ROBYN M. MILLAN
Margaret and Edward Leede '49 Distinguished Professor
Department of Physics and Astronomy
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EDUCATION:

2002	Ph.D., Physics, University of California, Berkeley
1999	M.A., Physics, University of California, Berkeley
1995	B.A., Astronomy, Physics, University of California, Berkeley

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
Summer 2002	Postdoctoral Research Assistant, U. C. Berkeley

AWARDS:

2017	NASA Exceptional Public Achievement Medal
2017	Dartmouth John M. Manley Huntington Award for Newly Promoted Faculty
2017	Gordon Russell 1955 Fellowship, Dartmouth College
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	2008 Editor's Citation for Excellence in Refereeing for JGR Space Physics
2002	NH Space Grant Visiting Young Scholar, Dartmouth College
1998-2001	NASA Graduate Student Research Program Fellowship
1995	Dorthea Klumpke Roberts Award, U. C. Berkeley

PROFESSIONAL ACTIVITIES:

- Lead a research group to study processes acting on energetic particles in the atmosphere and space.
  - Manage experimental, data analysis, and modeling projects as Principal Investigator.
  - Presented research results in 60 invited talks at scientific conferences and university seminars.
  - Supervised 3 postdoctoral researchers, 5 Ph.D. students, 2 M.S. students, 7 senior thesis students.
  - Supervised 40 undergraduate research students over a period of 15 years.
- Co-chair for COSPAR Scientific Roadmap on Small Satellites for Space Science (2017-present).
- Served as Chair at Dartmouth College for: Council for Undergraduate Research (2015-2016), College Course Steering Committee (2013), Department Undergraduate Curriculum Committee (2011-2015), Department Graduate Committee (present).
- Member of: National Academies Standing Committee on Solar and Space Physics (2013-present), NASA Balloon Working Group (2011-present), RBSP Science Working Group (2006-present), Steering Committee for NSF Geospace Environment Modeling (2013-2016).
- Served as SPA Secretary of the American Geophysical Union (2013-2016).
- Participated in three National Academies studies: "Achieving Science Goals with Cubesats" (2015-2016), 2010 Decadal Survey (Solar-Wind Magnetosphere Interactions and Platforms Working group), "The Role and Scope of Mission-Enabling Activities in NASA's Space and Earth Science" (2008-2009).

- Member of: Dartmouth Strategic Planning Working Group on Pedagogy, Teaching, and Mentorship (2011 - 2012), Dartmouth Center for the Advancement of Learning (DCAL) Advisory Board (2006-2009), Dartmouth Women in Science Project (WISP) Advisory Board (2007-2008).
- Served on Program Committee for: Fall Meeting of the American Geophysical Union (2013-2016), 2015 Joint Assembly, Triennial Earth-Sun Summit (2015), AGU Chapman Conference (2011, 2017), 2010 Workshop, "Radiation Belts, St. Petersburg", APS Division of Plasma Physics meeting (2008).
- Co-leader for NSF GEM (Geospace Environment Modeling) focus group: *Scientific Magnetic Mapping and Techniques* (2011-2015).
- Organized special issue, "Energetic Electron Loss and its Impacts on the Atmosphere", joint between JGR-Atmospheres and JGR-Space Physics (2016).
- Served on Review Panels for: NASA ROSES, NSF Cubesat Program, NSF CEDAR, NASA SALMON
- Referee for *Advances in Space Research, Annales Geophysicae, Geophysical Research Letters, Journal of Geophysical Research, Journal of Atmospheric Solar Terrestrial Physics, Nature, Solar Physics*

EDUCATIONAL, OUTREACH, AND OTHER ACTIVITIES:

- Taught Astronomy and Physics courses for 15 years at Dartmouth College.
- Presented 11 public lectures in local astronomy clubs, schools, at Kennedy Space Center, and three Antarctic research stations.
- Panelist for National Research Council Space Studies Board Colloquium, "Forging the Future of Space Science - the next 50 years" (June 2008).
- Developed and ran exhibit on space weather and scientific balloons for USA Science and Engineering Festival in Washington, D. C. (April 2014).
- President, New England K9 Search and Rescue, a 501(c)(3) non-profit organization with 10-15 members that provides search and rescue services in New Hampshire and Vermont (2013-present).

