

# Sean Thomas Peters

Assistant Professor

Department of Aerospace Engineering Sciences, University of Colorado Boulder

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[Google Scholar](#) • [Website](#) • [LinkedIn](#)

## EDUCATION

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<b>Stanford University</b> , Stanford, CA	2020
Doctor of Philosophy (Ph.D.) in Electrical Engineering	
<i>Dissertation</i> : "Passive Radar Sounding for Terrestrial and Planetary Glaciology"	
<i>Advisor</i> : Dustin M. Schroeder	
<b>Stanford University</b> , Stanford, CA	2017
Master of Science in Electrical Engineering	
<b>Rice University</b> , Houston, TX	2015
B.S. in Electrical Engineering, <i>Cum Laude</i>	

## APPOINTMENTS

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<b>University of Colorado Boulder</b>	2023 – present
Assistant Professor, Ann and H.J. Smead Aerospace Engineering Sciences	
<b>Naval Postgraduate School</b>	2021 – 2023
Assistant Professor, Department of Physics	
<b>Massachusetts Institute of Technology Lincoln Laboratory</b>	2020 – 2021
Radar Systems Engineer, Airborne Radar Systems and Techniques Group	

## GRANTS & FELLOWSHIPS

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University of Colorado Boulder NCFDD Faculty Success Grant	2023
Naval Postgraduate School Research Initiation Program (internal)	2022
Ford Foundation Dissertation Fellowship [ <b>Declined</b> ]	2020
Stanford Diversifying Academia, Recruiting Excellence (DARE) Fellowship	2018
National Science Foundation Graduate Research Fellowship	2016
Stanford Enhancing Diversity in Graduate STEM Education (EDGE) Fellowship	2015
Graduate Education for Minorities (GEM) Ph.D. in Engineering Associate Fellowship	2015
Stanford Engineering Larry and Joan Owen Fellowship	2015

## AWARDS & HONORS

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Teaching Fellows Program, Naval Postgraduate School Faculty Fellowships	2023
Early Career Geoscience Faculty Workshop Travel Award	2022
Symposium Prize Paper Award, IEEE Geoscience and Remote Sensing Society	2021
Stanford EE Justice, Equity, Diversity, and Inclusion Service Graduation Award	2021
Stanford Vice Provost for Graduate Education Academic Achievement Award	2020
LATinE: Latinx Trailblazers in Engineering Fellow	2020
IEEE Geoscience and Remote Sensing Student Prize Paper Award	2019
NextProf Nexus Workshop Travel Award	2019
American Association of Hispanics in Higher Education Travel Award	2019
El Centro Chicano y Latino Outstanding Graduate Mentor Award	2019
El Centro Chicano y Latino Graduate Scholar-in-Residence	2018
AGU Cryosphere Flash Freeze Innovation Award	2017
Ford Foundation Predoctoral Fellowship Honorable Mention	2015
Tapia Diversity in Computing Conference Travel Award	2015
Chevron Engineering Scholarship	2015
Society of Hispanic Professional Engineers Foundation (SHPE) Scholarships	2013 – 2014
Rice University Trustee Distinguished Scholar	2011 – 2015

## PUBLICATIONS

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### Manuscripts in Review (\*student advisee, senior author is 2<sup>nd</sup> after advisees)

- [24] **S.T. Peters**, R. Culberg (*in rev.*). Simulations of Passive Radar Sounding Performance for Monitoring Firn Aquifer Water Levels, *2024 IEEE Geoscience and Remote Sensing Proceedings*
- [23] A. Lamprou\*, **S.T. Peters**, C. Smithtro (*in rev.*). Effects of Ionospheric Total Electron Content on Direct Path Interference Removal for Single-Channel Passive Radar, *2024 IEEE Geoscience and Remote Sensing Proceedings*
- [22] **S.T. Peters**, K. Nessly\*, T.M. Roberts, D.M. Schroeder, A. Romero-Wolf (*in rev.*) Spatial Coherence Constraints on Passive Radar Sounding with Radio-Astronomical Sources, *IEEE Transactions on Geoscience and Remote Sensing Journal*
- [21] G. Steinbrügge, D.M. Schroeder, D. Castelletti, S. Turner, R. Jensen, **S.T. Peters**, G.W. Paterson (*in rev.*) Polarimetric Bistatic Synthetic Aperture Radar Observations of the Moon Using Mini-RF, *IEEE Transactions on Geoscience and Remote Sensing Journal*

