Jenny A. Fisher

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EDUCATION

Ph.D.: *Atmospheric pollution in the Arctic: sources, transport, and chemical processing* 2011
Harvard University, Earth and Planetary Sciences

Master of Science 2009
Harvard University, Engineering Sciences

Bachelor of Science with Honors 2005
California Institute of Technology, Planetary Science

RESEARCH EXPERIENCE

Associate Dean Equity, Diversity and Inclusion 2020-present
Faculty of Science, Medicine and Health, University of Wollongong, Australia

Associate Professor (2020-), Senior Lecturer (2017-19), Lecturer (2015-16) 2015-present
Centre for Atmospheric Chemistry, School of Earth, Atmospheric & Life Sciences, University of Wollongong

Vice Chancellor's Postdoctoral Fellow 2012-2015
Centre for Atmospheric Chemistry, School of Chemistry, University of Wollongong

Graduate Research Assistant & Postdoctoral Fellow 2006-2012
Atmospheric Chemistry Modeling Group, Harvard University

FELLOWSHIPS

L'Oréal-UNESCO For Women in Science Australia Fellowship, $25K 2016
Ian Potter Foundation Travel Grant, $2K 2016
University of Wollongong Vice Chancellor's Postdoctoral Fellowship, salary (~$250K) + $30K 2012-15
National Defense Science and Engineering Graduate Fellowship, salary (~$90K) 2006-09

HONOURS AND AWARDS

Anton Hales Medal for Research in the Earth Sciences 2022
APEC Science Prize for Innovation, Research and Education ("ASPIRE"), Australian 3rd place 2019
Vice Chancellor's Research Excellence Award for Emerging Researcher 2016
Best Early Career Researcher Presentation, 9th Annual CAWCR Workshop 2015
Harvard University Certificate of Distinction in Teaching 2010
Caltech Upperclass Merit Award 2003-2005
Caltech Deans' Cup 2005
Fritz B. Burns Prize in Geology 2004

EXTERNAL COMPETITIVE GRANTS

S. Kable, **J. Fisher**, M. Jordan, D. Osborn. Australian Research Council: *Atmospheric Photothermal Oxidation as a New Reaction in the Atmosphere*, 2022-2024, $508K.

N. Cressie, M. Bertolacci, B. Bukosa, **J. Fisher**, A. Zammit Mangion. NASA: *Spatio-temporal statistical methods for producing OCO-2/OCO-3 Level 3 and Level 4 estimates*, 2021-2024, Science Team Membership.

R. Schofield, S. Alexander, **J. Fisher**, R. Humphries, M. Keywood, A. Klekociuk, T. Lane, S. Lawson, A. Protat, Z. Ristovski, S. Utembe, M. Woodhouse. Australian Antarctic Division: *CAMMPCAN – Chemical and Mesoscale Mechanisms of Polar Cell Aerosol Nucleation*, 2017-2020, $150K (+ logistics).

D. Griffith, N. Deutscher, **J. Fisher**, C. Murphy, R. Schofield, S. Wilson, C. Clerbaux, F. Desmet, L. Emmons, C. Vigouroux. Australian Research Council: *Tackling Atmospheric Chemistry Grand Challenges in the Southern Hemisphere*, 1/2016-12/2020, $980K.

P. Rayner, K. Parris, and 36 others including **J. Fisher**. Department of the Environment National Environmental Science Program: *Clean Air & Urban Landscapes Hub*, 1/2015-12/2020, $8.8M.

D.J. Jacob, **J.A. Fisher**. NASA: *Using NASA aircraft observations to improve understanding of biogenic VOC chemistry and aerosols over the eastern US, and to increase the value of related satellite observations*, 7/2014-6/2017, $650K.

D.J. Jacob, **J.A. Fisher**. NASA: *SEAC4RS mission support using the nested GEOS-Chem chemical transport model*, 8/2011-7/2014, $507K.

J.A. Fisher, N.M. Deutscher, N.B. Jones. National Computational Merit Allocation Scheme / Intersect: *The use of state-of- the-art 3-D chemical transport modelling to unravel the effects of atmospheric chemistry on climate*, 2013-2018, computational resources.

TEACHING EXPERIENCE (selected)

Coordinator, University of Wollongong, Australia

Earth's Interconnected Spheres (spring semester)	2016-2021

Teaching Fellow, Harvard University, USA

Introduction to Environmental Science (full semesters)	2007, 2010
Environmental Policy (full semester)	2008

RESEARCH SUPERVISION

PhD Students

Stephen MacFarlane, Environmental Chemistry, UOW	2022-
Dominique Bally Kpokro, Environmental Science, UOW & U. Surrey	2021-
Sandra Koenigseder, Earth Science, UOW	2020-
Maria Paula Perez Peña, Chemistry, UNSW	2019-
Jhonathan Ramirez Gamboa, Chemistry, UOW	2019-
Jesse Greenslade, Chemistry, UOW *(now at Bureau of Meteorology)*	2015-2019
Beata Bukosa, Chemistry, UOW*(now at NIWA)*	2015-2019
Maximillien Desservettaz, Chemistry, UOW *(now at Cyprus Research Institute)*	2014-2018

Masters Students

Lily Sheridan, Environmental Science (BRes/MRes), UOW *(now at UOW)*	2019-2020
Neil Page, Environmental Science (MRes, MPhil), UOW (*now at Deloitte*)	2017-2021

Honours / Senior Thesis Students

Stephen MacFarlane, Environmental Chemistry, UOW *(now at UOW)*	2021
James Portwin, Environmental Chemistry, UOW *(now at UNSW/ANSTO)*	2021
Daniel Saeed, Environmental Chemistry, UOW *(now at JBS&G Consultants)*	2020/21
Sam Limbrey, Environmental Science, UOW *(now at AGIO)*	2019/20

Kate Sneesby, Chemistry, UOW *(now at Services Australia*) 2018
Jordan Capnerhurst, Environmental Science, UOW (*now at NSW DPIE*) 2016
Kaitlyn Lieschke, Chemistry, UOW (*now at NSW DPIE*) 2015
Meghan Purdy, Harvard University (*now at Risk Management Solutions*) 2009

