NOELLE ECKLEY SELIN

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EDUCATION

Ph.D., Earth and Planetary Sciences, Harvard University (2007)
Atmospheric Chemistry Modeling Group. Thesis title: *Mercury in the Global Atmosphere: Chemistry, Deposition, and Land-Atmosphere Interactions*. Advisor: Prof. Daniel J. Jacob.
M.A., Earth and Planetary Sciences, Harvard University (2000)
B.A., Environmental Science and Public Policy, Harvard University, *magna cum laude* with highest honors (2000)

ACADEMIC AND PROFESSIONAL HONORS

Joseph A. Martore (MIT 1975) Award for Exceptional Contributions to Education in the MIT Institute for Data, Systems and Society (with K. Oye) (2018)
Hans Fischer Senior Fellowship, Technical University of Munich-Institute for Advanced Study (2018-2021)
Best Environmental Policy Paper, *Environmental Science and Technology* (2016)
AAAS Leshner Leadership Institute Public Engagement Fellow (2016-2017)
Best Environmental Policy Paper, *Environmental Science and Technology* (2015)
Kavli Fellow: Invited Participant, U.S. National Academies Kavli Frontiers of Science Symposium (2015)
Esther and Harold E. Edgerton Career Development Professorship, Massachusetts Institute of Technology (2013-2016)
Member, Global Young Academy (2014-2018)
MIT Technology and Policy Program Best Advisor Award, 2013
Leopold Leadership Fellow, 2013
U.S. National Science Foundation CAREER award (Atmospheric Chemistry) (2011-2017)
Invited participant, Atmospheric Chemistry Colloquium for Emerging Senior Scientists (ACCESS X) (2009)
Invited participant, Dissertations Initiative for the Advancement of Climate Change Research (DISCCRS) (2008)
U.S. Environmental Protection Agency Science to Achieve Results (STAR) Graduate Research Fellowship (2005-7)
National Science Foundation Graduate Research Fellowship (2002-5)
Fulbright fellowship, Denmark (2000-1)
Harvard University Sally and Cresap Moore Prize (for energy and enthusiasm for interdisciplinary learning) (2000)
Radcliffe College Elizabeth Cary Agassiz and Josephine L. Murray Traveling Fellowships, Harvard University (2000)

PROFESSIONAL EXPERIENCE

ASSOCIATE PROFESSOR, Massachusetts Institute of Technology, Institute for Data, Systems and Society and Department of Earth, Atmospheric and Planetary Sciences, Cambridge, MA, USA, July 2015-pres. (with tenure as of 2017)
DIRECTOR, Technology and Policy Program, Massachusetts Institute of Technology, Cambridge, MA, USA, September 2018-present.
ASSOCIATE DIRECTOR, Technology and Policy Program, Massachusetts Institute of Technology, Cambridge, MA, USA, September 2015-December 2017.
ASSISTANT PROFESSOR, Massachusetts Institute of Technology, **Engineering Systems Division and Department of Earth, Atmospheric and Planetary Sciences, Cambridge, MA, USA, January 2010-present**
RESEARCH SCIENTIST, Massachusetts Institute of Technology, **Center for Global Change Science and Joint Program on the Science and Policy of Global Change, Cambridge, MA, USA, May 2009-December 2009.**

POSTDOCTORAL ASSOCIATE, Massachusetts Institute of Technology, **Center for Global Change Science and Joint Program on the Science and Policy of Global Change, Cambridge, MA, USA, November 2007-May 2009.**

GRADUATE RESEARCHER, Harvard University, Atmospheric Chemistry Modeling Group, Department of Earth and Planetary Sciences, Cambridge, MA, USA, September 2002-November 2007

TEAM LEADER, WRITER, EDITOR AND ISSUE EXPERT, International Institute for Sustainable Development (IISD), **Earth Negotiations Bulletin and Linkages,** June 2003-December 2005

RESEARCH ASSOCIATE, Harvard Kennedy School, Initiative on Science and Technology for Sustainability, and **MANAGING EDITOR,** Forum on Science and Technology for Sustainability, Cambridge, MA, September 2001-September 2002

FULBRIGHT FELLOW, European Environment Agency and University of Copenhagen, Copenhagen, Denmark, September 2000-September 2001

RESEARCH FELLOW, Harvard Kennedy School, Global Environmental Assessment Project, Cambridge, MA, September 1998-September 2000