### Published Peer-Reviewed Journal Articles (\*student advisee, senior author is 2<sup>nd</sup> after advisees)

- [20] A. Romero-Wolf, G. Steinbruegge, J. Castillo-Rogez, C. J. Cochrane, T. A. Nordheim, K. L. Mitchell, N. S. Wolfenbarger, D. M. Schroeder, **S. T. Peters** (*IN PRESS*) Feasibility of Passive Sounding of Uranian Moons using Uranian Kilometric Radiation, arXiv: [2305.05382](https://arxiv.org/abs/2305.05382)
- [19] C. Gerekos, G. Steinbrügge, I. Jebaraj, A. Casillas, E. Donini, B. Sánchez-Cano, M. Lester, J. Magdaleníć, **S.T. Peters**, A. Romero-Wolf, D. Blankenship (*IN PRESS*) Observation of solar radio burst events from Mars orbit with the Shallow Radar instrument, *Astronomy&Astrophysics*, doi: [10.1051/0004-6361/202347900](https://doi.org/10.1051/0004-6361/202347900)
- [18] N. L. Bienert, D.M. Schroeder, **S.T. Peters**, E.J. MacKie, E. J. Dawson, M.R. Siegfried, R. Sanda, P. Christoffersen (2022). Post-Processing Synchronized Bistatic Radar for Long Offset Glacier Sounding, *IEEE Transactions on Geoscience and Remote Sensing*, vol. 60, pp. 1-17, Art no. 1001917, doi: [10.1109/TGRS.2022.3147172](https://doi.org/10.1109/TGRS.2022.3147172).
- [17] **S.T. Peters**, D.M. Schroeder, W. Chu, M. Haynes, P. Christoffersen, A. Romero-Wolf (2021). Glaciological Monitoring Using the Sun as a Radio Source for Echo Detection, *Geophysical Research Letters*, vol. 48, no. 14, pp. 1-11, e2021GL092450, doi: [10.1029/2021GL092450](https://doi.org/10.1029/2021GL092450)
- [16] **S.T. Peters**, D.M. Schroeder, D. Castelletti, M. Haynes, A. Romero-Wolf (2021). Passive Synthetic Aperture Radar Imaging Using Radio-Astronomical Sources, *IEEE Transactions on Geoscience and Remote Sensing*, vol. 59, pp. 9144-9159, doi: [10.1109/TGRS.2021.3050429](https://doi.org/10.1109/TGRS.2021.3050429)
- [15] T.M. Roberts, A. Romero-Wolf, L. Bruzzone, L. Carrer, **S.T. Peters**, D.M. Schroeder (2021). Conditioning Jovian Burst Signals for Passive Sounding Applications, *IEEE Transactions on Geoscience and Remote Sensing*, vol. 60, pp. 1-14, doi: [10.1109/TGRS.2021.3109106](https://doi.org/10.1109/TGRS.2021.3109106)
- [14] **S.T. Peters**, D.M. Schroeder, A. Romero-Wolf (2020). Passive Radio Sounding to Correct for Europa's Ionospheric Distortion of VHF Signals, *Planetary and Space Science*, vol. 187, 104925, pp. 1-13, doi: [10.1016/j.pss.2020.104925](https://doi.org/10.1016/j.pss.2020.104925)
- [13] **S.T. Peters**, D.M. Schroeder, D. Castelletti, M. Haynes, A. Romero-Wolf (2018). In-Situ Demonstration of a Passive Radio Sounding Approach Using the Sun for Echo Detection, *IEEE Transactions on Geoscience and Remote Sensing*, vol. 56, no. 12, pp. 7338-7349, doi: [10.1109/TGRS.2018.2850662](https://doi.org/10.1109/TGRS.2018.2850662)