Undergraduates & research assistants

Brittany Walker (undergrad, 2018-19); Emma Nguyen (undergrad, 2017-18); Iris Dion (post-masters, 2016); Matthew Rees (summer scholar, 2016); Christopher Roulston (post-bachelors, 2015); Jesse Greenslade (post-honours, 2014); Kaitlyn Lieschke (undergrad, 2013-14)

PROFESSIONAL & UNIVERSITY SERVICE (selected)

Committees:

GEOS-Chem Steering Committee (Co-Chair for Mercury & POPs Working Group) 2015-present
International Conference on Mercury as a Global Pollutant Scientific Steering Committee 2020-present
National Computational Merit Allocation Committee 2018-2020
University of Wollongong High Performance Computing Steering Committee (Chair) 2015-2020
University of Wollongong Working Party for Gender Equity (Chair) 2018-2019
University of Wollongong Science in Australia Gender Equity Self Assessment Team 2016-2018

Associate Editor:

Elementa: Science of the Anthropocene 2022-present
Journal of Southern Hemisphere Earth Systems Science (JSHESS) 2017-2018

Reviewer:

Grants: Australian Research Council, U.S. National Science Foundation, French National Research Agency, U.S. National Oceanographic and Atmospheric Administration, National Geographic Society, U.S. National Defense Science and Engineering Graduate Fellowships, Next Generation of Polar Researchers Symposium

Journals: Journal of Geophysical Research Atmospheres, Atmospheric Chemistry and Physics, Atmospheric Environment, Geoscientific Model Development, Aerosol and Air Quality Research, Atmosphere-Ocean, Science of the Total Environment

Session Convener:

American Geophysical Union Fall Meeting 2017
Australian Meteorological & Oceanographic Society National Conference 2016, 2018
International Polar Year Montreal Conference 2012

OUTREACH

Communications Liaison, Centre for Atmospheric Chemistry 2015-2018
Judge, UOW-Illawarra Coal Regional Science Fair 2012-2018
Panellist, Girls in Science Forums, UNSW and Deakin University 2016
Panellist, Climate Change Q&A for Global Climate Change Week, Wollongong 2016, 2017
Coordinated HSC Chemistry student visits to UOW from Warrawong High School 2016, 2014
Created & ran environmental science session for ConocoPhillips Science Experience 2015
Presentation at inaugural UOW Budding Ideas research showcase 2014

PROFESSIONAL AFFILIATIONS

Australian Meteorological and Oceanographic Society (AMOS), 2013 - present
American Geophysical Union (AGU), 2009 - present
Earth Science Women's Network (ESWN), 2005 - present
Association of Polar Early Career Scientists (APECS), 2007 – 2012

PUBLICATIONS

Underlined names are students under my supervision during project and/or manuscript preparation.

In Review

1. Bertolacci, M., A. Zammit-Mangion, A. Schuh, B. Bukosa, **J.A. Fisher**, Y. Cao, A. Kaushik, N. Cressie. Inferring changes to the global carbon cycle with WOMBAT v2.0, a hierarchical flux-inversion framework, in review for *The Annals of Applied Statistics*.

Refereed

1. Bukosa, B., **J.A. Fisher**, N.M. Deutscher, D.B.A. Jones. A coupled CH4, CO and CO2 simulation for improved chemical source modelling, *Atmosphere* (Special Issue: *Atmospheric Dispersion and Chemistry Models: Advances and Applications*), 14(5), 764, doi: 10.3390/atmos14050764, **2023**.
2. **Fisher, J.A.**, L. Schneider, A.-H. Fostier, S. Guerrero, J.R.D. Guimãraes, C. Labuschagne, J.J. Leaner, L.G. Martin, R.P. Mason, V. Somerset, C. Walters. A synthesis of mercury research in the Southern Hemisphere, Part 2: anthropogenic processes, *Ambio* (invited), doi: 10.1007/s13280-023-01840-5, **2023**.
