

## Róisín Commane, PhD

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### Research Appointments

08/2012 - current	Research Associate	Harvard University, Cambridge, MA (Wofsy Laboratory)
12/2009 - 08/2012	Post-doctoral Fellow	Harvard University, Cambridge, MA (Wofsy Laboratory) Aerodyne Research Inc., Billerica, MA

### Education

12/2009	PhD.,	School of Chemistry, University of Leeds, UK Supervisors: Prof. D. E. Heard and Prof. M. J. Evans
05/2005	MRes. Biomolecular Science,	School of Chemistry, Imperial College, London, UK
07/2003	BSc. Joint Hons.	Chem. & Math. Physics, University College Dublin, Ireland

### Peer-Reviewed Publications

ORCID: 0000-0003-1373-1550;

Scopus Author ID: 18042021400

#### **First-authored Publications**

#### **Mentored students indicated by \***

1. **R. Commane**, J. Lindaas\*, J. Benmergui, K. A. Luus, R. Y.-W. Chang, B. C. Daube, E. S. Euskirchen, J. M. Henderson, A. Karion, J. B. Miller, S. M. Miller, N. C. Parazoo, J. T. Randerson, C. Sweeney, P. Tans, K. Thoning, S. Veraverbeke, C. E. Miller, S. C. Wofsy, Rising carbon dioxide emissions from Arctic tundra driven by early winter respiration, *Proceedings of the National Academy of Sciences (PNAS)*, *accepted*, **2017**
2. **R. Commane**, L. K. Meredith, I. T. Baker, J. A. Berry, J. W. Munger, S. A. Montzka, P. H. Templer, S. M. Juice, M. S. Zahniser, S. C. Wofsy, Seasonal fluxes of carbonyl sulfide in a mid-latitude forest, *Proceedings of the National Academy of Sciences*, 112, 46, 14162-14167, doi: 10.1073/pnas.1504131112, **2015**
3. **R. Commane**, S. Herndon, M. Zahniser, B. Lerner, J. B. McManus, J. W. Munger, D. Nelson, S. Wofsy: Carbonyl sulfide in the marine boundary layer: Coastal and continental influences, *Journal of Geophysical Research*, CalNex Special Issue, doi: 10.1002/jgrd.50581, **2013**
4. **R. Commane**, K. Seitz, C. Bale, W. Bloss, J. Buxmann, T. Ingham, U. Platt, D. Pöhler and D. E. Heard: Iodine monoxide at a clean marine coastal site: observations of high frequency variations and inhomogeneous distributions, *Atmos. Chem. Phys.*, 11, 6721-6733, **2011**
5. **R. Commane**, C.F.A. Floquet, T. Ingham, D. Stone, M.J. Evans, and D.E. Heard: Observations of OH & HO<sub>2</sub> radicals over West Africa, *Atmo. Chem. Phys.*, 10, 8783-8801, **2010**

#### **Co-authored Publications**

6. K. A. Luus, **R. Commane**, N. C. Parazoo, J. S. Benmergui, S. E. Euskirchen, C. Frankenberg, J. Joiner, J. Lindaas\*, C. E. Miller, W. C. Oechel, D. Zona, S. Wofsy, and J. C. Lin, Tundra photosynthesis captured by satellite observed solar-induced chlorophyll fluorescence, *Geophysical Research Letters*, 10.1002/2016GL070842, **2017**
7. R. Wehr, **R. Commane**, J. W. Munger, J. B. McManus, D. D. Nelson, M. S. Zahniser, S. R. Saleska, and S. C. Wofsy, Dynamics of canopy stomatal conductance, transpiration, and evaporation in a temperate deciduous forest, validated by carbonyl sulfide uptake, *Biogeosciences*, doi:10.5194/bg-2016-365, **2017**
8. Zona D., B. Gioli, **R. Commane**, J. Lindaas\*, S. C. Wofsy, C. E. Miller, S. Dinardo, S. Dengel, C. Sweeney, A. Karion, R. Y.-W. Chang, J. Henderson, P. Murphy, J. P. Goodrich, V. Moreaux, A. Liljedahl, J. D. Watts, J. S. Kimball, D. A. Lipson, W. C. Oechel, Sensitivity of Arctic tundra CH<sub>4</sub> emissions to delayed soil freezing, *Proceedings of the National Academy of Science*, 113, 1, 40-45, doi:10.173/pnas.1516017113, **2016**
9. N. C. Parazoo, **R. Commane**, S. C. Wofsy, C. D. Koven, C. Sweeney, D. M. Lawrence, J. Lindaas\*, Rachel Y.-W. Chang, C. E. Miller, Detecting regional patterns of changing CO<sub>2</sub> flux in Alaska, *Proceedings of the National Academy of Sciences*, 113, 28, 7733-7738, doi:10.173/pnas.1601085113, **2016**
10. E. Wiggins, S. Veraverbeke, J. Henderson, A. Karion, J. B. Miller, J. Lindaas\*, **R. Commane**, C. Sweeney, K. A. Luus, M. Tosca, S. Dinardo, S. C. Wofsy, C. E. Miller, J. T. Randerson, The influence of daily meteorology on boreal fire emissions and regional trace gas variability, *JGR-Biogeosciences*, doi:10.1002/2016JG003434, **2016**
11. S. M. Miller, C. E. Miller, **R. Commane**, R. Y. W. Chang, S. Dinardo, J. M. Henderson, A. Karion, J. Lindaas\*, J. Melton, J. B. Miller, C. Sweeney, S. C. Wofsy, A. Michalak, A multi-year estimate of methane fluxes in Alaska from CARVE atmospheric observations, *Global Biogeochemical Cycles*, doi: 10.1002/2016GB005419, **2016**