ENVIRONMENTAL CAREERS ORGANIZATION ASSOCIATE, **U.S. Environmental Protection Agency,** Office of Pollution Prevention and Toxics, Chemical Control Division, Washington, DC, June 1999-August 1999
Office of International Activities, Washington, DC, June 1998-August 1998, June 1997-August 1997

INTERN, United States Senate, Office of Senator John F. Kerry, Washington, DC, March 1996-June 1996

PUBLICATIONS[1]

Peer-Reviewed Journal Articles [* indicates supervised MIT postdoc or student]

84. *S. Song, *H. Angot, **N. E. Selin**, H. Gallée, F. Sprovieri, N. Pirrone, D. Helmig, J. Savarino, O. Magand, and A. Dommergue. 2018. "Understanding mercury oxidation and air-snow exchange on the East Antarctic Plateau: A modeling study." *Atmospheric Chemistry and Physics*, in press.

83. *H Angot, *N. Hoffman, *A. Giang, C. P. Thackray, A. N. Hendricks, N. R. Urban and **N. E. Selin.** 2018. "Global and Local Impacts of Delayed Mercury Mitigation Efforts." *Environmental Science & Technology*, in press.

82. *A. Giang, *S. Song, M. Muntean, G. Janssens-Maenhout, *A. Harvey, *E. Berg, and **N. E**. **Selin.** 2018. "Understanding factors influencing the detection of mercury policies in modelled Laurentian Great Lakes wet deposition." *Environmental Science: Processes & Impacts,* in press.

81. *B. Brown-Steiner, **N. E. Selin,** R. Prinn, S. Tilmes, L. Emmons, J.-F. Lamarque, and P. Cameron-Smith. 2018. "Evaluating Simplified Chemical Mechanisms within CESM Version 1.2 CAM-chem (CAM4): MOZART-4 vs. Reduced Hydrocarbon vs. Super-Fast Chemistry," *Geosci. Model Dev.* in press.

80. A. J. Jefferson, M. A. Kenney, T. M. Hill and **N. E. Selin**. 2018. "Supporting Engaged Geoscientists: How Universities Can Lead the Way." *Eos*, in press.

79. C. Chen, C. Driscoll, C. Eagles-Smith, C. Eckley, D. Gay, H. Hsu-Kim, S. Keane, J. Kirk, R. Mason, D. Obrist, H. Selin, **N. E. Selin,** M. Thompson. 2018. "A Critical Time for Mercury Science to Inform Global Policy." *Environmental Science and Technology*, 52:9556-9561.

78. *B. Brown-Steiner, **N. E. Selin,** R. G. Prinn, E. Monier, S. Tilmes, L. Emmons, F. Garcia-Menendez. 2018. "Maximizing Ozone Signals Among Chemical, Meteorological, and Climatological Variability." *Atmospheric Chemistry and Physics*, 18:8373-8388.

77. **N. E. Selin.** 2018. "A proposed global metric to aid mercury pollution policy." *Science* 360(6389):607-609.

76. *M. Li, D Zhang, C. T. Li, *K. M. Mulvaney, **N. E. Selin**, and V. J. Karplus. 2018. "Air Quality Co-Benefits of Carbon Pricing in China." *Nature Climate Change*, 8:398-403.

75. M. Muntean, G. Janssens-Maenhout, *S. Song, *A. Giang, **N. E. Selin**, H. Zhong, Y. Zhao, J. G. J. Olivier, D. Guizzardi, M. Crippa, E. Schaaf, F. Dentener. 2018. "Evaluating EDGARv4.tox2 speciated mercury emissions ex-post scenarios and their impacts on modelled global and regional wet deposition patterns." *Atmospheric Environment*, 184:56-68.

74. *S. Y. Kwon, **N. E. Selin**, *A. Giang, V. J. Karplus, D. Zhang. 2018. "Present and Future Mercury Concentrations in Chinese Rice: Insights from Modeling." *Global Biogeochemical Cycles*, 32(3):437-462.

[1] Note: Prior to 2004, publications are under N. Eckley

73. J. A. Perlinger, N. R. Urban, *A. Giang, **N. E. Selin**, A. N. Hendricks, H. Zhang, A. Kumar, S. Wu, V. S. Gagnon, H. S. Gorman, and E. S. Norman. 2018. "Responses of Deposition and Bioaccumulation in the Great Lakes Region to Policy and Other Large-Scale Drivers of Mercury Emission." *Environmental Science: Processes & Impacts*, 20:195-209.