3. Schneider, L., **J.A. Fisher**, M.C. Diéguez, A.-H. Fostier, J.R.D. Guimãraes, J.J. Leaner, R.P. Mason. A synthesis of mercury research in the Southern Hemisphere, Part 1: natural processes, *Ambio* (invited), doi: 10.1007/s13280-023-01832-5, **2023**.
4. Pérez-Peña, M.P., **J.A. Fisher**, D.B. Millet, H. Yashiro, R.L. Langenfelds, P.B. Krummel, and S.H. Kable. Evaluating the contribution of the unexplored photochemistry of aldehydes on the tropospheric levels of molecular hydrogen (H_2), *Atmospheric Chemistry and Physics*, 22, 12367–12386, doi: 10.5194/acp-22-12367-2022, **2022**.
5. MacFarlane, S., **J.A. Fisher**, H.M. Horowitz, V. Shah. Two decades of changing anthropogenic mercury emissions in Australia: inventory development, trends, and atmospheric implications, *Environmental Science: Processes and Impacts* (invited), 24, 1474-1493, doi: 10.1039/D2EM00019A, **2022**.
6. Desservettaz, M.D., **J.A. Fisher**, A.K. Luhar, M.T. Woodhouse, B. Bukosa, R.R. Buchholz, C. Wiedinmyer, D.W.T. Griffith, P.B. Krummel, N.B. Jones, N.M. Deutscher, and J.W. Greenslade. Australian fire emissions of carbon monoxide estimated by global biomass burning inventories: variability and observational constraints, *Journal of Geophysical Research: Atmospheres*, 127, e2021JD035925, doi: 10.1029/2021JD035925, **2022**.
7. Zammit-Mangion, A., M. Bertolacci, **J.A. Fisher**, A. Stavert, M.L. Rigby, Y. Cao and N. Cressie: WOMBAT: A fully Bayesian global flux-inversion framework, *Geoscientific Model Development*, 15, 45-73, doi: 10.5194/gmd-15-45-2022, **2022**.
8. Paton-Walsh, C., K.M. Emmerson, R.M. Garland, M. Keywood, J. Hoelzemann, N. Huneeus, R.R. Buchholz, R.S. Humphries, K. Altieri, J. Schmale, S.R. Wilson, C. Labuschagne, E. Kalisa, **J.A. Fisher**, N.M. Deutscher, P. G. van Zyl, J.P.Beukes, W. Joubert, L. Martin, T. Mkololo, C. Barbosa, M. de Fatima Andrade, R. Schofield, M.D. Mallet, MJ. Harvey, P. Formenti, S.J. Piketh, and G. Olivares: Key Challenges for Atmospheric Chemistry in the Southern Hemisphere, *Elementa: Science of the Anthropocene*, 10 (1): 00050, doi: 10.1525/elementa.2021.00050, **2022**.
9. **Fisher, J.A.** and Nelson, P.F.: Atmospheric mercury in Australia: recent findings and future research needs, *Elementa: Science of the Anthropocene*, 8:1, doi: 10.1525/elementa.2020.070, **2020**.
10. Lutsch, E., Strong, K., Jones, D. B. A., Blumenstock, T., Conway, S., **Fisher, J. A.**, Hannigan, J. W., Hase, F., Kasai, Y., Mahieu, E., Makarova, M., Morino, I., Nagahama, T., Notholt, J., Ortega, I., Palm, M., Poberovskii, A. V., Sussmann, R., and Warneke, T.: Detection and Attribution of Wildfire Pollution in the Arctic and Northern Mid-latitudes using a Network of FTIR Spectrometers and GEOS-Chem, *Atmos. Chem. Phys.*, 20, 12813–12851, doi: 10.5194/acp-20-12813-2020, **2020**.
11. Alexander, B., Sherwen, T., Holmes, C. D., **Fisher, J. A.**, Chen, Q., Evans, M. J., and Kasibhatla, P.: Global inorganic nitrate production mechanisms: Comparison of a global model with nitrate isotope observations, *Atmos. Chem. Phys.*, 20, 3859-3877, doi: 10.5194/acp-20-3859-2020, **2020**.
12. Lieschke, K.J., **J.A. Fisher**, C. Paton-Walsh, N.B. Jones, J.W. Greenslade, S. Burden, D.W.T. Griffith. Decreasing trend in formaldehyde detected from 20-year record at Wollongong, Southeast Australia. *Geophysical Research Letters*, 46, 8464–8473, doi: 10.1029/2019GL083757, **2019**.
13. Lutsch, E., K. Strong, D.B.A. Jones, I. Ortega, J.W. Hannigan, E. Dammers, M.W. Shephard, E. Morris, K. Murphy, M.J. Evans, M. Parrington, S. Whitburn, M. Van Damme, L. Clarisse, P.-F. Coheur, C.