12. L. K. Meredith, **R. Commane**, T. F. Keenan, S. T. Klosterman, J. W. Munger, P. H. Templer, J. Tang, S. C. Wofsy, R. G. Prinn, Ecosystem fluxes of hydrogen in a mid-latitude forest driven by soil microorganisms and plants, *Global Change Biology*, doi:10.1111/gcb.13463, **2016**
13. S. M. Miller, **R. Commane**, J. R. Melton, A. E. Andrews, J. Benmergui, E. J. Dlugokencky, G. Janssens-Maenhout, A. M. Michalak, C. Sweeney, and D. E. J. Worthy: Evaluation of wetland methane emissions across North America using atmospheric data and inverse modeling, *Biogeosciences*, 13, 1329-1339, doi:10.5194/bg-13-1329-2016, **2016**
14. A. Karion, C. Sweeney, J. B. Miller, A. E. Andrews, **R. Commane**, S. Dinardo, J. M. Henderson, J. Lindaas\*, J. C. Lin, K. A. Luus, T. Newberger, P. Tans, S. C. Wofsy, S. Wolter, C. E. Miller, Investigating Alaskan methane and carbon dioxide fluxes using measurements from the CARVE tower, *Atmos. Chem. Phys.*, 16, 5383-5398, **2016**
15. X. Xu, W. J. Riley, C. D. Koven, D. P. Billesbach, R. Y.-W. Chang, **R. Commane**, E. S. Euskirchen, S. Hartery\*, Y. Harazono, H. Iwata, K. C. McDonald, C. E. Miller, W. C. Oechel, B. Poulter, N. Raz-Yaseef, C. Sweeney, M. Torn, S. C. Wofsy, Z. Zhang, D. Zona, A multi-scale comparison of modeled and observed seasonal methane cycles in northern wetlands, *Biogeosciences*, 13, 5043-5056, doi:10.5194/bg-13-5043-2016, **2016**
16. L. K. Meredith, **R. Commane**, J. W. Munger, A. Dunn, J. Tang, S. C. Wofsy, R. G. Prinn: Ecosystem fluxes of hydrogen: a comparison of flux-gradient methods, *Atmos. Meas. Tech.*, 7, 2787-2805, doi: 10.5194/amt-7-2787-2014, **2014**
17. B. Xiang, S. Miller, Eric Kort, G. Santoni, B. Daube, **R. Commane**, et al: Nitrous Oxide (N<sub>2</sub>O) Emissions from California based on 2010 CalNex Airborne Measurements, *JGR-Atmospheres*, doi:10.1002/jgrd.50189, **2013**
18. I. B. Pollack, T. B. Ryerson, M. Trainer, D. D. Parrish, A. E. Andrews, E. L. Atlas, D. R. Blake, S. S. Brown, **R. Commane**, et al: Airborne and ground-based observations of a weekend effect in ozone, precursors, and oxidation products in the California South Coast Air Basin, *JGR*, 117, D00V05, doi:10.1029/2011JD016772, **2012**
19. P. M. Edwards, M. J. Evans, **R. Commane**, et al: Hydrogen oxide photochemistry in the Northern Canadian spring time boundary layer, *J. Geophys. Res.*, 116, D22306, doi: 10.1029/2011JD061390, **2011**
20. D. Stone, M.J. Evans, P. M. Edwards, **R. Commane**, et al: Isoprene oxidation mechanisms: measurement and modelling of OH and HO<sub>2</sub> over a South-East Asian tropical rainforest during the OP3 field campaign, *Atmos. Chem. Phys.*, 11, 6749-6771, **2011**
21. MacKenzie, A.R.; Langford, B.; Pugh, T.A.M.; Robinson, N.; Misztal, P.K.; Heard, D.E.; Lee, J.D.; Lewis, A.C.; Jones, C.E.; Hopkins, J.R.; Phillips, G.; Monks, P.S.; Karunaharan, A.; Hornsby, K.E.; Nicolas-Perea, V.; Coe, H.; Gabey, A.M.; Gallagher, M.W.; Whalley, L.K.; Edwards, P.M.; Evans, M.J.; Stone, D.; Ingham, T.; **Commene, R.**; et al: The atmospheric chemistry of trace gases and particulate matter emitted by different land uses in Borneo, *Phil. Trans. R. Soc. B.*, 366 (1582), 2177-2195, **2011**
