

Robyn Millan

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Distinguished Professor*

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Summary

Dr. Millan is a space scientist and professor of physics and astronomy. Her main research focus is energetic particle processes in the atmosphere and planetary magnetospheres. She is Principal Investigator (PI) of the NASA Relativistic Electron Atmospheric Loss (REAL) CubeSat and was PI of the Balloon Array for Radiation-belt Relativistic Electron Losses (BARREL). She has worked to promote the development of small satellites for space science, has served as American Geophysical Union SPA Secretary, and has chaired committees at the College, national, and international levels. She has taught for 20 years, mentored over 50 undergraduate research students and supervised a dozen graduate and postdoctoral researchers. A full curriculum vitae can be found [here](#).

Education

- 2002 **PhD**, *University of California, Berkeley, Physics.*
- 1995 **BA**, *University of California, Berkeley, Physics, Astronomy.*

Appointments

- 2017–present **Professor**, *Dartmouth College.*
- 2011–2017 **Associate Professor**, *Dartmouth College.*
- 2005–2011 **Assistant Professor**, *Dartmouth College.*
- 2002–2005 **Research Assistant Professor**, *Dartmouth College.*

Honors

- 2019 Dartmouth Presidential Lecture
- 2017 NASA Exceptional Public Achievement Medal
- 2017 John M. Manley Huntington Award for Newly Promoted Faculty
- 2017 Gordon Russell 1955 Fellowship
- 2012 RBSP Education and Public Outreach Award
- 2011 Dartmouth Dean of the Faculty Award for Outstanding Mentoring and Advising
- 2009 Junior Faculty Fellowship, Dartmouth College
- 2008 Editor's Citation for Excellence in Refereeing for JGR Space Physics
- 2002 NH Space Grant Visiting Young Scholar, Dartmouth College
- 1998 NASA Graduate Student Research Program Fellowship
- 1995 Dorthea Klumpke Roberts Award, U. C. Berkeley

Leadership and Selected Service (Past Five Years)

- Co-Chair NASEM Decadal Survey for Solar and Space Physics (Heliophysics) (2022-present), NASEM Review of Progress Toward Implementing the Decadal Survey - Solar and Space Physics (2019-2021), COSPAR Roadmap: Small Satellites for Space Science (2017-2020)
- Member NSF Advisory Council for Geosciences (2020-2022), COSPAR Task Group on Establishing a Constellation of Small Satellites (2020-present), COSPAR Nomination Committee (2022-present), NASEM Committee to Review the NASA Science Mission Directorate Science Plan (2019), NASEM Committee on Solar and Space Physics (2013-2018), Van Allen Probes Science Working Group (2006-2021), Program Committees for AGU Chapman Conference (2018), APS DPP Meeting (2021), and Balloon Tech Workshop (2021, 2023)
- Dartmouth Chair: Committee on Instruction (2019-2021), Department Undergraduate Curriculum Committee (2021-2022), Department Strategic Planning Committee (2021-present); Department Vice Chair (2019-present); Committee Member: Committee on Organization and Policy (2022-present), Department DEI Committee (2021-present); EE Just Program Faculty Advisor (2016-present)
- Reviewer Review Panels for NASA, NSF; Referee: Geophysical Research Letters, JGR Space Weather, Nature, Nature Astronomy, Advances in Space Research, NASEM Space Studies Board

Selected Publications

1. **Millan, R. M.**, and R. M. Thorne (2007), *Review of Radiation Belt Relativistic Electron Losses*, J. Atmos. Solar Terr. Physics, 69, 362-377 (494 citations).
2. Yando, K. B., **R. M. Millan**, J. C. Green, and D. S. Evans (2011), *A Monte Carlo Simulation of the POES Medium Energy Proton and Electron Detector*, J. Geophys. Res., 116, A10231, doi:10.1029/2011JA016671 (177 citations).
3. **Millan, R. M.**, R. P. Lin, D. M. Smith, K. R. Lorentzen, M. P. McCarthy (2002), *X-ray Observations of MeV Electron Precipitation with a Balloon-Borne Germanium Spectrometer*, Geophys. Res. Lett., 29, 47-1 (152 citations).
4. Blum, L. W., A. Halford, **R. Millan**, J. W. Bonnell, J. Goldstein, M. Usanova (2015), *Observations of coincident EMIC wave activity and duskside energetic electron precipitation on 18–19 January 2013*, Geophys. Res. Lett. 42 (14), 5727-5735 (109 citations).
5. **Millan, R. M.** and D. N. Baker (2012), *Acceleration of Particles to High Energies in Earth's Radiation Belts*, Space Science Reviews, 173, 103-131, doi:10.1007/s11214-012-9941-x (99 citations).
6. Breneman, A. W., A. Halford, **R. Millan**, et al. (2015), *Global-scale coherence modulation of radiation-belt electron loss from plasmaspheric hiss*, Nature, 523, 193-195, doi:10.1038/nature14515 (99 citations).
7. **Millan, R. M.**, et al. (2019), *Small satellites for space science: A COSPAR scientific roadmap*, Advances in Space Research, Volume 64, Issue 8, 1466-1517, doi:10.1016/j.asr.2019.07.035 (95 citations).
8. **Millan, R. M.**, R. P. Lin, M. P. McCarthy (2007), *Observation of relativistic electron precipitation during a rapid decrease of trapped relativistic electron flux*, Geophys. Res. Lett., 34, L10101, doi:10.1029/2006GL028653 (92 citations).
9. **Millan, R. M.**, et al. (2013), *The Balloon Array for RBSP Relativistic Electron Losses (BARREL)*, Space Science Reviews, doi:10.1007/s11214-013-9971-z (87 citations).
10. **Millan, R. M.**, et al. (2021), *Early-time non-equilibrium pitch angle diffusion of electrons by whistler-mode hiss in a plasmaspheric plume associated with BARREL precipitation*, Frontiers in Astronomy and Space Sciences 8, 204, doi:10.3389/fspas.2021.776992 (5 citations).