Clerbaux, B. Croft, R.V. Martin, J.R. Pierce, **J.A. Fisher**. Unprecedented ammonia concentrations detected in the high Arctic from the 2017 Canadian wildfires. *Journal of Geophysical Research-Atmospheres*, 124, 8178–8202, doi: 10.1029/2019JD030419, **2019**.

14. Bukosa, B., N.M. Deutscher, **J.A. Fisher**, D. Kubistin, C. Paton-Walsh, and D.W.T. Griffith. Simultaneous shipborne measurements of CO_2, CH_4 and CO and their application to improving greenhouse gas flux estimates in Australia, *Atmospheric Chemistry and Physics*, 19, 7055-7072, doi: 10.5194/acp-19-7055-2019, **2019**.
15. Wunch, D., G.C. Toon, N.M. Deutscher, F. Hase, J. Notholt, R. Sussmann, T. Warneke, J. Kuenen, H. Denier van der Gon, **J.A. Fisher**, and J.D. Maasakkers. Emissions of methane in Europe inferred by total column measurements, *Atmospheric Chemistry and Physics*, 19, 3963-3980, doi: 10.5194/acp-19-3963-2019, **2019**.
16. Utembe, S., P. Rayner, J. Silver, E.-A. Guerette, **J.A. Fisher**, K. Emmerson, M. Cope, C. Paton-Walsh, A. Griffiths, H. Duc, K. Monk, Y. Scorgie. Hot summers: effect of extreme temperatures on ozone in Sydney, Australia. *Atmosphere*, 9, 466, doi: 10.3390/atmos9120466, **2018**.
17. **Fisher, J.A.**, E.A. Atlas, B. Barletta, S. Meinardi, D.R. Blake, C.R. Thompson, J. Peischl, Z.A. Tzompa-Sosa, L.T. Murray. Methyl, ethyl, and propyl nitrates: global distribution and impacts on reactive nitrogen in remote marine environments. *Journal of Geophysical Research-Atmospheres*, 123 (21), 12429-12451, doi: 10.1029/2018jd029046, **2018.**
18. Kaiser, J., D.J. Jacob, L. Zhu, K.R. Travis, **J.A. Fisher**, G. González Abad, L. Zhang, X. Zhang, A. Fried, J.D. Crounse, J. M. St. Clair, A. Wisthaler. High-resolution inversion of OMI formaldehyde columns to quantify isoprene emission on ecosystem-relevant scales: application to the Southeast US. *Atmospheric Chemistry and Physics*, 18, 5483-5497, doi: 10.5194/acp-18-5483-2018, **2018**.
19. **Fisher, J.A.**, L.T. Murray, D.B.A. Jones, and N.M. Deutscher. Improved method for linear carbon monoxide simulation and source attribution in atmospheric chemistry models illustrated using GEOS-Chem v9. *Geoscientific Model Development*, 10, 4219-4144, doi: 10.5194/gmd-10-4129-2017, **2017**.
20. Howard, D., P.F. Nelson, G.C. Edwards, A.L. Morrison, **J.A. Fisher**, J. Ward, J. Harnwell, M. van der Schoot, B. Atkinson, S.D. Chambers, A.D. Griffiths, S. Werczynski, and A.G. Williams. Atmospheric mercury in the southern hemisphere tropics: seasonal and diurnal variations and influence of inter-hemispheric transport. *Atmospheric Chemistry and Physics*, 17, 11623-11636. doi:10.5194/acp-17-11623-2017, **2017**.
21. Greenslade, J.W., Alexander, S.P., Schofield, R., **Fisher, J.A.**, and A.K. Klekociuk. Stratospheric ozone intrusion events and their impacts on tropospheric ozone. *Atmospheric Chemistry and Physics*, 17, 10269-10290, doi: 10.5194/acp-17-10269-2017, **2017**.
22. Chan Miller, C., D.J. Jacob, E.A. Marais, K. Yu, K.R. Travis, P.S. Kim, **J.A. Fisher**, L. Zhu, G.M. Wolfe, F. Keutsch, J. Kaiser, K.-E. Min, S. Brown, R. Washenfelder, G. Gonzalez Abad, and K. Chance. Glyoxal yield from isoprene oxidation and relation to formaldehyde: chemical mechanism, constraints from SENEX aircraft observations, and interpretation of OMI satellite data. *Atmospheric Physics and Chemistry*, 17, 8725-8738, doi:10.5194/acp-2016-1042, **2017**.
23. Zhu, J., X. Xia, J. Wang, C. Wiedinmyer, **J.A. Fisher**, and C. Keller. Impact of Southeast Asian smoke on aerosol properties in Southwest China: first comparison of model simulations with satellite and ground observations. *Journal of Geophysical Research*, 122, doi:10.1002/2016JD025793, **2017**.
24. Zhu, L., D. Jacob, P. Kim, **J.A. Fisher**, K. Yu, K. Travis, L. Mickley, R. Yantosca, M. Sulprizio, I. De Smedt, G. Gonzalez Abad, K. Chance, C. Li, R. Ferrare, A. Fried, J. Hair, T. Hanisco, D. Richter, A. J. Scarino, J. Walega, P. Weibring, and G. Wolfe. Observing atmospheric formaldehyde (HCHO) from space: validation and intercomparison of six retrievals from four satellites (OMI, GOME2A, GOME2B, OMPS) with SEAC4RS aircraft observations over the Southeast US. *Atmospheric Chemistry and Physics*, 16, 13477-13490, doi: 10.5194/acp-16-13477-2016, **2016**.
25. Travis, K. R., D. J. Jacob, **J. A. Fisher**, P. S. Kim, E. A. Marais, L. Zhu, K. Yu, C. C. Miller, R. M. Yantosca, M. P. Sulprizio, A. M. Thompson, P. O. Wennberg, J. D. Crounse, J. M. St. Clair, R. C. Cohen, J. L. Laugher, J. E. Dibb, S. R. Hall, K. Ullmann, G. M. Wolfe, J. A. Neuman, and X. Zhou. Why do models overestimate surface ozone in the Southeast United States? *Atmospheric Chemistry and Physics*, 16, 13561-13577, doi: 10.5194/acp-16-13561-2016, **2016**.
26. **Fisher, J. A.**, D. J. Jacob, K. R. Travis, P. S. Kim, E. A. Marais, C. Chan Miller, K. Yu, L. Zhu, R. M. Yantosca, M. P. Sulprizio, J. Mao, P. O. Wennberg, J. D. Crounse, A. P. Teng, T. B. Nguyen, J. M. St. Clair, R. C. Cohen, P. Romer, B. A. Nault, P. J. Wooldridge, J. L. Jimenez, P. Campuzano-Jost, D. A. Day, W. Hu, P. B. Shepson, F. Xiong, D. R. Blake, A. H. Goldstein, P. K. Misztal, T. F. Hanisco, G. M. Wolfe, T. B. Ryerson, A. Wisthaler, and T. Mikoviny. Organic nitrate chemistry and its implications for

nitrogen budgets in an isoprene- and monoterpene-rich atmosphere: constraints from aircraft (SEAC4RS) and ground-based (SOAS) observations in the Southeast US. *Atmospheric Chemistry and Physics*, 16, 5969-5991, doi: 10.5194/acp-16-5969-2016, **2016**.