22. Wofsy, S.C., et al: HIAPER Pole-to-Pole Observations (HIPPO): Fine grained, global scale measurements for determining rates for transport, surface emissions, and removal of climatically important atmospheric gases and aerosols, *Phil. Trans of the Royal Society A*, 369 (1943), 2073-2086, **2011**
23. D. Stone, M.J. Evans, **R. Commane**, et al: HO<sub>x</sub> observations over West Africa during AMMA: impact of isoprene and NO<sub>x</sub>, *Atmos. Chem. Phys.*, 10, 9415-9429, **2010**
24. S.J. Moller, J.D. Lee, **R. Commane**, et al: Measurements of nitrogen oxides from Hudson Bay: Implications for NO<sub>x</sub> release from snow and ice covered surfaces, *Atmos. Env.*, 44(25), 2971-2979, **2010**
25. A.S. Mahajan, M. Shaw, H. Oetjen, K.E. Hornsby, L.J. Carpenter, L. Kaleschke, X. Tian-Kunze, J.D. Lee, S.J. Moller, P. Edwards, **R. Commane**, T. Ingham, D.E. Heard, J.M.C. Plane: Evidence of reactive iodine chemistry in the Arctic boundary layer, *J. Geophys. Res.*, 115, D20303, doi:10.1029/2009JD013665, **2010**
26. M.D. Andres-Hernandez, D. Stone, D.M. Brookes, **R. Commane**, et al: Peroxy radical partitioning during the AMMA radical intercomparison exercise, *Atmospheric Chemistry & Physics*, 10, 10621-10638, **2010**
27. C.H. Mari, C.E. Reeves, K.S. Law, G. Ancellet, M.D. Andres-Hernandez, B. Barret, J. Bechara, A. Borbon, I. Bouarar, F. Cairo, **R. Commane**, C. Delon, M. J. Evans, F. Fierli, C. Floquet, C. Galy-Lacaux, D.E. Heard, C.D. Homan, T. Ingham, N. Larsen, A.C. Lewis, C. Liousse, J.G. Murphy, E. Orlando, D.E. Oram, M. Saunio, D. Serca, D.J. Stewart, D. Stone, V. Thouret, P. van Velthoven, J.E. Williams: Atmospheric composition of West Africa: highlights from the AMMA international program, *Atmospheric Science Letters*, 10, doi:10.1002/asl.289, **2010**
28. C.N. Hewitt, J.D. Lee, A.R. MacKenzie, M.P. Barkley, N. Carslaw, G.D. Carver, N.A. Chappell, H. Coe, C. Collier, **R. Commane**, et al.: Overview: oxidant and particle photochemical processes above a south-east Asian tropical rainforest (the OP3 project), *Atmos. Chem. Phys.*, 10, 169-199, **2010**
29. J.D. Lee, G. McFiggans, J.D. Allan, A.R. Baker, S.M. Ball, A.K. Benton, L.J. Carpenter, **R. Commane**, et al.: Reactive Halogens in the Marine Boundary Layer (RHAMBLE): the tropical North Atlantic experiments, *Atmos. Chem. Phys.*, 10, 1030-1055, **2010**
30. C.S.E. Bale, I. Ingham, **R. Commane**, D.E. Heard and W.J. Bloss: Novel measurements of atmospheric iodine species by resonance fluorescence, *J. Atmos. Chem.*, 60, 51-70, **2008**
31. D.R. Glowacki, A. Goddard, K. Hemavibool, T.L. Malkin, **R. Commane**, F. Anderson, W.J. Bloss, D.E. Heard, T. Ingham, M.J. Pilling, and P.W. Seakins: Design of and initial results from a Highly Instrumented Reactor for Atmospheric Chemistry (HIRAC), *Atmos. Chem. Phys.*, 7, 5371-5390, **2007**

