

BIOGRAPHICAL SKETCH

Kristina A. Lynch

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A. Professional Preparation

<i>Washington University in St Louis</i> , A.B. in Physics	Awarded 1984
<i>Northeastern University</i> , graduate coursework in Physics	1985-1987
<i>University of New Hampshire</i> , M.A. in Physics	Awarded 1990
<i>University of New Hampshire</i> , Ph.D. in Physics	Awarded 1992

B. Appointments

<i>Dartmouth College</i> , Professor of Physics	2012 – present
<i>Dartmouth College</i> , Associate Professor of Physics	2006 – 2012
<i>Dartmouth College</i> , Assistant Professor of Physics	2002 – 2006
<i>University of New Hampshire</i> , Research Associate Professor	1999 – 2002
<i>University of New Hampshire</i> , Research Assistant Professor	1995 – 1999
<i>University of New Hampshire</i> , Research Scientist	1992 – 1995
<i>University of New Hampshire</i> , Graduate Student	1988 – 1992
<i>Air Force Geophysics Laboratory</i> , USAF Lieutenant/Research Physicist	1984 – 1988
<i>Washington University</i> , Undergraduate Research Assistant	1981 – 1984

C. Selected Recent Products of K. A. Lynch and Students

Closely related:

M U Siddiqui, L E Gayetsky, M R Mella, K A Lynch, and M R Lessard, A laboratory experiment to examine the effect of auroral beams on spacecraft charging in the ionosphere, *Physics of Plasmas*, 2011.

L Gayetsky and K Lynch, Plasma Evolution from a Resonance Cavity Source, *Rev Scientific Inst*, 2011.

Frederick-Frost, K., and K. A. Lynch, Experimental studies of low density and temperature ion and electron sheaths, *Physics of Plasmas*, 2007.

Frederick-Frost, K., and K. Lynch, Low energy stable plasma calibration facility, *Rev. Scientific Inst.*, 2007.

Other significant:

M Zettergren, K Lynch, D Hampton, et al., Auroral ionospheric F-region density cavity formation and evolution: MICA campaign results, *J Geophys Res*, 2014.

K A Lynch, M Mella, D Hampton, et al., Structure and dynamics of the nightside poleward boundary: sounding rocket and groundbased observations of auroral electron precipitation in a rayed curtain, *J Geophys Res*, 2012.

Lynch, K., J. Semeter, M. Zettergren, P. Kintner et al., Auroral ion outflow: low altitude energization, *Ann. Geophys.*, 2007.

Paschmann, G., B. Hultqvist, and R. Treumann (eds.), Auroral Plasma Physics, Space Sciences Series of ISSI, Kluwer Academic Publishers, 2002.

Lynch, K.A., J. Bonnell, C. Carlson, W. Peria, Return-current-region aurora: E-parallel, j-z, particle energization, and BBELF wave activity, *J. Geophys. Res.*, 2002.

Lynch, K.A., R.L. Arnoldy, P.M. Kintner, and J. Bonnell, The AMICIST Auroral Sounding Rocket — A Comparison of Transverse Ion Acceleration Methods, *Geophys. Res. Lett.*, 1996.

D. Synergistic Activities

Co-chair, NRC Decadal Survey “Platforms” working group, part of the 2012 Heliophysics Decadal Survey. 2010-2012; Member, National Academy “Comm. on NASAs Heliophysics Performance Assessment”, 2008-9; Member, National Academies “Committee on Solar and Space Physics (CSSP)”, 2006-2010; Member, NRC Decadal survey “Plasma 2010: An assessment of and outlook for plasma science”, 2005-2007.

Member, NASA Sounding Rocket Working Group, 1999 – 2003; 2010-2013

Member, Core editing group, ISSI Auroral Plasma Physics working group, Switzerland

Member of American Geophysical Union

Principal investigator, Isinglass sounding rocket, Cascades2 sounding rocket, Dust Orion sounding rocket program, Enstrophy sounding rocket program; *co-investigator*, SERSIO, SIERRA, SAL, ROPA, SCIFER2, RENU, MICA, RENU2, SmallRockets sounding rocket programs

E. Collaborators and Other Affiliations

(i) Collaborators.

R.A. Arnoldy (UNH), M. Conde (UAF/GI), H. Dahlgren (BU), R. Goldstein (SWRI), D. Hampton (UAF/GI), D. Hysell (Cornell), J. LaBelle (Dartmouth College), Marc Lessard (UNH), Joran Moen (Norway), M. U. Siddiqui (Wisconsin), J. Semeter (BU), H. Stenbaek-Nielsen (UAF/GI), R. Torbert (UNH), M. Zettergren (ERAU).

(ii) Graduate and Postdoctoral Advisors.

Graduate Advisor, Prof. R.L. Arnoldy, University of New Hampshire *Post-Graduate Advisor*, Prof. R.B. Torbert, University of New Hampshire

(iii) Thesis Advisor.

PhD thesis advisor [8 completed, 3 current] to: Lynette Gelinis (Aerospace Corp.); David Pietrowski (Aerospace Corp.); Yihua Zheng (NASA GSFC); Elizabeth MacDonald (LANL); Kristen Frederick-Frost (Chemical Heritage Foundation Museum, Philadelphia); Kyoung-Joo Hwang (NASA GSFC); Robert Michell (SwRI); Meghan Mella (Uppsala Swedish Institute of Space Physics). Lisa Gayetsky Fisher, Phil Fernades, Rob Clayton currently at Dartmouth.

Postdoctoral sponsor [1] to: Nickolay Ivchenko (KTH, Stockholm)

Senior honors thesis advisor to: Todd Anderson and Peter Horak (2014); Jon Guinther (Amazon); Amanda Slagle (UCB/SSL); Sean Currey (graduate student, Georgia Tech); Umair Siddiqui (graduate student, U Wisconsin); P Bracikowski (commercial company); Alex Crew (UNH, Stanford).