27. Yu, K., D. J. Jacob, **J. A. Fisher**, P. S. Kim, E. A. Marais, C. C. Miller, K. R. Travis, L. Zhu, R. M. Yantosca, M. P. Sulprizio, R. C. Cohen, J. E. Dibb, A. Fried, T. Mikoviny, T. B. Ryerson, P. O. Wennberg, and A. Wisthaler. Sensitivity to grid resolution in the ability of a chemical transport model to simulate observed oxidant chemistry under high-isoprene conditions. *Atmospheric Chemistry & Physics*, 16, 4369-4378, doi:10.5194/acp-16-4369-2016, **2016**.
28. Soerensen, A.L., D.J. Jacob, A. Schartup, **J.A. Fisher**, I. Lehnherr, V.L. St. Louis, L.-E. Heimbürger, J.E. Sonke, D.P. Krabbenhoft, and E.M. Sunderland. A Mass Budget for Mercury and Methylmercury in the Arctic Ocean. *Global Biogeochemical Cycles*, 30 (4), 560-575 doi:10.1002/2015GB005280, **2016**.
29. Marais, E. A. D. J. Jacob, J. L. Jimenez, P. Campuzano-Jost, D. A. Day, W. Hu, J. Krechmer, L. Zhu, P. S. Kim, C. C. Miller, **J. A. Fisher**, K. Travis, K. Yu, T. F. Hanisco, G. M. Wolfe, H. L. Arkinson, H. O. T. Pye, K. D. Froyd, J. Liao, and V. F. McNeill. Aqueous-phase mechanism for secondary organic aerosol formation from isoprene: application to the Southeast United States and co-benefit of SO2 emission controls. *Atmospheric Chemistry & Physics*, 16, 1603-1618, doi:10.5194/acp-16-1603-2016, **2016**.
30. Buchholz, R.R., D.W.T. Griffith, D. Kubistin, C. Caldow, **J.A. Fisher**, N.M. Deutscher, G. Kettlewell, M. Riggenbach, R. Macatangay, P.B. Krummel, and R.L. Langenfelds. Source and meteorological influences on air quality (CO, CH4 & CO2) at a Southern Hemisphere urban site. *Atmospheric Environment*, 126, 274-289, doi:10.1016/j.atmosenv.2015.11.041, **2016.**
31. Kim, P.S., D. J. Jacob, **J. A. Fisher**, K. Travis, K. Yu, L. Zhu, R. M. Yantosca, M. P. Sulprizio, J. L. Jimenez, P. Campuzano-Jost, K. D. Froyd, J. Liao, J. W. Hair, M. A. Fenn, C. F. Butler, N. L. Wagner, T. D. Gordon, A. Welti, P. O. Wennberg, J. D. Crounse, J. M. St. Clair, A. P. Teng, D. B. Millet, J. P. Schwarz, M. Z. Markovic, and A. E. Perring. Sources, seasonality, and trends of Southeast US aerosol: an integrated analysis of surface, aircraft, and satellite observations with the GEOS-Chem chemical transport model. *Atmospheric Chemistry & Physics*, 15, 10411-10433, doi:10.5194/acp-15-10411-2015, **2015**.
32. Chen, L., Y. Zhang, D.J. Jacob, A.L. Soerensen, **J.A. Fisher**, H.M. Horowitz, E.S. Corbitt, and X. Wang. Differences in decadal trends of atmospheric mercury between the Arctic and northern mid-latitudes suggest a decline in Arctic Ocean mercury. *Geophysical Research Letters*, 42 (14), 6076-6083, doi:10.1002/2015GL064051, **2015**.
33. Zeng, G., J.E. Williams, **J.A. Fisher**, L.K. Emmons, N.B. Jones, O. Morgenstern, J. Robinson, D. Smale, C. Paton-Walsh, and D.W.T. Griffith. Multi-model simulation of CO and HCHO in the Southern Hemisphere: Biogenic emissions and model uncertainties. *Atmospheric Chemistry & Physics*, 15, 7217-7245, doi: 10.5194/acp-15-7217-2015, **2015**.
34. **Fisher, J.A.**, S.R. Wilson, G. Zeng, J.E. Williams, L.K. Emmons, R.L. Langenfelds, P.B. Krummel, and L.P. Steele. Seasonal changes in the tropospheric carbon monoxide profile over the remote Southern Hemisphere evaluated using multi-model simulations and aircraft observations. *Atmospheric Chemistry & Physics*, 15: 3217-3239, doi:10.5194/acp-15-3217-2015, **2015**.
35. Jaffe, D., S. Lyman, H. Amos, and 28 others including **J.A. Fisher**. Viewpoint: Progress on understanding atmospheric mercury hampered by uncertain measurements. *Environmental Science & Technology*, 48 (13): 7204-7206, doi: 10.1021/es5026432, **2014** [editor-reviewed].
36. Breider, T.J., L.M. Mickley, D.J. Jacob, Q. Wang, **J.A. Fisher**, R.Y.-W. Chang, and B. Alexander. Annual distributions and sources of Arctic aerosol components, aerosol optical depth, and aerosol absorption. *Journal of Geophysical Research*, 119 (7): 4107-4124, doi: 10.1002/2013JD020996, **2014**.
37. **Fisher, J.A.**, D.J. Jacob, A.L. Soerensen, H.M. Amos, E.S. Corbitt, D.G. Streets, Q.Wang, R.M. Yantosca and E.M. Sunderland. Factors driving mercury variability in the Arctic atmosphere and ocean over the past thirty years. *Global Biogeochemical Cycles*, 27: 1226-1235, doi: 10.1002/2013GB004689, **2013**.
38. **Fisher, J.A.**, D.J. Jacob, A.L. Soerensen, H.M. Amos, A. Steffen, and E.M. Sunderland. Riverine source of Arctic Ocean mercury inferred from atmospheric observations. *Nature Geoscience*, 5: 499-504, **2012**.
39. Tai, A.P.K., L.J. Mickley, D.J. Jacob, E.M. Leibensperger, L. Zhang, **J.A. Fisher**, and H.O.T. Pye. Meteorological modes of variability for fine particulate matter ($PM_{2.5}$) air quality in the United States: implications for $PM_{2.5}$ sensitivity to climate change. *Atmospheric Chemistry & Physics*, 12: 3131-3145, **2012**.
40. Amos, H.A., D.J. Jacob, C.D. Holmes, **J.A. Fisher**, Q. Wang, R.M. Yantosca, E.S. Corbitt, E. Galarneau, A.P. Rutter, M.S. Gustin, A. Steffen, J.J. Schauer, J.A. Graydon, V.L. St. Louis, R.W. Talbot, E.S. Edgerton, Y. Zhang, and E.M. Sunderland. Gas-particle partitioning of atmospheric Hg(II) and its effect on global mercury deposition. *Atmospheric Chemistry & Physics*, 12: 591-603, **2012**.