**Published Measurement Datasets**

- Budney, J.W., R.Y.-W. Chang, **R. Commane**, B.C. Daube, A. Dayalu, S.J. Dinardo, E.W. Gottlieb, A. Karion, J.O.W. Lindaas, C.E. Miller, J.B. Miller, S. Miller, M. Pender, J.V. Pittman, J. Samra, C. Sweeney, S.C. Wofsy, and B. Xiang. 2016. CARVE: L2 Merged Atmospheric CO<sub>2</sub>, CO, O<sub>3</sub> and CH<sub>4</sub> Concentrations, Alaska, 2012-2015. ORNL DAAC, Oak Ridge, Tennessee, USA. <http://dx.doi.org/10.3334/ORNLDAAC/1402>
- Chang, R.Y.-W., **R. Commane**, J.W. Budney, B.C. Daube, A. Dayalu, E.W. Gottlieb, J.O.W. Lindaas, S. Miller, M. Pender, J.V. Pittman, J. Samra, B. Xiang, and S.C. Wofsy. 2016. CARVE: L2 Atmospheric CO<sub>2</sub>, CO and CH<sub>4</sub> Concentrations, Harvard CRDS, Alaska, 2012-2014. ORNL DAAC, Oak Ridge, Tennessee, USA. <http://dx.doi.org/10.3334/ORNLDAAC/1403>
- Karion, A., C. Sweeney, J. B. Miller, A. E. Andrews, **R. Commane**, S. J. Dinardo, J. Henderson, J. O. W. Lindaas, J. Lin, K. A. Luus, T. Newberger, P. Tans, S. C. Wofsy, S. Wolter and C. E. Miller. 2016. CARVE: CH<sub>4</sub>, CO<sub>2</sub> and CO Atmospheric Concentrations, CARVE Tower, Alaska, 2012-2014. ORNL DAAC, Oak Ridge, TN, USA. <http://dx.doi.org/10.3334/ORNLDAAC/1316>
- Parazoo, N. C., W. Oechel, C. E. Miller, S. J. Dinardo, **R. Commane**, J. O. W. Lindaas, R. Y.-W. Chang, S. C. Wofsy, C. Sweeney, and A. Karion. 2015. CARVE-ARCSS: Methane Loss from the Arctic - Fluxes from the Alaskan North Slope, 2012-2014. ORNL DAAC, Oak Ridge, TN, USA. <http://dx.doi.org/10.3334/ORNLDAAC/1325>
- Zona D., W. Oechel, C. E. Miller, S. J. Dinardo, **R. Commane**, J. O. W. Lindaas, R. Y.-W. Chang, S. C. Wofsy, C. Sweeney, and A. Karion. 2015. CARVE-ARCSS: Methane Loss from the Arctic - Fluxes from the Alaskan North Slope, 2012-2014. ORNL DAAC, Oak Ridge, TN, USA. <http://dx.doi.org/10.3334/ORNLDAAC/1300>
- **Commene, R.**, J. W. Munger, D. N. Nelson, S. C. Wofsy, M. S. Zahniser, Harvard Forest Data Archive, Dataset: 214, <http://dx.doi.org/10.6073/pasta/5a3a88182fb9aebc0385aeda3535a3de>
- CalNex 2010 Data: WP-3D aircraft CO<sub>2</sub>, CH<sub>4</sub>, CO, N<sub>2</sub>O (QCLS CO<sub>2</sub> and QCLS Dual) (with Bruce Daube) <http://esrl.noaa.gov/csd/groups/csd7/measurements/2010calnex/P3/DataDownload/index.php?page=/csd/groups/csd7/measurements/2010calnex/P3/DataDownload/>
- CalNex 2010 Data: R/V Atlantis OCS (with Scott Herndon) <http://esrl.noaa.gov/csd/groups/csd7/measurements/2010calnex/Atlantis/DataDownload/index.php?page=/csd/groups/csd7/measurements/2010calnex/Atlantis/DataDownload/>
- Natural Environment Research Council; Hewitt, N. (2009): Data from OP3: Merged-data-faam at FAAM BAe-146-301 Large Atmospheric Research Aircraft G-LUXE for the OP3-aircraft Campaign. NCAS British Atmospheric Data Centre, *July 2009*. <http://catalogue.ceda.ac.uk/uuid/15eede2282fba47363ba7159dd576b7f>
- **Commene, R.** (2010): Leeds FAGE for OH and HO<sub>2</sub> at Kuujuarapik, February-March 2008 for COBRA Campaign. NCAS British Atmospheric Data Centre, *September 2010*. <http://catalogue.ceda.ac.uk/uuid/45ccf2ab4d603df7a5083d92a5c7a30e>
- NERC AMMA-UK; Parker, D.E. (2007): Data from Leeds: Fluorecence Assay by Gas Expansion instrument (FAGE) at FAAM BAe-146-301 Large Atmospheric Research Aircraft G-LUXE for the African Monsoon Multidisciplinary Analysis (AMMA) Project. NCAS British Atmospheric Data Centre, *April 2007*. <http://catalogue.ceda.ac.uk/uuid/aa0386d41f0dffac84ebc7889add7bf5>