72. D. Obrist, J. Kirk, L. Zhang, E. Sunderland, M. Jiskra, and **N. E. Selin**. 2018. "A review of global environmental mercury processes in response to human and natural perturbations: changes in emissions, climate, and land use." *Ambio*, 47(2):116-140.

71. H. Selin, S. E. Keane, S. Wang, **N.E. Selin**, K. Davis, and D. Bally. 2018. "Linking Science and Policy to Support the Implementation of the Minamata Convention on Mercury." *Ambio*, 47(2):198-215.

70. A. M. Carlton, J. de Gouw, J.L. Jimenez, J. L. Ambrose, A. Attwood, S. Brown, K. R. Baker, C. A. Brock, R.C. Cohen, S. Edgerton, C. Farkas, D. Farmer, A. H. Goldstein, L. Gratz, A. Guenther, S. Hunt, L. Jaeglé, D. A. Jaffe, J. Mak, C. McClure, A. Nenes, T. K.V. Nguyen, J. R. Pierce, S. S. de Sa, **N.E. Selin**, V. Shah, S. Shaw, P. B. Shepson, *S. Song, J. Stutz, J. Surratt, B. J. Turpin, C. Warneke, R. A. Washenfelder, P. O. Wennberg, X. Zhou. 2018. "Synthesis of the Southeast Atmosphere Studies: Investigating fundamental atmospheric chemistry questions." *Bulletin of the American Meteorological Society (BAMS),* 99(3):547-567.

69. *E. Czaika and **N. E. Selin**. 2017. "Model Use in Sustainability Policy Making: An experimental study." *Environmental Modelling and Software*, 98:54-62.

68. *J. Holt, S. Solomon, and **N.E. Selin**. 2017. "Sensitivity of inorganic aerosol radiative effects to U.S. emissions." *Journal of Geophysical Research: Atmospheres*, 122(12):6379-6390.

67. J. Bieser, F. Slemr, J. Ambrose, C. Brenninkmeijer, S. Brooks, A. Dastoor, F. DeSimone, R. Ebinghaus, C. Gencarelli, B. Geyer, L. E. Gratz, I. M. Hedgecock, D. Jaffe, P. Kelley, C.-J. Lin, V. Matthias, A. Ryjkov, **N.E. Selin**, *S. Song, O. Travnikov, A. Weigelt, W. Luke, X. Ren, A. Zahn, X. Yang, Y. Zhu, and N. Pirrone. 2017. "Multi-model study of mercury dispersion in the atmosphere: Vertical distribution of mercury species." *Atmospheric Chemistry and Physics*, 17:6925–6955.

66. O. Travnikov, H. Angot, P. Artaxo, M. Bencardino, J. Bieser, F. D'Amore, A. Dastoor, F. De Simone, M. del Carmen Diéguez, A. Dommergue, R. Ebinghaus, X. Feng, C.N. Gencarelli, I.M. Hedgecock, O. Magand, L. Martin, V. Matthias, N. Mashyanov, N. Pirrone, R. Ramachandran, K.A. Read, A. Ryjkov, **N. E. Selin**, F. Sena, *S. Song, F. Sprovieri, D. Wip, I. Wängberg, and X. Yang. 2017. "Multi-model study of mercury dispersion in the atmosphere: Atmospheric processes and model evaluation." *Atmospheric Chemistry and Physics*, 17:5271-5295.

65. *F. Garcia-Menendez, E. Monier, and **N. E. Selin**. 2017. "The role of natural variability in projections of climate change impacts on U.S. ozone pollution." *Geophysical Research Letters*, 44(6):2911-21.

64. *C. P. Thackray and **N. E. Selin**. 2017. "Uncertainty and variability in atmospheric formation of PFCAs from fluorotelomer precursors." *Atmospheric Chemistry and Physics*, 17:4585-4597.

63. **N. E. Selin,** *L. C. Stokes, and L. Susskind. 2017. "The need to build policy literacy into climate science education." *WIREs Climate Change* 8(3), e455.

62. *R. K. Saari, *T. M. Thompson, and **N. E. Selin**. 2017. "Human Health and Economic Impacts of Ozone Reductions by Income Group." *Environmental Science and Technology*, 51(4):1953-1961.

