

Neesha R. Schnepf

geophysics & planetary science PhD candidate

personal information

Citizenship: U.S.

Dept. of Geological Sci.
2200 Colorado Avenue
Boulder, CO 80305
USA

email
homepage
Google Scholar profile

languages

English- native speaker
French- working
knowledge
Spanish- basic skills
Nepali- literate / basic
skills

programming

♥ L^AT_EX
Matlab, Python, Java,
IDL, Fortran, & HTML

I am a NASA Earth & Space Science Fellow interested in planetary magnetic fields and geomagnetic induction, as well as their applications for probing planetary interiors, exploring oceans, studying climate change, and monitoring natural hazards.

education

Present	PhD Candidate Geophysics Sciences & CIRES	University of Colorado-Boulder, Department of Geological Sciences
2015	M.S. , Planetary Sciences Atmospheric, & Planetary Science <i>Masters thesis: Sensing the conductivity of the upper mantle and lithosphere using ocean tidal magnetic field satellite measurements</i>	Massachusetts Institute of Technology, Department of Earth, Atmospheric, & Planetary Science
2013	BSci , Sci. of Earth Systems <i>Undergraduate thesis: An analysis of tsunami electromagnetic signals</i>	Cornell University, College of Engineering
2009	Advanced Studies Diploma	Thomas Jefferson High School for Science and Technology

research experience

06/15–Now	Cooperative Institute for Research in Environmental Sciences Boulder, CO	University of Colorado,
08/13–05/15	Earth, Atmospheric & Planetary Sciences	MIT, Cambridge, MA
07/2014	Institut für Geophysik	ETH Zürich, Zürich, Switzerland
08/11–05/13	Dept. of Earth & Atmospheric Sciences	Cornell University, Ithaca, NY
01/12–05/13	Dept. of Astronomy	Cornell University, Ithaca, NY
05–08/12	NOAA Hollings Scholar	National Geophysical Data Center, Boulder, CO
06–07/11	IRIS Internship Program	UCSC, Santa Cruz, CA
08/10–05/11	Ocean Resources and Ecosystems Program	Cornell University, Ithaca, NY
06–08/2010	Department of Energy Global Change Education Program	Los Alamos National Lab, NM

teaching experience

02–05/2015	Teaching assistant 12.009: Theoretical Environmental Analysis, Professor Daniel Rothman. Won department's award for excellence in teaching.	MIT EAPS, Cambridge, MA
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01/2014,2015	Lecturer	MIT EAPS, Cambridge, MA
	Co-taught 12.091 MATLAB Bootcamp with Dan Amhrein and Jaap Nienhuis.	
11/2013,2014	Lecturer	MIT Educational Studies Program, Cambridge, MA
	Volunteered in Splash! by giving 1-hr presentations to 80-150 high school students on geomagnetism from Earth's inner core to the outer reaches of the solar system.	
09–11/12	Grader	Cornell University, EAS, Ithaca, NY
	EAS 3530 Physical Oceanography, Dr. Bruce Monger.	

awards

2017–now	NASA Earth and Space Science Fellowship	
2017	George C. and Joan A. Reid Award	Cooperative Institute for Research in Environmental Sciences (CIRES)
	The Reid Award celebrates intellectual contributions to CIRES and leadership within the broader University of Colorado Boulder community.	
2017	NOAA's National Centers for Environmental Information Innovative Product & Team Excellence Awards	
2015	Governor of Colorado's Award for High-Impact Research	Colorado
	Part of a NOAA's Geomagnetism team that won a 2015 Governor of Colorado's Award for High-Impact Research, given by CO-LABS, a non-profit association that supports federal laboratories in Colorado.	
2014–2017	NSF Graduate Research Fellowship Program	
2014	NASA Earth and Space Science Fellowship	declined
2013–2014	MIT Praecis Presidential Graduate Fellow	MIT, Cambridge, MA
2013	NSF Graduate Research Fellowship Program, Honorable Mention	
2012	Michael W. Mitchell Prize	Dept. of Earth & Atmospheric Sciences, Cornell University
	An annual cash award (\$3,000) to outstanding juniors or seniors at Cornell University in Science of Earth Systems (SES). The award is made to a 'geology student who proves himself adept at other liberal arts fields as well as geology—a student of the world.'	
2011–2013	NOAA Ernest F. Hollings Undergraduate Scholarship Program	
10/10–05/11	NASA/New York Space Grant Consortium's Undergraduate Early Science & Engineering Research Competition	
2010–2012	Dean's List	Cornell University, College of Engineering
2009–2013	Jacobs Scholar	Cornell University, College of Engineering
	Support for engineering students who exemplify strength and potential in academics, service, and leadership with an expressed interest in using engineering education for the betterment of society.	

