for NASA, including the Giant Planet Systems panel for the Planetary Science and Astrobiology Decadal Survey 2023, and "Pathways to Exploration: Rationales and Approaches for a U.S. Program of Human Space Exploration," which he co-chaired in 2014 with Mitch Daniels. Lunine received a B.S. in Physics and Astronomy from the University of Rochester in 1980 and a Ph.D. from the California Institute of Technology in 1985.

Jonathan Lunine,

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Lunine is interested in how planets form and evolve, what processes maintain and establish habitability, and where might life be present in the solar system and beyond. He pursues these interests through theoretical modeling and participation in spacecraft missions. He was an interdisciplinary scientist on Cassini/Huygens, is co-investigator on the Juno mission, is on MISE (as co-I), gravity science (as team member) on Europa Clipper, and 3GM on ESA's JUICE mission to Ganymede. He was an interdisciplinary scientist on the James Webb Space Telescope, which he is currently using for characterization of extrasolar planets and Kuiper Belt objects. Lunine has contributed to concept studies for solar system and exoplanet characterization missions. Lunine is a member of the US National Academy of Sciences and recently chaired the Giant Planet Systems panel for the Planetary Science and Astrobiology Decadal Survey published in 2023.

Education

Ph.D. Planetary Sciences, California Institute of Technology, 1985
M.S. Planetary Sciences, California Institute of Technology, 1983
B.S. Physics and Astronomy, *Magna cum Laude*, with Distinction, University of Rochester, 1980

Current Positions

2019–present Chair, Department of Astronomy, Cornell University
2011–present David C. Duncan Professor in the Physical Sciences, Cornell University
2007–present David P. Baltimore Distinguished Visiting Scientist, NASA JPL

Selected Honors and Awards

2015 Jean Dominique Cassini Medal European Geosciences Union
2009 Basic Science Award, International Academy of Astronautics
2003 Fellow, American Association for the Advancement of Science
1995 James B. Macelwane Medal, American Geophysical Union
1990 Zeldovich Award, Commission B, COSPAR, International Council Scientific Unions
1988 Harold C. Urey Prize, Division for Planetary Sciences, American Astronomical Society

Current and Recent Mission Experience

2015–present Co-investigator, MISE, Team member Gravity Science, Europa Clipper.
2005–present Co-investigator, Juno New Frontiers Mission
2002–2022 Interdisciplinary Scientist Astrobiology, JWST
1990–2018 Interdisciplinary Scientist, Cassini-Huygens

Recent Advisory Experience

2021–2022 Panel chair, Giant Planet Systems, Decadal Survey of Planetary Sci and Astrobio.
2012–2014 Co-Chair, National Res Council (NRC) Committee on Human Spaceflight

Published papers

420 refereed papers/chapters, 3 books. (List available). Google scholar H-index 111 (career)