## Peer-Reviewed Conference Proceedings (\*student advisee, senior author is 2<sup>nd</sup> after advisees)

- [12] A. Lamprou\*, **S.T. Peters** (2023). Optimization of Adaptive Direct Signal Suppression for Single-Channel Passive Radar Sensing, *2023 IEEE Geoscience and Remote Sensing Proceedings*, doi: [10.1109/IGARSS52108.2023.10282895](https://doi.org/10.1109/IGARSS52108.2023.10282895)
- [11] A. Casillas\*, **S.T. Peters**, G. Steinbrügge, E. Donini, I.C. Jebaraj, J. Magdalenic, A. Romero-Wolf, D. D. Blankenship, C. Gerekos (2023). A Preliminary Statistical Analysis of Type-III Solar Burst Detections in Mars Reconnaissance Orbiter (MRO) Shallow Radar (SHARAD) Data, *2023 IEEE Geoscience and Remote Sensing Symposium Proceedings*, doi: [10.1109/IGARSS52108.2023.10281483](https://doi.org/10.1109/IGARSS52108.2023.10281483)
- [10] K. Nessly\*, **S.T. Peters**, C. Smithtro, G. Steinbrügge, D.M. Schroeder, A. Romero-Wolf (2023). Source Availability and Bandwidth Constraints on Terrestrial Passive Radar Experiments Using Jovian Decametric Radiation, *2023 IEEE Geoscience and Remote Sensing Proceedings*, doi: [10.1109/IGARSS52108.2023.10282094](https://doi.org/10.1109/IGARSS52108.2023.10282094)
- [9] **S.T. Peters**, T.M. Roberts, K. Nessly\*, D.M. Schroeder, A. Romero-Wolf (2022). Revisiting the Limits of Spatial Coherence for Passive Radar Sounding Using Radio-Astronomical Sources, *2022 IEEE Geoscience and Remote Sensing Symposium Proceedings*, pp. 3880-3883, doi: [10.1109/IGARSS46834.2022.9884673](https://doi.org/10.1109/IGARSS46834.2022.9884673)
- [8] A.A. McLeod\*, **S.T. Peters**, R. Culberg, D.M. Schroeder, N.L. Bienert, W. Chu, T.J. Young, P. Christoffersen (2022). Processing and Detecting Artifacts in Multi-Input Multi-Output Phase-Sensitive Ice Penetrating Radar Data, *2022 IEEE Geoscience and Remote Sensing Symposium Proceedings*, pp. 3786-3789, doi: [10.1109/IGARSS46834.2022.9883837](https://doi.org/10.1109/IGARSS46834.2022.9883837)
- [7] K. Rao, Y. J. Ulloa, N. L. Bienert, N. R. Chiariello, N. M. Holtzman, G. R. Quetin, **S.T. Peters**, ... D.M. Schroeder, A.G. Konings (2022). Side-Facing P-Band Radar System to Monitor Tree Water Status, *2022 IEEE Geoscience and Remote Sensing Symposium Proceedings*, pp. 5559-5562, doi: [10.1109/IGARSS46834.2022.9883620](https://doi.org/10.1109/IGARSS46834.2022.9883620)
- [6] **S.T. Peters**, D.M. Schroeder, A. Romero-Wolf (2021). Adaptive single-channel direct signal suppression for ambient noise passive radar sounding, *2021 IEEE Geoscience and Remote Sensing Symposium Proceedings*, pp. 7912-7915, doi: [10.1109/IGARSS47720.2021.9554427](https://doi.org/10.1109/IGARSS47720.2021.9554427)
- [5] N. L. Bienert, D.M. Schroeder, **S.T. Peters**, M.R. Siegfried (2020). Processing-Based Synchronization Approach for Bistatic Radar Glacial Tomography, *2020 IEEE International Geoscience and Remote Sensing Symposium Proceedings*, pp. 1420-1423, doi: [10.1109/IGARSS39084.2020.9323969](https://doi.org/10.1109/IGARSS39084.2020.9323969) (**IEEE GRSS Symposium Prize Paper**)
- [4] **S.T. Peters**, D.M. Schroeder, D. Castelletti, M. Haynes, A. Romero-Wolf (2019). Two-Dimensional Image Formation with Passive Radar Using the Sun for Echo Detection, *2019 IEEE International Geoscience and Remote Sensing Symposium Proceedings*, pp. 10091-10094, doi: [10.1109/IGARSS.2019.8897880](https://doi.org/10.1109/IGARSS.2019.8897880) (**IEEE GRSS Best Student Paper, 2nd Place**)
- [3] **S.T. Peters**, D.M. Schroeder, D. Castelletti, M. Haynes, A. Romero-Wolf (2018). First In-Situ Demonstration of Passive Radio Sounding Using the Sun as a Source for Echo Detection, *2018 IEEE International Geoscience and Remote Sensing Symposium Proceedings*, pp. 4154-4157, doi: [10.1109/IGARSS.2018.8517970](https://doi.org/10.1109/IGARSS.2018.8517970)

## Open Access

- [2] G. Steinbrügge, A. Romero-Wolf, **S.T. Peters**, D.M. Schroeder, L. Carrer, C. W. Hamilton, ... D. A. Young (2021). PRIME — A Passive Radar Sounding Concept for Io. *Bulletin of the American Astronomical Society*, 53(4), pp. 1-7, doi: [10.3847/25c2cfcb.49659984](https://doi.org/10.3847/25c2cfcb.49659984)
- [1] J. Ding, O. Turk, **S.T. Peters**, and S. Mannava (2014). "License Plate Recognition Matched Filter Technique." *OpenStax Connexions*, pp. 1-23, URL: [cnx.org/content/col11601/1.1/](https://cnx.org/content/col11601/1.1/)