2009–2013 **Cornell Tradition Fellow** Cornell University
A fellowship for students dedicated to work, service, and scholarship.

2009–2012 **Federal Water Quality Association's Richard Barber Scholarship**

professional societies and service

2018 **Women's Networking Event Co-Organizer** EM Induction Workshop
Women make up under 20% of the workshop and this was the first networking event exclusively dedicated to the workshop's women participants.

2018 **Expanding Your Horizons**
Workshop leader, "Electromagnetic Earth".

2011–Now **American Geophysical Union**

2012–2017 **APS' Conference for Undergraduate Women in Physics**

2014 **Session co-chair & co-convenor** AGU Fall Meeting
ED31C Solutions and Strategies for Fostering GeoEthics and Enhancing the Geosciences Section Posters

mentoring

2018
Prudence Crawmer (Pikes Peak Community College), Research Experience for Community College Students (RECCS).

Kelly Sullivan (Pikes Peak Community College), Research Experience for Community College Students (RECCS).

2017
Anny Saivil (Smith College), Research Experiences in Solid Earth Sciences for Students (RESESS).

invited commentaries/reviews

2017
Schnepf, N. R. Going electric: Incorporating marine electromagnetism into ocean assimilation models. *Journal of Advances in Modeling Earth Systems*, 9.

publications

2018

Schnepf, N. R., C. Manoj, A. Maute, N. M. Pedatella, A. Kuvshinov, & A. D. Richmond. An analysis of ionospheric versus oceanic tidal magnetic signals. *Geophysical Research Letters*, under review

2016

Grayver, A., **N. R. Schnepf**, A. Kuvshinov, T. Sabaka & N. Olsen (2016). Results of 1-D inversions using satellite-detected ocean tidal magnetic signals. *Science Advances*, 2, e1600798.

Schnepf, N. R., M. C. Nair, C. An, H. Sugioka & H. Toh (2016). Time-frequency characteristics of tsunami magnetic signals from four Pacific Ocean events. *Pure & Applied Geophysics*, 1-19.

2015

Schnepf, N. R., A. Kuvshinov, & T. Sabaka (2015). Can we probe the conductivity of the lithosphere and upper mantle using satellite tidal magnetic signals? *Geophysical Research Letters*, 42, 3233-3239.

Schnepf, N. R., R. V. E. Lovelace, M. M. Romanova & V. Airapetian (2015). Stellar wind erosion of protoplanetary discs. *Monthly Notices of the Royal Astronomical Society*, 448, 1628-1633.

2014

Schnepf, N. R., M. C. Nair, A. Kuvshinov, H. Toh, & S. Maus (2014). Tidal signals in ocean bottom magnetic measurements of the Northwestern Pacific: Observations versus predictions, *Geophys. J. Int.*, 198, 1096-1110.

2012

Greene, C. H., B. C. Monger, L. P. McGarry, M. D. Connelly, **N. R. Schnepf**, A. J. Pershing, I. M. Belkin, P. S. Fratantoni, D. G. Mountain, R. S. Pickart, A. Proshutinsky, R. Ji, J. J. Bisagni, S. M. A. Hakkinen, D. B. Haidvogel, J. Wang, E. Head, P. Smith, & A. Conversi (2012). Recent Arctic Climate Change and its Impacts on Northwest Atlantic Shelf Ecosystems, *J. Oceanography*, 25, 3, pp. 208-213.

news releases

2014

Gundersen, L., J. Geissman, G. Goldman, D. Mogk, **N. Schnepf**, B. Voss, M. Weiss, and R. Townsend (2014). Spotlight on scientific integrity and geoethics at the 2014 AGU Fall Meeting, *Eos Trans. AGU*, 95(49), 465.

presentations & abstracts

invited

July 2016	Science Seminar	NOAA NCEI, CO, USA
Apr. 2015	Planetary Internal Colloquium Series	MIT EAPS, MA, USA
Feb. 2015	Planetary Geodynamics seminar	NASA GSFC, MD, USA