61. *R. D. Collins, **N. E. Selin**, O. L. de Weck, and W. C. Clark. 2017. "Using Inclusive Wealth for Policy Evaluation: Application to Electricity Infrastructure Planning in Oil-Exporting Countries." *Ecological Economics* 133:23-34.

60. L. E. Gratz, J. L. Ambrose, D. A. Jaffe, C. Knote, L. Jaeglé, **N. E. Selin**, T. Campos, F. M. Flocke, M. Reeves, D. Stechman, M. Stell, A. J. Weilheimer, D. J. Knapp, D. D. Montzka, G. S. Tyndall, R. L. Mauldin III, C. A. Cantrell, E. C. Apel, R. S. Hornbrook, N. J. Blake. 2016. "Airborne Observations of Mercury Emissions from the Chicago/Gary Urban/Industrial Area during the 2013 NOMADSS Campaign." *Atmospheric Environment*, 145:415-423.

59. H. Angot, A. Dastoor, F. De Simone, K. Gårdfeldt, C. N. Gencarelli, I. M. Hedgecock, S. Langer, O. Magand, M. N. Mastromonaco, C. Nordstrøm, K. A. Pfaffhuber, N. Pirrone, A. Ryjkov, **N. E. Selin**, H. Skov, *S. Song, F. Sprovieri, A. Steffen, K. Toyota, O. Travnikov, X. Yang, and A. Dommergue. 2016. "Chemical cycling and deposition of atmospheric mercury in Polar Regions: review of recent measurements and comparison with models." *Atmospheric Chemistry and Physics*, 16:10735-10763.

58. *P. J. Wolfe, *A. Giang, A. Ashok, **N. E. Selin** and S. R. H. Barrett. 2016. "Costs of IQ Loss from Leaded Aviation Gasoline Emissions." *Environmental Science and Technology* 50(17):9026-9033.

57. **N. E. Selin.** 2016. "Teaching and Learning from Environmental Summits: COP-21 and Beyond." *Global Environmental Politics*, 16(3):31-40.

56. *T. M. Thompson, S. Rausch, *R.K. Saari, and **N.E. Selin.** 2016. "Air Quality Co-Benefits of Sub-National Carbon Policies." *Journal of the Air and Waste Management Association*, 66(10):988-1002.

55. *E. Czaika and **N.E. Selin**. 2016. "Taking Action to Reduce Waste: Quantifying Impacts of Model Use in a Multi-organizational Sustainability Negotiation." *Negotiation and Conflict Management Research*, 9:237–255.

54. *S. Y. Kwon and **N.E. Selin**. 2016. "Uncertainties in Atmospheric Mercury Modeling for Policy Evaluation." *Current Pollution Reports* 2(2):103-114.

53. *S. Song. **N.E. Selin,** L. E. Gratz, J. L. Ambrose, D. A. Jaffe, V. Shah, L. Jaeglé, A. Giang, B. Yuan, L. Kaser, E. C. Apel, R. S. Hornbrook, N. J. Blake, A. J. Weinheimer, R. L. Mauldin III, C. A. Cantrell, M. S. Castro, G. Conley, T. M. Holsen, W. T. Luke, R. Talbot. 2016. "Constraints from Observations and Modeling on Atmosphere-Surface Exchange of Mercury in Eastern North America." *Elementa: Science of the Anthropocene.* 4: 000100.

52. *C. L. Friedman and **N.E. Selin**. 2016. "PCBs in the Arctic atmosphere: determining important driving forces using a global atmospheric transport model." *Atmospheric Chemistry and Physics*, 16:3433-3448.

51. *L. Stokes, *A. Giang and **N.E. Selin**. 2016. "Splitting the South: China and India's Divergence in International Environmental Negotiations," *Global Environmental Politics* 16(4):12-31.

50. V. Shah, L. Jaeglé, L. E. Gratz, J. L. Ambrose, D.A. Jaffe, **N.E. Selin**, *S. Song, T. L. Campos, F. M. Flocke, M. Reeves, D. Stechman, M. Stell, J. Festa, J. Stutz, A. J. Weinheimer, D. J. Knapp, D. D. Montzka, G. S. Tyndall, E. C. Apel, R. S. Hornbrook, A. J. Hills, D. D. Riemer, N.J. Blake, C. A. Cantrell, and R. L. Mauldin III. 2016. "Origin of oxidized mercury in the summertime free troposphere over the southeastern U.S." *Atmospheric Chemistry and Physics,* 16:1511-1530.