GRANTS AND CONTRACTS:

1. PI NASA RBSP GMOO: "Balloon Array for Monitoring Relativistic Electron Losses during the RBSP Mission", $9,301,634, 10/30/06 - 12/31/17.
2. PI NASA, "A BARREL Balloon Campaign to Study Energetic Electron Precipitation", $78,544, 7/1/2016-6/30/2017.
3. Co-I NASA EPSCoR, "UNH-Dartmouth NASA EPSCoR", $150,000, 10/18/12-10/17/15.
4. Co-I NASA Geospace Science, "Distribution and Effects of Electromagnetic Ion Cyclotron Waves", $345,759, 1/1/13 - 12/31/15.
5. Co-I NASA Living with a Star Targeted Research and Technology, "Ring Current Control of the Outer Radiation Belt: Magnetopause Shadowing, Local Acceleration and Loss", $451,610, 8/3/11 - 8/2/15.
6. Co-I JPL Strategic University Research Partnership, "Dartmouth Greencube", $25k/year, 2011-2016
7. PI NSF ATM: "Collaborative Research: Relativistic Particle Precipitation and Upper Atmospheric Effects". $35,906, 4/1/2008-3/31/2012.
8. PI NASA Graduate Student Research Program Fellowship for Leslie Woodger, "Investigating EMIC Waves as a Precipitation Mechanism for Relativistic Electrons", $24,000/year, 9/25/06 - 9/24/09.

9. PI NSF ATM (GEM) Grant"A Quantitative Comparison of the Theory and Observations of Relativistic Electron Precipitation due to Electromagnetic Ion Cyclotron Waves" $270,000 5/1/05 - 4/30/08.

10. PI NSF ATM/OPP Grant "An Arctic Winter Balloon Campaign to Study Mechanisms of Relativistic Electron Precipitation", $252,673 4/15/04-4/14/06.

11. PI NSF ATM (GEM) Grant "A Study of Relativistic Electron Precipitation with data from the MAXIS 2000 Long Duration Balloon Flight", $120,000 6/15/03-6/14/05.

SELECTED PUBLICATIONS

1. *Anderson, B. R., *S. Shekhar, R. M. Millan, A. B. Crew, H. E. Spence, D. M. Klumpar, J. B. Blake, T. P. O'Brien, and D. L. Turner (2017), Spatial scale and duration of one microburst region on 13 August 2015, *J. Geophys. Res. Space Physics*, 122, 59495964, doi:10.1002/2016JA023752.

2. +da Silva, C. L., S. Wu, R. E. Denton, M. K. Hudson, and R. M. Millan (2017), Hybrid fluid-particle simulation of whistler-mode waves in a compressed dipole magnetic field: Implications for dayside high-latitude chorus, *J. Geophys. Res. Space Physics*, 122, 432448, doi:10.1002/2016JA023446.

3. Breneman, A. W., +A. Halford, R. Millan, M. McCarthy, J. Fennell, J. Sample, +L. Woodger, G. Hospodarsky, J.R. Wygant, C. A. Cattell, J. Goldestein, D. Malaspina, and C.A. Kletzing (2015), Observations of a Global Coherence Scale Modulating Electron Loss Due to Plasmaspheric Hiss, *Nature*, 523, 193-195, doi:10.1038/nature14515.

4. +A. J. Halford, S. L. McGregor, K. R. Murphy, R. M. Millan, M. K. Hudson, +L. A. Woodger, C. A. Cattel, A. W. Breneman, I. R. Mann, W. S. Kurth, G. B. Hospodarsky, M. Gkioulidou and J. F. Fennell (2015), BARREL observations of an ICME-Shock impact with the magnetosphere and the resultant radiation belt electron loss, *J. Geophys. Res. Space Physics*, doi: 10.1002/2014JA020873.

5. *Li, Z., R. M. Millan, M. K. Hudson, +L. A. Woodger, D. M. Smith, Y. Chen, R. Friedel, J. V. Rodriguez, M. J. Engebretson, J. Goldstein, J. F. Fennell, and H. E. Spence (2014), Investigation of EMIC wave scattering as the cause for the BARREL 17 January 2013 relativistic electron precipitation event: A quantitative comparison of simulation with observations, *Geophys. Res. Lett.*, 41, 87228729, doi:10.1002/2014GL062273.

6. 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.

7. Millan, R. M. and D. N. Baker (2012), Acceleration of Particles to High Energies in Earth's Radiation Belts, in the ISSI Workshop Book, "Particle Acceleration in Cosmic Plasmas" and *Space Science Reviews*, doi:10.1007/s11214-012-9941-x.

8. *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.

9. Millan, R. M, and R. M. Thorne (2007), Review of Radiation Belt Relativistic Electron Losses, *J. Atmos. Solar Terr. Physics*, **69**, 362-377.

10. 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.

*Student of R. Millan at time of publication
+Postdoc of R. Millan at time of publication