## PRESENTATIONS

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### Invited Talks

- 2023 **S.T. Peters**, Passive Sounding with Radio Astronomical Sources: Overview, Experiments, and Limitations, Blue Sky Studies, Caltech, Pasadena, CA
- 2023 **S.T. Peters**, Leveraging Ambient Radio Noise for Passive Radar Sensing of the Terrestrial and Space Environment, IEEE GRSS Instrumentation and Future Technologies Series
- 2022 **S.T. Peters**, Passive Radar Investigations for Terrestrial and Planetary Glaciology, International Glaciological Society (IGS) Global Seminar Series
- 2022 **S.T. Peters**, Passive Radar Investigations for Terrestrial and Planetary Glaciology, University of Texas Institute for Geophysics (UTIG) Seminar Series
- 2022 **S.T. Peters**, Passive Radar Investigations for Terrestrial and Planetary Glaciology, Scripps Institution of Oceanography, Institute of Geophysics and Planetary Physics Seminar
- 2022 **S.T. Peters**, T.M. Roberts, K. Nessly, D.M. Schroeder, A. Romero-Wolf, Revisiting the Limits of Spatial Coherence for Passive Radar Sounding Using Radio-Astronomical Sources, *IEEE Geoscience and Remote Sensing Symposium*, Invited Session, Kuala Lumpur, Malaysia
- 2022 **S.T. Peters**, Passive radar investigations using radio-astronomical sources for echo detection, Naval Postgraduate School, Junior Faculty Research Seminar
- 2021 **S.T. Peters**, Exploiting Ambient Radio Signals for Passive Radar Remote Sensing, Naval Postgraduate School, Department of Physics Research Seminar
- 2021 **S.T. Peters**, Yuma Catholic High School Commencement Speaker for the Class of 2021
- 2020 **S.T. Peters**, Passive Radar Sounding: Exploiting Ambient Radio Noise for Terrestrial and Planetary Remote Sensing, Naval Postgraduate School, Physics Department Colloquium
- 2020 **S.T. Peters**, Passive Radar Sounding: Using Radio-Astronomical Signals to Monitor the Subsurface of Glaciers, MIT Lincoln Laboratory, Airborne Radar Systems Group Seminar
- 2020 **S.T. Peters**, Passive Radar Sounding: Using Radio-Astronomical Signals for Terrestrial and Planetary Glaciology, USRA Lunar Planetary Institute Virtual Seminar
- 2020 **S.T. Peters**, Passive Radar Sounding: Using Radio-Astronomical Signals for Terrestrial and Planetary Glaciology, Univ. of Arizona, Radar Remote Sensing of Planetary Surfaces Lecture
- 2019 **S.T. Peters**, D.M. Schroeder, M. Haynes, A. Romero-Wolf, Ambient Noise Radio Glaciology, University of Trento Remote Sensing Laboratory Seminar, Trento, Italy
- 2018 **S.T. Peters**, D.M. Schroeder, D. Castelletti, M. Haynes, A. Romero-Wolf, First In-Situ Demonstration of Passive Radio Sounding Using the Sun as a Source for Echo Detection, *IEEE Geoscience and Remote Sensing Symposium*, Invited Session, Valencia, Spain
- 2017 **S.T. Peters**, D.M. Schroeder, M. Haynes, A. Romero-Wolf, Passive Radio Sounding for Terrestrial Glaciology, UCL Radar Group Seminar, London, England

### Conference Oral Presentations (\*student advisee, senior author is 2nd after advisees)

- 2023 C. Gerekos, G. Steinbrügge, I. C. Jebaraj, A. Casillas\*, E. Donini, J. Magdalenic, **S. T. Peters**, A. Romero-Wolf, D. D. Blankenship, Calibrating radar sounder instruments through correlated observations of solar radio burst events: preliminary results with SHARAD and STEREO, *Europlanet Science Congress (EPSC) Division for Planetary Sciences (DPS)*, San Antonio, TX