41. **Fisher, J.A.**, D.J. Jacob, Q. Wang, R. Bahreini, C.C. Carouge, M.J. Cubison, J.E. Dibb, T. Diehl, J.L. Jimenez, E.M. Leibensperger, Z. Lu, M.B.J. Meinders, H.O.T. Pye, P.K. Quinn, S. Sharma, D.G. Streets, A. van Donkelaar, and R.M. Yantosca. Sources, distribution, and acidity of sulfate-ammonium aerosol in the Arctic in winter-spring. *Atmospheric Environment*, 45: 7301-7318, **2011**.
42. Wang, Q., D.J. Jacob, **J.A. Fisher**, J. Mao, E.M. Leibensperger, C.C. Carouge, P. Le Sager, Y. Kondo, J.L. Jimenez, M.J. Cubison, and S.J. Doherty. Sources of carbonaceous aerosols and deposited black carbon in the Arctic in winter-spring: implications for radiative forcing. *Atmospheric Chemistry & Physics*, 11: 12453-12473, **2011**.
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46. **Fisher, J.A.**, D.J. Jacob, M.T. Purdy, M. Kopacz, P. Le Sager, C. Carouge, C.D. Holmes, R.M. Yantosca, R.L. Batchelor, K. Strong, G.S. Diskin, H.E. Fuelberg, J.S. Holloway, E.J. Hyer, W.W. McMillan, J. Warner, D.G. Streets, Q. Zhang, Y. Wang, S. Wu. Source attribution and interannual variability of Arctic pollution in spring constrained by aircraft (ARCTAS, ARCPAC) and satellite (AIRS) observations of carbon monoxide. *Atmospheric Chemistry & Physics*, 10: 977-996, **2010**.
47. Kopacz, M., D.J. Jacob, **J.A. Fisher**, J.A. Logan, L. Zhang, I.A. Megretskaia, R.M. Yantosca, K. Singh, D.K. Henze, J.P. Burrows, M. Buchwitz, I. Khlystova, W.W. McMillan, J.C. Gille, D.P. Edwards, A. Eldering, V. Thouret, P. Nedelec. Global estimates of CO sources with high resolution by adjoint inversion of multiple satellite datasets (MOPITT, AIRS, SCIAMACHY, TES). *Atmospheric Chemistry & Physics*, 10: 855-876, **2010**.
48. Wang, H. and **J.A. Fisher**. North Polar Frontal Clouds and Dust Storms during Spring and Summer. *Icarus*, 204 (1): 103-113, **2009**.
49. Wang, H., D.J. Jacob, M. Kopacz, D.B.A. Jones, P. Suntharalingham, **J.A. Fisher**, R. Nassar, and S. Pawson. Error correlation between CO2 and CO as constraint for CO2 flux inversions using satellite data. *Atmospheric Chemistry & Physics*, 9: 7313-7323, **2009**.
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51. **Fisher, J.A.**, M.I. Richardson, C.E. Newman, M.A. Szwast, C. Graf, S. Basu, S.P. Ewald, A.D. Toigo, and R.J. Wilson. A Survey of Martian Dust Devil Activity Using Mars Global Surveyor Mars Orbiter Camera Images. *Journal of Geophysical Research-Planets*, 110 (E3): Art. No. E03004, **2005**.

Published Conference Abstracts

52. **Fisher, J.A.**, R. Schofield, and M.S. Long. Future Opportunities in Atmospheric Chemistry-Climate Coupled Modelling in *CAWCR Technical Report No. 080: Coupled Modelling and Prediction: from weather to climate - abstracts of the ninth CAWCR Workshop*, I. Dharssi, D. Bi, G. Brassington, D. Hudson, R. Lorenz, Y.-P. Wang, and K.A. Day (eds), pg. 128-130, **2015**.

Non-Refereed

53. **Fisher, J.** and Nelson, P. Australia's gold industry stamped out mercury pollution – now it's coal's turn. *The Conversation*, 9 February 2021, https://theconversation.com/australias-gold-industry-stamped-out-mercury-pollution-now-its-coals-turn-151202

54. **Fisher, J.** and Emmerson, K. Common products, like perfume, paint and printer ink, are polluting the atmosphere. *The Conversation*, 16 February 2018, https://theconversation.com/common-products-like-perfume-paint-and-printer-ink-are-polluting-the-atmosphere-91914
55. **Fisher, J.** and Wilson, S. Explainer: hydrofluorocarbons saved the ozone layer, so why are we banning them? *The Conversation*, 2 November 2017, https://theconversation.com/explainer-hydrofluorocarbons-saved-the-ozone-layer-so-why-are-we-banning-them-86672
56. **Fisher, J.**, Howard, D., Edwards, G.C., and Nelson, P. Mercury from the northern hemisphere is ending up in Australia. *The Conversation*, 1 October 2017, https://theconversation.com/mercury-from-the-northern-hemisphere-is-ending-up-in-australia-83710
57. McGregor, H. and **Fisher, J.** Please, Donald Trump, don't send climate science back to the pre-satellite era. *The Conversation*, 25 Nov 2016, https://theconversation.com/please-donald-trump-dont-send-climate-science-back-to-the-pre-satellite-era-69358Downes, S. and **Fisher, J.** Positive Interactions with Politicians: Report from Science Meets Parliament 2016. *Bulletin of the Australian Meteorological and Oceanographic Society*, 29: 20-21, 2016.
58. **Fisher, J.A.** Travel Tale: Scientists take to the skies in airborne NASA experiment. *Connect: Research & Innovation News*, p. 12, Nov-Dec 2013 issue, 2013.
59. **Fisher, J.A.** *Doctoral dissertation*: Atmospheric Pollution in the Arctic: sources, transport, and chemical processing, 2011.
60. **Fisher, J.A.** Carbon Monoxide in the Arctic Atmosphere. *POLARCAT - A Unique Snapshot of the Arctic Atmosphere*, 18-19, 2010.
61. **Fisher, J.A.** Analyzing pollution in the Arctic atmosphere. *Earth & Planetary Times*, 1 (1): 1, 3, 2010.
62. Baker, M.A., **J. Fisher**, and L. Rowan. Earth Sciences in the FY 2007 Budget. In *AAAS Report XXXI: Research and Development FY 2007*, 2006.
63. **Fisher, J.** and B. Fisher. The Use of KidSat Images in the Further Pursuit of the Frankincense Roads to Ubar. *IEEE Transactions on Geoscience and Remote Sensing*, 37 (4): 1841-1847, 1999.

