

Erik J. L. Larson

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Education

- 2014 Ph.D., University of Colorado, Atmospheric and Oceanic Sciences
Dissertation title: "Three-dimensional modeling of Titan's aerosols and winds"
- 2010 M.S., University of Colorado, Astrophysical and Planetary Sciences
- 2006 B.A.s, Grinnell College, Physics, Biology

Scholarships, Honors, and Awards

- 2014 NASA Astrobiology Institute Summer School Scholarship
- 2012 AGU Fame Lab semifinalist
- 2012 JPL Planetary Science Summer School Scholarship
- 2012 DPS Hartman student travel grant
- 2011 NSF Principal Investigator
- 2008-present University of Colorado Graduate Research Assistant Fellowship
- 2002-2006 Grinnell College Trustee Honor Scholarship
- 2003-2006 Academic All-Conference - Swimming

Career Experience

- 2014-present Research Scientist, National Oceanic and Atmospheric Administration (NOAA), Science adviser: Robert Portmann.

Research Experience

- 2008-2014 Graduate Research Assistant, University of Colorado, Adviser: Owen B. Toon. I modeled the aerosol haze on Titan and its dynamical and radiative effects on Titan's atmosphere.
- 2011 National Science Foundation East Asia and Pacific Summer Institute/Japan Society for the Promotion of Science Summer Program, University of Tokyo, Japan (Adviser: Dr. Seiji Sugita). *Tholin en i i i o a m o p h e i c m e h a n e a b n d a n c e a n d t h e c l i m a t i c i m p a c t*.
- 2008 National Science Foundation, International Research Experience for Graduate Students (IRES), Indian Institute of Astrophysics, Bangalore, India (Adviser: Prof. S.P. Bagare). *S t u d y o f k a r a d i o m e t e o r o l o g y a n d a i o n a l d a t a f r o m H a n l e*. (technical report)
- 2005 National Science Foundation, Research Experience for Undergraduates (REU), University of South Carolina, Department of Biological Sciences (Adviser: Austin Hughes). *D i f f e r e n t i a l e l e c t r o n a c c e l e r a t i o n o f g e n e t i c a l l y d e r i v e d p r o t e i n s i n H m a n*.

Teaching Experience

- 2012-2013 Adjunct professor, Department of Science, Front Range Community College. Taught Astronomy 101 and Integrated Science 156.
- 2007-2008 Graduate Teaching Assistant, University of Colorado, Department of Astrophysical and Planetary Sciences.

Publications

- Larson, E.J.L., Toon, O.B., West, R. A., Friedson, A.J. 2015. Microphysical modeling of Titan's detached haze layer. *Icarus*, in press.
- Larson, E.J.L. 2014. Three dimensional modeling of Titan's aerosols and winds. PhD dissertation University of Colorado. Ann Arbor: ProQuest/UMI. (Publication num. AAT 3621359).
- Larson, E.J.L., Toon, O.B., Friedson, A.J. 2014. Simulating Titan's aerosols in a three-dimensional global circulation model. *Icarus*. **243**, 400-419.
- Ningombam, S. S., Bagare, S. P., Srivastava, A. K., Sohn, B.J., Song, H.-J., Larson, E. 2014. Aerosol radiative forcing over a high-altitude station Merak, in the trans-Himalayan region during advection of anthropogenic events from the Indo-Gangetic Plain. *Atmospheric Environment*, **98**, 253-259
- Ningombam, S. S., Bagare, S. P., Sinha, N., Singh, R. B., Srivastava, A. K., Larson, E., Kanawade, V. P. 2013. Characterization of aerosol optical properties over the high altitude station Hanle, in the trans-Himalayan region. *Atmospheric Research* **138**, 308-323.

Conference and Meeting Proceedings

- Larson, E.J.L. 2014. Three-dimensional modeling of Titan's organic haze with implications for the early Earth. *Atmospheric and Space Conference MC03*.
- Larson, E.J.L., Toon, O.B, Friedson, A.J., 2014. CAM angular momentum conservation on slow rotators. *CESM Workshop* Feb. 12, 2014.
- Larson, E.J.L., Toon, O.B, Friedson, A.J., 2013. Orographic forcing of dune forming winds on Titan. *AGU Fall Meeting P53D-1892*.
- Larson, E. J. L., Toon, O. B., Friedson, A. J., 2013. Effects of topography on the dune forming winds on Titan. *American Astronomical Society, DPS meeting #45, #309.02*
- Larson, E. J. L. et al. 2012. Aerosol Optical Properties Over the High Altitude Station Hanle in the Western Himalayas. *AGU Fall Meeting A51A-0010*.
- Larson, E. J. L., Toon, O. B., Friedson, A. J., West, R. A. 2012. Exploring Titan's Aerosols with a Three Dimensional GCM. *American Astronomical Society, DPS meeting #44, #312.05*.
- Larson, E. J. L.; Sekine, Y.; Sugita, S.; Sasamori, T.; McKay, C. P. ; Toon, O. B. 2012. Tholin Sensitivity to Atmospheric Methane Abundance and the Implications for Multiple Stable States of Titan's Climate System. *43rd Lunar and Planetary Science Conference, held March 19-23, 2012 at The Woodlands, Texas. LPI Contribution No. 1659, id.1427*
- E. Larson, O. Toon, A. Friedson, R. West. 2011. Simulating Titan's Aerosols in a 3 Dimensional GCM. *EPSC Abstract Vol. 6, EPSC-DPS2011-1495*.
- Larson, Erik J. L.; Toon, O. B.; Friedson, A. J.; West, R. A. 2010 Aerosol particle shape and radiative coupling in a three dimensional Titan GCM. *American Astronomical Society, DPS meeting #42, #36.14; Bulletin of the American Astronomical Society, Vol. 42, p.1067*
- Larson, Erik J. L.; Toon, Owen B. 2010. Seasonal cycles on Titan from a Coupled Aerosol Microphysical and Global Circulation Model. *Titan Through Time; A*

*Workshop On Titan's Past, Present and Future, NASA Goddard Space Flight
Center, April 6th - 8th, 2010. Edited by V. Colini, C. Niino, and R. Lorenz, p.35*
Larson, Erik J. L.; Toon, O. B.; Friedson, A. J.; West, R. A.; Wilson, E. H.; Oyafuso, F.;
Orton, G. S.; Barth, E. L. 2009. A Coupled Three Dimensional Aerosol
Microphysics And Global Circulation Model For Titan. *American Astronomical
Society, DPS meeting #41, #33.05.*

Professional Affiliations

American Astronomical Society, Division for Planetary Science
American Geophysical Union

Volunteer and Outreach

2009-present I Have A Dream Foundation. Science tutor and mentor.
2013 UK Astrobiology Academy. Student mentor.
2010-present Colorado Science Fair. Judge and student mentor.
2009-2010 Colorado Project Astro-Geo. K-12 science outreach program.