- 2023 A. Lamprou\*, **S.T. Peters**, Optimization of Adaptive Direct Signal Suppression for Single-Channel Passive Radar Sensing, *2023 IEEE Geoscience and Remote Sensing Symposium*
- 2023 A. Casillas\*, **S.T. Peters**, G. Steinbrügge, E. Donini, I.C. Jebaraj, J. Magdalenic, A. Romero-Wolf, D. D. Blankenship, C. Gerekos, A Preliminary Statistical Analysis of Type-III Solar Burst Detections in Mars Reconnaissance Orbiter (MRO) Shallow Radar (SHARAD) Data, *2023 IEEE Geoscience and Remote Sensing Symposium*, Pasadena, CA
- 2023 K. Nessly\*, **S.T. Peters**, C. Smithtro, G. Steinbrügge, D.M. Schroeder, A. Romero-Wolf, Source Availability and Bandwidth Constraints on Terrestrial Passive Radar Experiments Using Jovian Decametric Radiation, *2023 IEEE Geoscience and Remote Sensing Symposium*
- 2023 A. Romero-Wolf, G. Steinbruegge, J. Castillo-Rogez, C. J. Cochran, T. A. Nordheim, K. L. Mitchell, N. S. Wolfenbarger, D. M. Schroeder, **S. T. Peters**, Passive Sounding of Uranian Moons Using Uranian Kilometric Radiation, *Uranus Flagship 2023*, Pasadena, CA
- 2022 **S.T. Peters**, K. Nessly, T.M. Roberts, D.M. Schroeder, A. Romero-Wolf, Assessing Spatial Coherence Constraints on Passive Radar Experiments Using Radio-Astronomical Sources for Echo Detection, *AGU Fall Meeting*, Chicago, IL
- 2022 K. Nessly\*, **S.T. Peters**, C. Smithtro, G. Steinbrügge, D.M. Schroeder, A. Romero-Wolf, Informing terrestrial passive radar experimental design using Jupiter's radio emissions for echo detection, *AGU Fall Meeting*, Chicago, IL
- 2022 A.A. McLeod\*, **S.T. Peters**, R. Culberg, D.M. Schroeder, N.L. Bienert, W. Chu, T.J. Young, P. Christoffersen, Processing and Detecting Artifacts in Multi-Input Multi-Output Phase-Sensitive Ice Penetrating Radar Data, *IEEE Geoscience and Remote Sensing Symposium*, Web
- 2022 K. Rao, Y.J. Ulloa, N.L. Bienert, N.R. Chiariello, N.M. Holtzman, G.R. Quetin, **S.T. Peters**, K. Winstein, D. Castelletti, D.M. Schroeder, A.G. Konings, Side-Facing P-BAND Radar System to Monitor Tree Water Status, *IEEE Geoscience and Remote Sensing Symposium*, Kuala Lumpur
- 2021 **S.T. Peters**, D.M. Schroeder, A. Romero-Wolf, Adaptive Single-Channel Direct Signal Suppression for Ambient Noise Passive Radar Sounding, *IEEE Geoscience and Remote Sensing Symposium*, Virtual
- 2021 N.L. Bienert, D.M. Schroeder, R. Sanda, E. Dawson, E. Mackie, **S.T. Peters**, M. Siegfried, Passively Synchronized Bistatic Radar System for Subsurface Tomography of Glaciers, *AGU Fall Meeting*, New Orleans, LA
- 2020 **S.T. Peters**, D.M. Schroeder, A. Romero-Wolf, Passive radar investigations of Europa's ionosphere: a low-resource approach for VHF dispersion corrections and ionospheric tomography, *IEEE Geoscience and Remote Sensing Symposium*, Virtual
- 2020 A. McLeod\*, **S.T. Peters**, D.M. Schroeder, N.L. Bienert, T.J. Young, P. Christoffersen, An Automated Approach to Processing and Detection of Artifacts in Phase-Sensitive Ice Penetrating Radar Data, *AGU Fall Meeting*, Virtual
- 2020 N.L. Bienert, D.M. Schroeder, **S.T. Peters**, M. Siegfried, Processing-based synchronization approach for bistatic radar glacial tomography, *IEEE Geoscience and Remote Sensing Symposium*, Virtual
- 2020 A. Romero-Wolf, C. Devin, G. Franklin, D. Hawkins, M. Haynes, M. Lee, J. Lasio, J.Liu, K. Mitchell, **S.T. Peters**, D.M. Schroeder, Passive Sounding of Lunar Lava Tubes, *Planetary Caves Conference*, Feb. 18th - 21st, San Antonio, TX
- 2019 **S.T. Peters**, D.M. Schroeder, W. Chu, M. Haynes, A. Romero-Wolf, Passive radio sounding with ambient signals of opportunity to monitor cryospheric subsurface conditions, *AGU Fall Meeting*, San Francisco, CA

- 2019 **S.T. Peters**, D.M. Schroeder, D. Castelletti, M. Haynes, A. Romero-Wolf, Two-Dimensional Image Formation with Passive Radar Using the Sun for Echo Detection, *IEEE Geoscience and Remote Sensing Symposium*, Yokohama, Japan
- 2019 A. Romero-Wolf, D.M. Schroeder, **S.T. Peters**, B. Bills, D. Blankenship, L. Bruzzone, B. Campbell, L. Carrer, C. Grima, E. Heggy, Status and prospects of passive sounding with radio-astronomical sources, *International Glaciological Symposium*, Stanford, CA
- 2018 D.M. Schroeder, W. Chu, A. K. Kendrick, **S.T. Peters**, D. Castelletti, Constraining the Spatial and Temporal Evolution of Supraglacial and Englacial Meltwater Using Radar Sounding Data, *Workshop on Antarctic Surface Hydrology and Future Ice Shelf Stability*, Palisades, NY
- 2017 **S.T. Peters**, D.M. Schroeder, M. Haynes, A. Romero-Wolf, Preliminary Field Demonstration of Passive Radio Sounding Using the Sun as a Signal for Echo Detection, *AGU Fall Meeting*, New Orleans, LA
- 2017 D.M. Schroeder, A.K. Kendrick, K.I. Vega, E.J. MacKie, A.M. Hilger, **S.T. Peters**, W. Chu, Observing the Temporal Evolution of Subglacial Conditions Using Radar Sounding Data, *WAIS Workshop*, Coupeville, WA
- 2017 **S.T. Peters**, D.M. Schroeder, M. Haynes, A. Romero-Wolf, Passive radio sounding for terrestrial glaciology: preliminary field testing and proof-of-concept, *International Glaciological Symposium on Polar Ice, Polar Climate, Polar Change*: Boulder, CO
- 2017 **S.T. Peters**, D.M. Schroeder, M. Haynes, A. Romero-Wolf, Passive Radio Sounding for Terrestrial Glaciology, *Bay Area Glaciology Meeting*, Stanford, CA