49. *A. Giang and **N. E. Selin**. 2016. "Benefits of Mercury Controls for the United States." *Proceedings of the National Academy of Sciences (PNAS)*, 113(2): 286-91.

48. *L. C. Stokes and **N. E. Selin**. 2016. "The Mercury Game: Evaluating a Negotiation Simulation that Teaches Students about Science-Policy Interactions." *Journal of Environmental Studies and Sciences*, 6:597.

47. L.E. Gratz, J.L. Ambrose, D.A. Jaffe, V. Shah, L. Jaeglé, J.Stutz, J. Festa, M. Spolaor, C. Tsai, **N.E. Selin**, *S. Song, X. Zhou, A.J. Weinheimer, D.J. Knapp, D.D. Montzka, F.M. Flocke, T.L. Campos, E. Apel, R. Hornbrook, N.J. Blake, S. Hall, G.S. Tyndall, M. Reeves, D. Stechman, M. Stell. 2015. "Oxidation of mercury by bromine in the subtropical Pacific free troposphere." *Geophysical Research Letters*, 42(23):10,494-10,502.

46. *C. P. Thackray, *C. L. Friedman, Y. Zhang and **N. E. Selin**. 2015. "Quantitative assessment of parametric uncertainty in Northern hemisphere PAH concentrations." *Environmental Science and Technology*, 49(15):9185-9193.

45. *S. Song, **N. E. Selin**, A. L. Soerensen, H. Angot, R. Artz, S. Brooks, E.-G. Brunke, G. Conley, A. Dommergue, R. Ebinghaus, T. M. Holsen, D. A. Jaffe, S. Kang, P. Kelley, W. T. Luke, O. Magand, K. Marumoto, K. A. Pfaffhuber, X. Ren, G.-R. Sheu, F. Slemr, T. Warneke, A. Weigelt, P. Weiss-Penzias, D. C. Wip and Q. Zhang. 2015. "Top-down constraints on atmospheric mercury emissions and implications for global biogeochemical cycling." *Atmospheric Chemistry and Physics* 15:7103-7125.

44. *F. Garcia-Menendez, *R. K. Saari, E. Monier, and **N. E. Selin**. 2015. "U.S. air quality and health benefits from avoided climate change under greenhouse gas mitigation." *Environmental Science and Technology,* 49:7580–7588.

43. *A. Giang, *L. C. Stokes, D. G. Streets, E. S. Corbitt, and **N. E. Selin**. 2015. "Impacts of the Minamata Convention on mercury emissions and global deposition from coal-fired power generation in Asia." *Environmental Science and Technology* 49, 5326-5335.

42. *J. Holt, **N. E. Selin**, and S. Solomon. 2015. "Changes in inorganic fine particulate matter sensitivities to precursors due to large-scale US emissions reductions." *Environmental Science and Technology* 49(8):4384-4841.