SEMINARS & INVITED TALKS

1. "Teaching Programming and Modelling to 1st-Year Undergraduates: Tips and Lessons Learned." University of Wollongong Data and Decision Science Network Seminar, Oct **2022**.
2. "Mercury in the Southern Hemisphere" (co-presented with Larissa Schneider, Saul Guerrero, and Jean Remy Davee Guimaraes). *Minamata Online Season 2*, United Nation Environment Program, Aug **2021**.
3. "Thinking Outside the (Grid) Box: Combining atmospheric chemistry models and observations to understand our atmosphere." *Webinar*, Royal Australian Chemical Institute (RACI) Physical Chemistry Research Webinar Series, Apr **2021**.
4. "Sustainable Planet." *Research Plenary*, University Global Partnerships Network (UGPN) Virtual Conference, Mar **2021**.
5. "Dispatches from Down Under: How Australian observations are teaching us about the Southern Hemisphere atmosphere." *Seminar*, NOAA Chemical Sciences Laboratory, Jul **2020**.
6. "Atmospheric mercury in Australia: recent findings and future research needs." *Mercury Australia Symposium*, Canberra, ACT, Nov **2019**.
7. "Uncertainties in biogenic emissions & chemistry: unanswered questions from another Southeast." *New Insights into Gas-Phase Atmospheric Chemistry*, Telluride Science Research Center, USA, Jul **2018**.
8. "Thinking outside the (grid) box: combining modelling with aircraft observations to understand the nitrogen chemistry of the atmosphere." *Seminar,* National Institute for Water and Air (NIWA), Wellington, New Zealand, Sep **2017**.
9. "Fates of Volatile Organic Compounds in the Presence of (Some) NOx: Implications for the Remote Atmosphere." *Gordon Research Conference on Atmospheric Chemistry*, Newry, Maine, Aug **2017**.
10. "Thinking outside the (grid) box: combining modelling with aircraft observations to understand nitrogen chemistry in the atmosphere." *School of Chemistry Seminar,* University of Sydney, Sydney, NSW, Jun **2017**.
11. "Impacts of organic nitrates on the NOx budget: insights from aircraft observations and chemical transport modeling." *NCAR Atmospheric Chemistry Observations & Modeling Seminar Series*, National Center for Atmospheric Research, Boulder, CO, Apr **2017**.
12. "Impacts of organic nitrates on the NOx budget: insights from aircraft observations." *New Insights on Gas-Phase Atmospheric Chemistry*, Telluride Science Research Center, Telluride, CO, USA, Jul **2016**.

13. "Biogenic chemistry in a region of declining emissions: Insights from the NASA SEAC^{4}RS Campaign." *CSIRO Seminar*, Aspendale, VIC, Jul **2015**.
14. "Thinking outside the (grid) box: Combining models and observations to interpret our changing atmosphere." *QUT Earth, Environmental, and Biological Sciences Seminar*, Brisbane, QLD, Oct **2014**.
15. "What atmospheric chemistry research can tell us about the Earth's surface (and vice versa)." *University of Wollongong GeoQuEST Seminar Series*, Wollongong, NSW, Sep **2014**.
16. "Filling in the gaps: Using models to interpret the Earth's changing atmosphere." *University of Wollongong Budding Ideas Festival*, Wollongong, NSW, May **2014**.
17. "The air from where? Identifying the sources of air pollution to diverse environments." *University of Wollongong Chemistry School Conference*, Nowra, NSW, Nov **2013**.
18. "Distant influences on Australian atmospheric composition." *Atmospheric Chemistry Division Seminar at the National Center for Atmospheric Research (NCAR)*, Boulder, USA, Oct **2013**.
19. "Present-day sources and past variability of mercury in the Arctic atmosphere and ocean." *Lamont-Doherty Earth Observatory* (Fiore Group), New York, USA, Jul **2013**.
20. "Arctic pollution sources and transport: Results from the ARCTAS aircraft mission and beyond." *Atmospheric Science Seminar at Dalhousie University*, Halifax, Canada, Apr **2011**.
21. "Sources of atmospheric and deposited black carbon aerosols in Arctic spring." *International Meeting on Open Burning and the Arctic: Causes, Impacts, and Mitigation Approaches*, St. Petersburg, Russia, Nov **2010**.
22. "Clearing the Haze: constraining the sources and impacts of Arctic air pollution." *EPS Graduate Student / Post-doc Seminar Series*, Cambridge, USA, Oct **2010**.
23. "Tracking pollution in the Arctic atmosphere." *Harvard University Earth and Planetary Sciences Day*, Cambridge, USA, Apr **2009**.

CONFERENCE PRESENTATIONS

1. "Impact of Australian anthropogenic mercury emissions on atmospheric mercury" (on behalf of Stephen MacFarlane). *Mercury Australia Symposium*, Virtual, Dec 2021.
2. "An updated Australian atmospheric mercury budget (plus mercury modelling capabilities)." *Mercury Australia Symposium*, Virtual, Dec 2020.
3. "An updated budget for atmospheric mercury in Australia." *Atmospheric Composition and Chemistry Observations and Modelling Conference incorporating the Cape Grim Annual Science Meeting*, Virtual, Dec 2020.
4. "Atmospheric mercury in Australia: recent findings and future research needs." *Mercury Australia Symposium*, Canberra, Australia, Nov 2019.
5. "Improved understanding of biogenic emissions, chemistry and impacts in Southeast Australia." *Australian Meteorological and Oceanographic Society National Conference*, Sydney, Australia, Feb 2018.
6. "Global distribution of alkyl nitrates (RONO2) and their impacts on reactive nitrogen in remote regions constrained by aircraft observations and chemical transport modeling." *American Geophysical Union Fall Meeting*, New Orleans, Louisiana, USA, Dec 2017.
7. "Teaching programming and modelling skills to first-year earth & environmental science undergraduates: outcomes and lessons learned from a pilot project." *American Geophysical Union Fall Meeting*, New Orleans, Louisiana, USA, Dec 2017.
8. "Alkyl nitrates distribution and impacts constrained by aircraft observations and chemical transport modelling." *Atmospheric Composition and Chemistry Observations and Modelling Conference incorporating the Cape Grim Annual Science Meeting*, Murramarang, Australia, Nov 2017.
9. "Alkyl nitrate impacts on the NOx budget: insights from aircraft observations & GEOS-Chem." *8th International GEOS-Chem Meeting*, Cambridge, Massachusetts, USA, May 2017.
10. "Unexpected decreasing trend in atmospheric formaldehyde in Southeast Australia detected from 20-year record at Wollongong", presented for K. Lieschke. *Australian Meteorological and Oceanographic Society National Conference*, Canberra, Australia, Feb 2017.
11. "Computing and Modelling in 1st-year Earth & Environmental Science." *Australian Meteorological and Oceanographic Society National Conference*, Canberra, Australia, Feb 2017.