#### Conference Poster Presentations

- 2023 **S.T. Peters**, R. Culberg, A Passive Radar Sounding Approach for Monitoring Fluctuations in Firn Aquifer Water Table Levels, *AGU Fall Meeting*, San Francisco, CA
- 2023 A. Lamprou\*, **S.T. Peters**, Effects of Phase Error on Direct Path Interference Removal for Space-Based Passive Radar Sounding, *AGU Fall Meeting*, San Francisco, CA
- 2023 A. Romero-Wolf, G. Steinbruegge, J. Castillo-Rogez, C. J. Cochrane, T. A. Nordheim, K. L. Mitchell, N. S. Wolfenbarger, D. M. Schroeder, **S. T. Peters**, Passive Sounding of Uranian Moons Using Uranian Kilometric Radiation, *AGU Fall Meeting*, San Francisco, CA
- 2023 A.M. Bramson et al., Cryptex: a mission concept to test the presence, properties, and geophysical context of lunar cryptomeria, *Lunar & Planetary Science Conference*, TX
- 2021 **S.T. Peters**, D.M. Schroeder, A. Romero-Wolf, A Direct Signal Suppression Approach for Passive Radar Sounding, *AGU Fall Meeting*, New Orleans, LA
- 2020 **S.T. Peters**, D.M. Schroeder, A. Romero-Wolf, G. Steinbrügge, Passive radar investigations of Io using Jupiter's radio emissions as a source for echo detection, *AGU Fall Meeting*, Virtual
- 2020 N.L. Bienert, D.M. Schroeder, **S.T. Peters**, E.J. MacKie, M.R. Siegfried, E. Dawson, Design of a Direct Path Synchronized Bistatic Radar Technique for Long Offset Glacial Temperature Tomography, *AGU Fall Meeting*, Virtual
- 2020 **S.T. Peters**, D.M. Schroeder, A. Romero-Wolf, G. Steinbrügge, Passive Radar Investigations of Io Using Jupiter's Radio Emissions, *Lunar & Planetary Science Conference*, Woodlands, TX
- 2019 N.L. Bienert, D.M. Schroeder, **S.T. Peters**, E. Dawson, E.J. MacKie, M.R. Siegfried, Inferring Temperature Distribution in Shear Margins from Large-Offset Bistatic Radar Sounding, *AGU Fall Meeting*, San Francisco, CA
- 2019 **S.T. Peters**, D.M. Schroeder, W. Chu, M. Haynes, A. Romero-Wolf, Passive radio sounding using the Sun as a signal to monitor subsurface processes, *WAIS Workshop*, Julian, CA

- 2019 N. Bienert, D.M. Schroeder, **S.T. Peters**, M.R. Siegfried, E.J. MacKie, E. Dawson, Inferring Temperature Distribution in Shear Margins using an ApRES and Software Defined Radio in a Bistatic Configuration, *WAIS Workshop*, Julian, CA
- 2019 **S.T. Peters**, D.M. Schroeder, D. Castelletti, M. Haynes, A. Romero-Wolf, Passive Radio Sounding for Glaciological Investigations of Subsurface Processes, *IGS Symposium on Five Decades of Radioglaciology*, Stanford, CA
- 2019 **S.T. Peters**, D.M. Schroeder, M. Haynes, A. Romero-Wolf, Passive Radio Sounding with Jupiter's Radio Emissions to Correct for Europa's Ionospheric Distortion, *IGS Symposium on Five Decades of Radioglaciology*, Stanford, CA
- 2019 N. Bienert, D.M. Schroeder, **S.T. Peters**, M. Siegfried, Improving constraints on englacial temperature and water distribution using an autonomous phase-sensitive radio echo sounder (ApRES) and a bistatic software defined receiver, *IGS Symposium on Five Decades of Radioglaciology*, Stanford, CA
- 2019 M. Haynes, Y. Lei, **S.T. Peters**, A. Romero-Wolf, D.M. Schroeder, D. Hawkins, C. Elachi, Coherent simulators for active/passive radar sounding and subsurface synthetic aperture radar processing, *IGS Symposium on Five Decades of Radioglaciology*, Stanford, CA
- 2019 **S.T. Peters**, D.M. Schroeder, D. Castelletti, M. Haynes, A. Romero-Wolf, Correcting Europa's Ionospheric Distortion with Passive Radar Using Jovian Decametric Radiation, *Lunar & Planetary Science Conference*, Woodlands, TX
- 2018 N.L. Bienert, D.M. Schroeder, **S.T. Peters**, Multi-Static Observations Using a Stationary Phase Sensitive Ice Penetrating Radar to Constrain Temperature and Water-Content Anomalies Across Shear Margins, *AGU Fall Meeting*, Washington D.C.
- 2018 **S.T. Peters**, D.M. Schroeder, D. Castelletti, M. Haynes, A. Romero-Wolf, A Passive SAR Approach Using the Sun for Echo Detection, *AGU Fall Meeting*, Washington D.C.