41. P. Weiss-Penzias, H. M. Amos, **N.E. Selin**, M. S. Gustin, D. A. Jaffe, D. Obrist, G. R. Sheu, and *A. Giang. 2015. "Use of a global model to understand speciated atmospheric mercury observations at five high-elevation sites." *Atmospheric Chemistry and Physics* 15:1161-1173.
40. *R.K. Saari, **N.E. Selin**, S. Rausch and *T.M. Thompson. 2015. "A self-consistent method to assess air quality co-benefits from US climate policies." *Journal of the Air and Waste Management Association*, 65(1):74-89.
39. *T. M. Thompson, S. Rausch, *R. K. Saari, and **N. E. Selin**. 2014. "A Systems Approach to Evaluating the Air Quality Co-Benefits of U.S. Carbon Policies." *Nature Climate Change* 4:917-923.
38. M. Muntean, G. Janssens-Maenhout, *S. Song, **N. E. Selin**, J. G. J. Olivier, D. Guizzardi, R. Maas and F. Dentener. 2014. "Trend analysis from 1970 to 2008 and model evaluation of EDGARv4 global gridded anthropogenic mercury emissions." *Science of the Total Environment*, 494-495:337-350.
37. *C.L. Friedman, J. Pierce, and **N. E. Selin.** 2014. "Assessing the influence of secondary organic versus primary carbonaceous aerosols on long-range atmospheric PAH transport." *Environmental Science and Technology* 48:3293-3302.
36. C. Lamborg, K. Bowman, C. Hammerschmidt, C. Gilmour, **N. E. Selin**, and C-M. Tseng. 2014. "Mercury in the Anthropocene Ocean." *Oceanography*, 27(1):26-87.
35. *C. L. Friedman, Y. Zhang and **N. E. Selin**. 2014. "Climate change and emissions impacts on atmospheric PAH transport to the Arctic." *Environmental Science and Technology 48:*429-437.
34. *T. M. Thompson, *R. Saari, and **N. E. Selin**. 2014. "Air quality resolution for health impacts assessment: influence of regional characteristics." *Atmospheric Chemistry and Physics,* 14:969-978.
33. **N. E. Selin**, 2014. Global Change and Mercury Cycling: Challenges for Implementing a Global Mercury Treaty. *Environmental Toxicology and Chemistry,* 33(6):1202-1210.
32. E. M. Sunderland and **N. E. Selin.** 2013. "Future trends in environmental mercury concentrations: Implications for prevention strategies." *Environmental Health,* 12(2).
31. J. Reilly, S. Paltsev, K. Strzepek, **N. E. Selin**, Y. Cai, K. M. Nam, E. Monier, S. Dutkiewicz, J. Scott, M. Webster, and A. Sokolov. 2013. "Valuing Climate Impacts in Integrated Assessment Models: The MIT IGSM." *Climatic Change*, 117:561-573.
30. K. F. Lambert, D. C. Evers, K. A. Warner, S. L. King, L. Levin, and **N. E. Selin**. 2012. "Integrating Mercury Science and Policy in the Marine Context: Challenges and Opportunities." *Environmental Research*, 119:132-142.
29. *T. M. Thompson and **N. E. Selin**. 2012. "Influence of Air Quality Model Resolution on Uncertainty Associated with Health Impacts." *Atmospheric Chemistry and Physics*, 12:9753-9762.
28. *C.L. Friedman and **N.E. Selin**. 2012. "Long-range transport of polycyclic aromatic hydrocarbons: A global 3-D model analysis." *Environmental Science and Technology* 46:9501-9510.
27. K. Matus, *K. M. Nam, **N. E. Selin**, L. N. Lamsal, J. M. Reilly and S. Paltsev, 2012. "Health Damages from Air Pollution in China." *Global Environmental Change*, 22(1):55-66.
26. **N.E. Selin**. 2011. "Science and Strategies to Reduce Mercury Risks: A Critical Review." *Journal of Environmental Monitoring,* 13:2389-2399.
25. *K. M. Nam, **N.E. Selin,** J. M. Reilly, and S. Paltsev. 2010. "Measuring welfare loss caused by air pollution in Europe: A CGE Analysis." *Energy Policy,* 38(9):5059-5071.
24. **N.E. Selin,** E. M. Sunderland, C. D. Knightes, and R. P. Mason. 2010. "Sources of mercury exposure for U.S. seafood consumers: Implications for policy." E*nvironmental Health Perspectives,* 118(1):137-143.
23. **N.E. Selin**, S. Wu, K.M. Nam, J.M. Reilly, S. Paltsev, R. Prinn and M.D. Webster. 2009. "Global health and economic impacts of future ozone pollution." *Environmental Research Letters*, 044014.
22. **N.E. Selin**, 2009. "Global Biogeochemical Cycling of Mercury: A Review." *Annual Review of Environment and Resources*, 34:43-63.
21. O.R. Bullock Jr., D. Atkinson, T. Braverman, K. Civerolo, A. Dastoor, D. Davignon, J-Y. Ku, K. Lohman, T. Myers, R. Park, C. Seigneur, **N.E. Selin**, G. Sistla, and K. Vijayaraghavan. 2009. "An analysis of simulated wet deposition of mercury from the North American Mercury Model Intercomparison Study (NAMMIS)." *Journal of Geophysical Research-Atmospheres*, 114:D08301.

20. S. Strode, L. Jaeglé and **N.E. Selin**. 2009. "Impact of mercury emissions from historical gold and silver mining: Global modeling." *Atmospheric Environment*, 43(12):2012-2017.