12. "Impacts of C1-C3 alkyl nitrates on the NOx budget in remote regions." *Atmospheric Composition and Chemistry Observations and Modelling Conference incorporating the Cape Grim Annual Science Meeting*, Stanley, Australia, Nov 2016.
13. "Intercontinental and interhemispheric influences on Southern Hemisphere tropospheric composition." *Australian Meteorological and Oceanographic Society National Conference*, Melbourne, Australia, Feb 2016. (poster)
14. "Organic nitrate chemistry and its implications for nitrogen budgets: Insights from aircraft and ground-based observations in the Southeast US." *Atmospheric Composition and Chemistry Observations and Modelling Conference incorporating the Cape Grim Annual Science Meeting*, South Durras, Australia, Nov 2015.
15. "Future opportunities in atmospheric chemistry-climate coupled modelling." *CAWCR 9th Annual Workshop, Coupled Modelling and Prediction: From Weather to Climate*. Melbourne, Australia, Oct 2015.
16. "Organic nitrate chemistry in the Southeast US: implications for the NO_X budget." *7th International GEOS-Chem Meeting*, Cambridge, Massachusetts, USA, May 2015.
17. "Organic nitrate chemistry in the Southeast US: implications for nitrogen and aerosol budgets." *SEAC^{4}RS Science Team Meeting*, Pasadena, California, USA, Apr 2015.
18. "Isoprene nitrate chemistry in the Southeast U.S.: Constraints from GEOS-Chem and SEAC^{4}RS." *American Geophysical Union Fall Meeting*, San Francisco, California, USA, Dec 2014.
19. "Seasonal changes in the tropospheric carbon monoxide profile over the remote Southern Hemisphere evaluated using multi-model simulations and aircraft observations." *Atmospheric Composition and Chemistry Observations and Modelling Conference incorporating the Cape Grim Annual Science Meeting*, Melbourne, Australia, Nov 2014.
20. "Using SEAC^{4}RS observations to improve modelling of isoprene chemistry in GEOS-Chem." *SEAC^{4}RS Science Team Meeting*, Boulder, Colorado, USA, Apr 2014. (poster, presented by L. Zhu on my behalf)
21. "Distant influences on Australian atmospheric composition." *Atmospheric Composition and Chemistry Observations and Modelling Conference incorporating the Cape Grim Annual Science Meeting*, Melbourne, Australia, Nov 2013.
22. "Evaluating the influence of interhemispheric transport of Asian emissions on tropospheric composition in the Southern Hemisphere." *Gordon Research Conference in Atmospheric Chemistry*, Vermont, USA, Jul 2013. (poster)
23. "Present-day sources and past variability of mercury in the Arctic atmosphere and ocean." Oral presentation at *Atmospheric Chemistry Colloquium for Emerging Senior Scientists*, New York, USA, Jul 2013.
24. "Drivers of mercury variability in the Arctic atmosphere and surface ocean: impacts of changing climate and emissions." *International Conference on Mercury as a Global Pollutant*, Edinburgh, Scotland, Jul 2013. (poster, presented by A.L. Soerensen on my behalf)
25. "Sources and transport pathways of pollution in Australasia." *6th International GEOS-Chem Meeting*, Cambridge, USA, May 2013. (poster)
26. "Impacts of recent changes in climate and emissions on mercury variability in the Arctic." *6th International GEOS-Chem Meeting*, Cambridge, USA, May 2013.
27. "Sources and Transport Pathways of Carbon Monoxide over Australasia." *Australian Meteorological and Oceanographic Society National Conference*, Melbourne, Australia, Feb 2013.
28. "Sources and Transport Pathways of Carbon Monoxide over Australasia." *Atmospheric Composition Observations and Modelling Conference incorporating the Cape Grim Annual Science Meeting*, Bateman's Bay, Australia, Nov 2012.
29. "Large mercury evasion from the Arctic Ocean in summer: a source from circumpolar rivers?" *International Polar Year 2012: From Knowledge to Action*, Montreal, Canada, Apr 2012.
30. "Sources, chemistry, and deposition of atmospheric mercury in the Arctic". *The 10th International Conference on Mercury as a Global Pollutant*, Halifax, Canada, Jul 2011.
31. "Sources, distribution, and acidity of sulfate-ammonium aerosol in the Arctic in winter-spring". *5th International GEOS-Chem Meeting*, Cambridge, USA, May 2011.
32. "Sources and acidity of sulfate-nitrate-ammonium aerosol in Arctic spring." *International Polar Year Oslo Science Conference*, Oslo, Norway, Jun 2010.
33. "Source attribution and interannual variability of Arctic pollution in spring constrained by aircraft (ARCTAS, ARCPAC) and satellite (AIRS) observations of carbon monoxide." *AGU Fall Meeting*, San Francisco, USA, Dec 2009.

34. “Arctic pollution sources and transport: an integrated analysis of CO from ARCTAS, AIRS and the GEOS-Chem model.” *POLARCAT Workshop*, New Hampshire, USA, Jun 2009.
35. “Constraints on the sources of Arctic CO from AIRS, ARCTAS, and the GEOS-Chem model.” *NASA Sounder Science Team Meeting*, Pasadena, USA, May 2009.
36. “Arctic pollution sources and transport: an integrated analysis of GEOS-Chem capabilities using aircraft and satellite observations.” *4th GEOS-Chem User's Meeting*, Cambridge, USA, Apr 2009.
37. “An analysis of pollution transport events and pollution sources in the Arctic during ARCTAS using aircraft, satellite, and model CO.” *ARCTAS Science Team Meeting*, Virginia, USA, Jan 2009 (poster).
38. “A Survey of Martian Dust Devil Activity Using Mars Global Surveyor Mars Orbiter Camera Images.” *AGU Fall Meeting*, San Francisco, CA Dec 2002 (poster).