### Technical Presentation Competitions

2019	IEEE Geoscience and Remote Sensing Student Paper Competition	2 <sup>nd</sup> / 305
2017	AGU Fall Meeting: Cryosphere Flash Freeze Competition	1 <sup>st</sup> / 10
2017	National GEM Consortium Technical Presentation Competition	3 <sup>rd</sup> / 13
2015	National GEM Consortium Technical Presentation Competition	2 <sup>nd</sup> / 16

### FIELD CAMPAIGN EXPERIENCE

<b>Store Glacier, Greenland:</b> Passive radar sounding phased-array and time-series tests	2019
<b>Death Valley, CA:</b> Passive radar imaging and reflectivity time-series measurements	2018
<b>Store Glacier, Greenland:</b> Passive radar sounding development; ApRES experiments	2018
<b>Death Valley, CA:</b> Passive radar sounding two-dimensional image formation	2017
<b>Store Glacier, Greenland:</b> ApRES MIMO deployment; passive radar prototype testing	2017
<b>Big Sur, CA:</b> Passive radar prototype testing using the Sun for echo detection	2016

### PROFESSIONAL EXPERIENCE

<u>Chevron</u> North American Exploration and Production Company	May 2014 – August 2014
Facilities Engineering Intern: Upgraded recloser system for securing Chevron's Coalinga power grid	
<u>Army Test and Evaluation Command</u> - Yuma Proving Ground	May 2012 – August 2012
Test Engineering Intern: Assisted test engineers with planning and executing dynamical tests for ground combat systems and military tactical vehicles	

### RESEARCH EXPERIENCE

#### Stanford University Department of Electrical Engineering

<u>Radio Glaciology Group</u> , advised by Dustin Schroeder	Sept. 2016 – Sept. 2020
Developed a low-resource passive radar that uses ambient radio signals for glaciological studies	



Radar Remote Sensing Group, advised by Howard Zebker June 2016 – August 2016  
Identified partially correlated persistent scatterers with maximum likelihood estimation

Optical Communications Group, advised by Joseph Kahn Sept. 2015 – May 2016  
Optimized multi-mode fiber index profiles for mode division multiplexing

### **Rice University Departments of Electrical Engineering**

Light-Matter Interactions Lab, advised by Junichiro Kono August 2014 – January 2015  
Probed single and multi-walled, aligned carbon nanotube films using terahertz spectroscopy

Terahertz Science Lab, advised by Daniel Mittleman January 2014 – May 2014  
Designed 2D and 3D COMSOL models of terahertz parallel-plate waveguide ring modulators

### **TEACHING EXPERIENCE**

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#### **University of Colorado Boulder**

ASEN 5245: Radar and Remote Sensing, Instructor Spring 2024  
ASEN 4028: Senior Projects 2: Design Practicum, Project Advisor Spring 2024  
ASEN 4018: Senior Projects 1 - Design Synthesis, Project Advisor (n=3, 4.58, 4.54) Fall 2023

#### **Naval Postgraduate School, Department of Physics**

Physics of Space and Airborne Sensor Systems (n=19, 4.95/5.00) Spring 2023  
Electromagnetism (n=8, 4.13/5.00) Winter 2023  
Physics of Radar Systems and Applications (n=13, 5.00/5.00) Fall 2022  
Physics of Space and Airborne Sensor Systems (n=21, 5.00/5.00) Spring 2022

#### **Stanford University**

Department of Geophysics Spring 2020  
Introduction to the Foundations of Contemporary Geophysics, Guest Lecturer

Department of Electrical Engineering Spring 2020  
Modern Physics for Engineers, Course Grader

Department of Electrical Engineering Spring 2016  
Lasers, Course Grader

#### **Rice University**

Richard Tapia Center for Excellence & Equity June 2015 – August 2015  
Math-Science Scholars Program, Calculus Tutor

Department of Computer & Electrical Engineering August 2014 – December 2014  
Fundamentals of Electrical Engineering, Course Assistant