**Teaching and Advising Experience**

Developed projects for and supervised the work of undergraduate and graduate students. I continue to mentor all of these students as they progress to graduate school and post-doctoral fellowships.

**Undergraduate Supervision**

Harvard University, Cambridge, MA

Developed 8 - 12 week short-term projects for Harvard and visiting undergraduate students. Supervised day-to-day activities and programming tutorials (in R). Worked with students to prepare presentations for department-wide and international meetings and papers for peer-reviewed publication.

05-08/2015	Harvard Chemistry Dept.,	Savannah Butler, Senior Harvard College, MA
05-08/2015	Harvard EPS Dept.,	Matthew Luongo, Senior Harvard College, MA
06-08/2015	Dalhousie University at Harvard	Sean Hartery, G1, Uni. of Canterbury, NZ

*Posters and Presentations at major conferences by undergraduate students (\*)*

12/2015	S. Butler*, <b>R. Commene</b> , et al., AGU Virtual Poster session for undergraduates <i>Understanding Regional CO<sub>2</sub> fluxes in the Arctic,</i>
12/2015	S. Hartery*, R. Y.-W. Chang, <b>R. Commene</b> , et al, AGU Fall Meeting <i>Constraining the 2012-2014 Alaskan CH<sub>4</sub> budget using CARVE aircraft measurements</i>
06/2016	S. Hartery*, R. Y.-W. Chang, <b>R. Commene</b> , et al, Canadian Chemistry Conference and Exhibition

**Graduate and Research Assistant Supervision**

Harvard University, Cambridge, MA

Developed a short-term project for graduate student and a multi-year project for a research assistant. Supervised day-to-day activities and programming tutorials (in R). Worked with students to prepare presentations for international meetings and papers for peer-reviewed publication.

05/2014-08/2015 Harvard EPS Research Assistant Jakob Lindaas, G2 Colorado State University

04/2016-08/2016 AWI, Potsdam, Germany at Harvard Katrin Kohnert, G3 Alfred Wegener Institute

*Posters and Presentations at major conferences by supervised graduate students and research assistants (\*)*

01/2016 J. Lindaas\*, **R. Commane**, et al., American Meteorological Society Meeting

*Empirically constrained estimates of AK regional Net Ecosystem Exchange of CO<sub>2</sub> 2012-2014*

12/2014 J. Lindaas\*, R. Commane, et al., AGU Fall Meeting

*Multi-Year Estimates of Regional Alaskan CO<sub>2</sub> Exchange:*

*Constraining a Remote-Sensing based model with Aircraft Observations*

*Student manuscripts in Preparation*

- K. Kohnert\*, **R. Commane**, S. M. Miller, A. Serafimovich, J. Hartmann, D. Zona, J. Goodrich, J. Henderson, S. C. Wofsy, T. Sachs, Consistency of environmental drivers of CH<sub>4</sub> emissions across different scales

**Recent Selected Oral Presentations**

04/2017 “Carbon in the Arctic and Around the World”, University of Birmingham, UK, *Invited*

11/2016 “Regional CO<sub>2</sub> fluxes in Alaska”, Woods Hole Research Center, Falmouth, MA, USA, *Invited*

06/2016 “Regional carbon budget for Alaska: Response to seasonal & inter annual temperature variations”  
International Conference on Permafrost (ICOP2016), Potsdam, Germany, *Invited*

03/2016 “The importance of winter carbon fluxes in the Arctic”  
Wolfson Atmospheric Chemistry Laboratory, University of York, UK, *Invited*