19. O.R. Bullock Jr., D. Atkinson, T. Braverman, K. Civerolo, A. Dastoor, D. Davignon, J-Y. Ku, K. Lohman, T. Myers, R. Park, C. Seigneur, **N.E. Selin**, G. Sistla, and K. Vijayaraghavan. 2008. "The North American Mercury Model Intercomparison Study (NAMMIS). Study description and model-to-model comparisons." *Journal of Geophysical Research-Atmospheres*, 113: D17310.

18. **N.E. Selin** and D.J. Jacob. 2008. "Seasonal and spatial patterns of mercury wet deposition in the United States: Constraints on the contribution from North American anthropogenic sources" *Atmospheric Environment*, 42: 5193-5204.

17. **N.E. Selin**, D.J. Jacob, R.M. Yantosca, S. Strode, L. Jaeglé, and E.M. Sunderland. 2008. "Global 3-D land-ocean-atmosphere model for mercury: present-day versus pre-industrial cycles and anthropogenic enrichment factors for deposition," *Global Biogeochemical Cycles,* 22:GB2011.

16. H. Selin and **N.E. Selin.** 2008. "The Role of Indigenous Peoples in International Environmental Cooperation: Arctic Management of Toxic Substances." *Review of European Community and International Environmental Law*, 17(1):72-83.

15. S. Strode, L. Jaeglé, D.A. Jaffe, P.C. Swartzendruber, **N.E. Selin**, C. Holmes, and R.M. Yantosca. 2008. "Trans-Pacific transport of mercury." *Journal of Geophysical Research Atmospheres,* 113:D15305.

14. E. M. Sunderland, M. Cohen, **N.E. Selin,** and G.L. Chmura. 2008. "Reconciling models and measurements to assess trends in atmospheric mercury deposition." *Environmental Pollution,* 156:526-535.

13. **N.E. Selin**, D.J. Jacob, R.J. Park, R.M. Yantosca, S. Strode, L. Jaeglé and D. Jaffe, 2007. "Chemical cycling and deposition of atmospheric mercury: Global constraints from observations." *Journal of Geophysical Research-Atmospheres*, 112:D02308.

12. S. Strode, L. Jaeglé, **N.E. Selin**, D.J. Jacob, R.J. Park, R.M. Yantosca, R.P. Mason, and F. Slemr, 2007. Air-Sea Exchange in the Global Mercury Cycle. *Global Biogeochemical Cycles*, 21:GB1017.

11. **N.E. Selin** and H. Selin. 2006. "Global Politics of Mercury Pollution: The Need for a Multi-Scale Approach." *Review of European Community and International Environmental Law* 15(3):258-269

10. P.C. Swartzendruber, D.A. Jaffe, E.M. Prestbo, P. Weiss-Penzias, **N.E. Selin**, R. Park, D. Jacob, S. Strode, and L. Jaeglé, 2006. "Observations of Reactive Gaseous Mercury in the Free-Troposphere at the Mt. Bachelor Observatory." *Journal of Geophysical Research-Atmospheres*, 111:D24301.

9. **N.E. Selin**. 2005. "Mercury Rising: Is Global Action Needed To Protect Human Health and the Environment?" *Environment* 47(1):22-35.

8. **N. Eckley** and H. Selin. 2004. "All Talk, Little Action: Precaution and its Effects on European Chemicals Regulation." *Journal of European Public Policy* 11:1 February 2004, 78-105.

7. D. Cash, W. Clark, F. Alcock, N. Dickson, **N. Eckley**, D. Guston, J. Jäger, and R.Mitchell. 2003. "Knowledge Systems for Sustainable Development." *Proceedings of the National Academy of Sciences (PNAS)* 100(14):8086-8091.

6. B. L. Turner II, R. E. Kasperson, P. Matson, J. J. McCarthy, R. W. Corell, L. Christensen, **N. Eckley**, J. X. Kasperson, A. Luers, M. L. Martello, C. Polsky, A. Pulsipher, and A. Schiller. 2003. "A Framework for Vulnerability Analysis in Sustainability Science." *Proceedings of the National Academy of Sciences (PNAS)* 100(14):8074-8079.

