

Scott England

Associate Professor

Aerospace and Ocean Engineering, Virginia Tech

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Employment

Current duties include: leading a research team, securing funding, supervising students in research projects and PhD dissertations, coordinating the ICON science team, teaching undergraduate and graduate classes in Aerospace Engineering.

- Associate Professor, Aerospace and Ocean Engineering, Virginia Tech (2016-present)
- UC Berkeley, Space Sciences Lab, Associate /Assistant Phys., Jan 2008 – Dec 2016.
- UC Berkeley, Space Sciences Lab, Postdoctoral Scholar, June 2005 – December 2007.

Education

- PhD, The Role of Gravity Waves in Coupled Middle-Upper Atmosphere Dynamics, Radio and Space Plasma Physics Group, University of Leicester (UK), July 2005.
- Masters in Physics, First Class Honors, Physics with Space Science and Technology, Department of Physics and Astronomy, University of Leicester (UK), July 2001.

Teaching

- Virginia Tech, Aerospace and Ocean Engineering, Associate Professor, December 2016-Present.
- UC Berkeley, Physics Department, Lecturer, January 2010 – May 2011.
- Graduated PhD students to date - 1
- Graduated MS students to date – 8

Role in the Scientific Community

- Committees: National Academy of Sciences, Committee for the Review of Progress Toward Implementing the Decadal Survey – Solar and Space Physics, 2018-2019; AGU SPA Fellow Committee 2015-2016; NSF CEDAR Steering 2014-2016.
- Project Scientist, NASA's Ionospheric Connection Explorer.
- Co-I, NASA's Global Observations of Limb and Disk Mission of Opportunity.
- Participating Scientist, NASA's Mars Atmosphere and Volatile Evolution Mission.

Awards

- 2020 Dean's Award for Excellence in Teaching
- 2020 NASA Group Achievement Award for the Ionospheric Connection Explorer
- 2016 NASA RHG Exceptional Achievement for Science.

Research Focus

- Physics of the upper atmosphere including dynamical coupling between the lower, middle, and upper atmosphere; atmospheric tides and gravity waves; electrodynamic coupling between the neutral thermosphere and ionospheric plasma.
- Remote sensing of the upper atmosphere & ionosphere; mission and observational campaign development; analysis of photometric, spectroscopic and interferometric airglow data from spacecraft; combined analysis of space- and ground-based datasets.
- Physics of the Martian thermosphere and ionosphere, including dynamical coupling between the lower atmosphere and thermosphere; role of atmospheric waves in the dynamics of the Martian thermosphere.

Selected Publications

A total of 86 peer-reviewed publications in print or in press, including:

1. Immel, T.J., **England**, S.L., Mende, S.B. et al., The Ionospheric Connection Explorer Mission: Mission Goals and Design, *Space Sci Rev.* (2018) 214: 13. <https://doi.org/10.1007/s11214-017-0449-2>.
2. Eastes, R.W., McClintock, W.E., Burns, A.G., Anderson, D.N., Andersson, L., Codrescu, M., Correia, J.T., Daniell, R.E., **England**, S.L., Evans, J.S. Harvey, J., Krywonos, A., Lumpe, J.D., Richmond, A.D., Rusch, D.W., Siegmund, O., Solomon, S.C., Strickland, D.J., Woods, T.N., Aksnes, A., Budzien, S.A., Dymond, K.F., Eparvier, F.G., Martinis, C.R., Oberheide, J., 2017, The Global-Scale Observations of the Limb and Disk (GOLD) Mission, *Space Sci Rev.*, (2017), DOI 10.1007/s11214-017-0392-2
3. Harding, B. J., Chau, J. L., He, M., Englert, C. R., Harlander, J. M., Marr, K. D., Makela, J. J., Matthias, C., Li, G., Ratnam, M.V., Rao, S. V. B., Wu, Y-J. J., **England**, S. L., and Immel, T. J., (2021). Validation of ICON-MIGHTI thermospheric wind observations: 2. Green-line comparisons to specular meteor radars. *Journal of Geophysical Research: Space Physics*, 126, e2020JA028947. <https://doi.org/10.1029/2020JA028947>
4. **England**, S. L., Liu, G., Kumar, A.*, Mahaffy, P. R., Elrod, M., Benna, M., et al. (2019). Atmospheric tides at high latitudes in the Martian upper atmosphere observed by MAVEN and MRO. *Journal of Geophysical Research: Space Physics*, 124. <https://doi.org/10.1029/2019JA026601>
5. Alexandre, D., Thurairajah, B., **England**, S. L., & Cullens, C. Y. (2021). The influence of obliquely propagating monsoon gravity waves in the southern polar summer mesosphere after stratospheric sudden warmings in the winter stratosphere. *Journal of Geophysical Research: Atmospheres*, 126, e2020JD033970. <https://doi.org/10.1029/2020JD033970>
6. Harding, B. J., Makela, J. J., Englert, C. R., Marr, K. D., Harlander, J. M., **England**, S. L., and Immel, T. J., (2017). The MIGHTI wind retrieval algorithm: description and verification. *Space Science Reviews*, 212: 585. <https://doi.org/10.1007/s11214-017-0359-3>
7. **England**, S. L., Greer, K. R., Zhang, S.-R., Evans, S., Solomon, S. C., Eastes, R. W., et al. (2021). First comparison of traveling atmospheric disturbances observed in the middle thermosphere by Global-scale Observations of the Limb and Disk to traveling ionospheric disturbances seen in ground-based total electron content observations. *Journal of Geophysical Research: Space Physics*, 126, e2021JA029248. <https://doi.org/10.1029/2021JA029248>
8. Liu, G., **S. England**, R. J. Lillis, P. R. Mahaffy, M. Elrod, M. Benna, and B. Jakosky (2017), Longitudinal structures in Mars' upper atmosphere as observed by MAVEN/NGIMS, *Journal of Geophysical Research: Space Physics*, 122, 1258–1268, doi:10.1002/2016JA023455.