12/2015 “Empirically constrained estimates of AK regional Net Ecosystem Exchange of CO<sub>2</sub> 2012-2014”  
American Geophysical Union Fall Meeting, San Francisco, CA

11/2015 “Carbon Fluxes in the Arctic”  
Dept. of Earth Atmosphere Planetary Science, MIT, Cambridge, MA, *Invited*

12/2014 “Understanding processes contributing to the ecosystem flux of OCS & CO<sub>2</sub> in a mixed forest”  
American Geophysical Union (AGU) Fall Meeting, San Francisco, CA

**Professional Activities and Service****Public Outreach:**

Personal website documenting fieldwork in atmospheric science and publicly accessible summaries of my research: [www.people.fas.harvard.edu/~rcommane/](http://www.people.fas.harvard.edu/~rcommane/)

Maintain twitter accounts: **@roseAtmos** personal account: news on atmospheric and climate science

**@ATom\_Harvard** for news and field updates during the NASA ATom project

08/2016: Blog articles published on the NASA Notes from the Field Blog for ATom-1

<http://earthobservatory.nasa.gov/blogs/fromthefield/category/atom-2016/>

08/2016: Presenter and videographer for NASA produced video updates for ATom-1.

Videos hosted by NASA Goddard YouTube Channel. Complete list of videos listed at:

<http://www.people.fas.harvard.edu/~rcommane/field-updates/atom1/atom-1-videos.html>

**Media Articles:**

02/2017: Interviewed for piece on NPR Radio (Morning Edition)

<http://www.npr.org/2017/02/20/516203245/scientists-use-flying-laboratory-to-track-greenhouse-gases>

02/2017: Interviewed for piece on WCAI (NPR Radio on Cape Cod and Islands)

<http://capeandislands.org/post/lab-plane-making-four-laps-around-globe#stream/0>

06/2016: Popular Science article based on Parazoo, Commane et al., PNAS, 2016

<http://www.popsci.com/node/230150>

12/2015: Washington Post article on Zona, Gioli, Commane et al., PNAS, 2016

<http://tinyurl.com/hwgtjll>

**Workshop/Meeting Organizing Committees:**

03/2017: 2017 Joint North American Carbon Program and Ameriflux Principle Investigators Meeting.

Co-chair of session: “Emerging technologies: Local to global scale and what is missing?”

02/2016: AGU Fall Meeting, Co-convener:

- “Constraining Photosynthesis or Respiration of CO<sub>2</sub> at Ecosystem, Regional, or Global Scales”  
 12/2015: AGU Fall Meeting, Co-convener:  
 “Photosynthesis & respiration at leaf, ecosystem, regional or global scales: constraints, measurements, modeling”  
 2013-2014: Atmospheric Sciences Seminar Series, Harvard University Organizing Co-chair  
 05/2012: AMS First Conference on Atmospheric Biogeosciences, Session Chair:  
 “New Techniques and Instrumentation in Atmospheric Biogeosciences”.

**Science Team and Professional Membership:**

- 01/2017 - 01/2020: User Working Group of the ORNL DAAC  
 (Oak Ridge National Laboratory Distributed Active Archive Center)  
 01/2017 - 12/2019: NASA ABoVE Carbon Dynamics Working Group co-chair  
 11/2016 - 11/2019: NASA ABoVE Airborne Science Team  
 01/2016 - 01/2020: NASA ATom Science Team  
 NASA CARVE Science Team, American Geophysical Union (AGU), Association of Polar Early Career Scientists (APECS), Earth Science Women’s Network (ESWN), International Permafrost Association (IPA), Permafrost Carbon Network (PCN)

**Journal Reviewer:** Atmospheric Chemistry & Physics, Global Biogeochemical Cycles, Atmospheric Measurement Techniques, Global Model Development JGR-Biogeosciences, Journal of Atmospheric Chemistry, Atmospheric Research Letters, EOS, PLOSOne

**Proposal Reviewer:** NSF Division of Polar Programs: Antarctic Glaciology Program  
 NOAA Climate Program’s Earth System Science (ESS) Program:  
 (i) *Global Carbon Cycle (GCC)*;  
 (ii) *Atmospheric Chemistry, Carbon Cycle and Climate (AC4), 2014, 2016*

**Panel Reviewer:** NASA Research Announcement (NRA) focused on Carbon Cycle Science (NASA, USDA, DOE, NOAA) – ROSES A.5: Carbon research in critical regions, specifically tropics, 2014