Society of Academic Fellows and Mentors March 2013 – May 2015  
Calculus, Physics, and Engineering tutor for Residential College

Office of Academic Advising for Athletes August 2012 – May 2013  
Calculus, Physics, and Chemistry tutor for Rice Student-Athletes

### **ADVISING & MENTORING EXPERIENCE**

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Naval Postgraduate School 2021 – 2023  
Andreas Casillas M.S. Physics (Bowman Scholar, **Outstanding Thesis**)  
Athanasios Lamprou M.S. Physics & Space Systems (**Outstanding International Student**)  
Karissa Nessly M.S. Space Systems Operations  
Ina Park Meteorology and Operational Oceanography Program  
Michael Golchert M.S. Space Systems Operations (**Outstanding Thesis**)



<u>Stanford Radio Glaciology Group</u>		2017 – 2022
Akua McLeod	Stanford Undergraduate Research	
Nicole Bienert	Stanford Graduate Research	
<u>El Centro Chicano y Latino Graduate Scholar-in-Residence</u>		2018 – 2020
Ismael Garcia	Stanford Undergraduate	
Manuel Retana	Stanford ME M.S. Student	
<u>El Centro Chicano y Latino Freshman Scholars Mentor</u>		2016 – 2020
Daniel Estupinan	Stanford Undergraduate	
Selaine Rodriguez	Stanford Undergraduate	
Anthony Flores	Stanford Undergraduate	
Jose Luquin	Stanford Undergraduate	
<u>Stanford Enhancing Diversity in Graduate Education Mentor</u>		2017 – 2020
Francisco Romero	Stanford EE Ph.D. Candidate	
Simón Lorenzo	Stanford EE Ph.D. Candidate	
<u>Bay Area Graduate Pathways in STEM</u>		2017
Alexia Reyes	San Diego State University	
<u>Tapia Math-Science High School Scholars Program</u>		2015
Amber Liu	Dartmouth College	
Carlos Sosa	California Institute of Technology	
Elizabeth Dang	University of Houston	
Errol Williams II	The University of Texas at Austin	
Sandra Delgado	Washington University in St. Louis	

## **OUTREACH & SERVICE**

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### **University of Colorado Boulder**

Focus Area Lead for Remote Sensing, AES Graduate Committee	2023
AES Inclusive Culture Committee	2023
New Faculty Research Presentation, AES External Advisory Board (EAB) Meeting	2023

### **IEEE Geoscience and Remote Sensing Society**

Co-Chair for IGARSS 2023: Session Active Microwave Remote Sensing of Ice Sheets	2023
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### **American Geophysical Union**

Primary Convener for Session Radar Investigations of Planetary Surfaces and Subsurfaces	2023
AGU23 Planetary Science Mentorship Program	2023
Judge for Outstanding Student Presentation Awards (OSPA)	2022

### **Naval Postgraduate School**

Faculty Council, Diversity, Equity, and Inclusion (DEI) Committee	2022
Discovery Day Volunteer for 5 <sup>th</sup> -12 <sup>th</sup> grade students visiting NPS	2022
Space Control Experience Tour in Washington D.C.	2022

### **MIT Lincoln Laboratory**

Diversity Recruiting Team, SHPE Regional Conference	2021
Volunteer for Lincoln Laboratory Radar Introduction for Student Engineers	2021
MITLL Diversity Recruiting Team, SHPE National Conference	2020

### **Stanford Department of Electrical Engineering**

Electrical Engineering Graduate Admissions Committee	2018
Ph.D. Student Panelist for Electrical Engineering Ph.D. Orientation	2018
Ph.D. Student Panelist for DiscoverEE Ph.D. Orientation	2016
Bay Area Science Festival Discovery Day Volunteer	2015

**Stanford Equity & Inclusion Initiatives**

Engineering Diversity Programs Conference Recruiter	2017 – 2019
Graduate Diversity Visit Days Volunteer	2016 – 2019
Ph.D. Student Panelist: What I Wish I Would Have Known	2019
Ph.D. Student Panelist: Thriving in Graduate School	2018
EDGE Mentor Panelist: Identifying Your Research Topic	2018
Bay Area Graduate Pathways in STEM Mentor	2017
EDGE Mentor Panelist: Bridging the Stanford Experience to Home	2017
EDGE Mentor Panelist: Adjusting to Graduate School Life at Stanford	2017

**REVIEWER**

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IEEE Transactions on Geoscience and Remote Sensing,  
The Cryosphere  
Annals of Glaciology

**PROFESSIONAL AFFILIATIONS**

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American Geophysical Union  
International Glaciological Society  
IEEE Geoscience and Remote Sensing Society (*IEEE Eta Kappa Nu - EE Honor Society*)  
American Institute of Aeronautics and Astronautics  
Society of Hispanic Professional Engineers