contributed as lead author

Aug. 2018	Selected poster presentation (Section 5.0-P514).	24 th EM Induction Workshop N. R. Schnepf, M. Nair, N. P. Thomas, and A. Kuvshinov. Exploring ocean circulation's geoelectric fields with Pacific Ocean submarine voltage cables.
Feb. 2018	Selected poster presentation (Section IS34D).	Ocean Science Meeting N. R. Schnepf, M. Nair, N. P. Thomas, and A. Kuvshinov. Ocean circulation's induced electromagnetic temporal variations.
Dec. 2017	Selected poster presentation (Section GP33A).	AGU Fall Meeting N. R. Schnepf, M. Nair, A. Maute, N. M. Pedatella, A. Kuvshinov, and A. D. Richmond. An analysis of ionospheric versus oceanic tidal magnetic signals.
Aug. 2016	Selected oral presentation (Session 1.2 Source Fields).	23 rd EM Induction Workshop N. R. Schnepf, M. C. Nair, and A. Kuvshinov. An analysis of ionospheric versus oceanic tidal magnetic signals and implications for electromagnetic sounding.
Dec. 2015	Selected oral presentation (Section GP31B).	AGU Fall Meeting N. R. Schnepf, A. Grayver, A. Kuvshinov, T. Sabaka, and N. Olsen. The electrical conductivity of the upper mantle and lithosphere from satellite magnetic signal due to ocean tidal flow.
June 2015	Selected oral presentation (Section JA04d).	IUGG 26 th General Assembly N. R. Schnepf, A. Kuvshinov, T. Sabaka, and N. Olsen. Sensing the conductivity of the upper mantle and lithosphere using ocean tidal magnetic field satellite measurements: Model studies and observations.
Dec. 2014	Selected oral presentation (Section GP43B).	AGU Fall Meeting N. R. Schnepf, A. Kuvshinov, T. Sabaka, and N. Olsen. Sensing the Electrical Conductivity of the Upper Mantle and Lithosphere Using Satellite Magnetic Signal Due to Ocean Tidal Flow.
Dec. 2014	Selected poster presentation (Section GP51B).	AGU Fall Meeting N. R. Schnepf, B. P. Weiss, E. A. Lima, R. Fu, M. Uehara, J. Gattacceca, H. Wang and C. Suavet. Paleomagnetism of a primitive achondrite parent body: The acapulcoite-iodranites.
Dec. 2013	Selected oral presentation (Section GP22A).	AGU Fall Meeting N. R. Schnepf, C. An, M. C. Nair, and S. Maus. Tsunami magnetic signals in Northwestern Pacific seafloor magnetic measurements.
Aug. 2013	Selected oral presentation.	IAGA XIIth Scientific Assembly N. R. Schnepf, M. C. Nair, A. Kuvshinov, H. Toh, and S. Maus. Tidal and tsunami signals in ocean bottom magnetic measurements in the North Pacific.

- Apr. 2013 **First place physical science poster presentation.** CURB Spring Forum
N. R. Schnepf, C. An, M. C. Nair, and S. Maus. An analysis of tsunami electro-magnetic signals.
- Jan. 2013 **Selected oral presentation.** NCUWiP
N. R. Schnepf, M. C. Nair, A. Kuvshinov, H. Toh, and S. Maus. Tidal and tsunami signals in ocean bottom magnetic measurements in the North Pacific.
- Dec. 2012 **Selected poster presentation (Section GP33A).** AGU Fall Meeting
N. R. Schnepf, M. C. Nair, A. Kuvshinov, H. Toh, and S. Maus. Tidal signals in ocean bottom magnetic measurements in the North Pacific: observations and predictions.
- Aug. 2012 **1st place presentation for the Weather-Ready Nation session.** NOAA Hollings Science and Education Symposium
N. R. Schnepf, M.C. Nair, A. Kuvshinov, H. Toh, and S. Maus. Tidal signals in ocean bottom magnetic measurements in the North Pacific: observations and predictions.
- Dec. 2011 **Selected poster presentation (Section S23B).** AGU Fall Meeting
N. R. Schnepf, S. Y. Schwartz, L. Xue, and M. Kim. Detecting Tremor in the Nicoya Peninsula, Costa Rica, from Dec 1999 – June 2001.
- Feb. 2007 Parallel NGO meeting of the Annual UN Status of Women Conference
N. R. Schnepf and S. Schmoltner, 'Ask Me: I'll Tell You', a documentary on how Thomas Jefferson High School for Science and Technology perceives the status of women.

coauthored abstracts and presentations

- Aug. 2016 23rd EM Induction Workshop
A. V. Grayver, N. R. Schnepf, A. V. Kuvshinov, M. C. Nair, T. J. Sabaka and N. Olsen. Sounding the Earth's electrical structure with satellite-detected ocean tidal magnetic signals.
- Apr. 2016 EGU General Assembly
A. V. Grayver, N. R. Schnepf, A. V. Kuvshinov, M. C. Nair, T. J. Sabaka and N. Olsen. Global electrical conductivity model of lithosphere and upper mantle derived from satellite-detected ocean tidal electromagnetic signals.
- Aug. 2014 22nd EM Induction Workshop
M. C. Nair, M. Narayanan, N. R. Schnepf, A. Chulliat and J. Larsen. Magnetic detection of tsunamis. Selected poster presentation.