5. B. L. Turner II, P.A. Matson, J. J. McCarthy, R. W. Corell, L. Christensen, **N. Eckley**, G. Hovelsrud-Broda, J. X. Kasperson, R. E. Kasperson, A. Luers, M. L. Martello, S. Mathiesen, R. Naylor, C. Polsky, A. Pulsipher, A. Schiller, H. Selin, and N. Tyler. 2003. "Illustrating the Coupled Human-Environment System for Vulnerability Analysis: Three Case Studies." *Proceedings of the National Academy of Sciences (PNAS)* 100(14):8080-8085.

4. H. Selin and **N. Eckley**. 2003. "Science, Politics, and Persistent Organic Pollutants: Scientific Assessments and their Role in International Environmental Negotiations." *International Environmental Agreements: Politics, Law and Economics* 3(1):17-42.

3. **N. Eckley**. 2002. "Dependable Dynamism: Lessons for Designing Scientific Assessment Processes in Consensus Negotiations." *Global Environmental Change* 12:15-23.

2. **N. Eckley**. 2001. "Traveling Toxics: The Science, Policy, and Management of Persistent Organic Pollutants." *Environment* 43(7):24-36.

1. B. D. Rodan, D. W. Pennington, **N. Eckley**, and R. S. Boethling. 1999. "Screening for Persistent Organic Pollutants: Techniques to Provide a Scientific Basis for POPs Criteria in International Negotiations." *Environmental Science and Technology* 33:3482-3488.

Other Journal Articles, Reviews, Reports, and Commentaries

N. E. Selin, M. A. Kenney, A. J. Jefferson, J. S. Dukes, T. M. Hill, L. Schmitt Olabisi, and M. A. Duffy. "Call for New AAAS Harassment Policy." *Science* (Letter), forthcoming, doi: 10.1126/science.aav1680.

N. E. Selin and S. Y. Kwon. 2018. "Another problem with China's coal: Mercury in Rice." *The Conversation,* 3 May. https://theconversation.com/another-problem-with-chinas-coal-mercury-in-rice-92974

H. Hsu-Kim, C. Eckley and **N. E. Selin.** 2018. "Modern science of a legacy problem: mercury biogeochemical research after the Minamata Convention." *Environmental Science: Processes and Impacts* 20:582-583 (Editorial).

N. E. Selin, 2018. "Anthropogenic Enrichment of mercury greater than that of vanadium." *Proceedings of the National Academy of Sciences (PNAS)* (Letter), doi:10.1073/pnas.1722284115

J. Perlinger, H. Gorman, E. Norman, D. Obrist, **N. E. Selin**, N. Urban, and S. Wu. 2016. "Measurement and Modeling of Atmosphere-Surface Exchangeable Pollutants (ASEPs) to Better Understand their Environmental Cycling and Planetary Boundaries." (Viewpoint). *Environmental Science and Technology,* 50, 8932-8934.

N. E. Selin and *A. Giang. "Are tighter EPA controls on mercury pollution worth it?" 2016. *The Conversation*, 9 February. https://theconversation.com/are-tighter-epa-controls-on-mercury-pollution-worth-it-53551

M. S. Gustin, D. C. Evers, M. S. Bank, C. R. Hammerschmidt, A. Pierce, N. Basu, J. Blum, P. Bustamante, C. Chen, C. T. Driscoll, M. Horvat, D. Jaffe, J. Pacyna, N. Pirrone, and **N.E. Selin**. 2016. "Importance of Integration and Implementation of Emerging and Future Research into the Minamata Convention." (Viewpoint) *Environmental Science and Technology* 50:2767-2770.

N. E. Selin. "Why new U.S. ozone standards aren't enough to protect health and the environment." 2015. *The Conversation,* 6 October. https://theconversation.com/are-tighter-epa-controls-on-mercury-pollution-worth-it-53551

N. E. Selin. "The not-so-invisible damage from VW diesel cheat: $100 million in health costs." 2015. *The Conversation*, 29 September. https://theconversation.com/the-not-so-invisible-damage-from-vw-diesel-cheat-100-million-in-health-costs-48296

D. A. Jaffe, S. Lyman, H. M. Amos, M. S. Gustin, J. Huang, **N. E. Selin**, L. Levin, A. ter Schure, R. P. Mason, R. Talbot, A. Rutter, B. Finley, L. Jaeglé, V. Shah, C. McClure, J. Ambrose, L. Gratz, S. Lindberg, P. Weiss-Penzias, G. R. Sheu, D. Feddersen, M. Horvat, A. Dastoor, A. J. Hynes, H. Mao, J. E. Sonke, F. Slemr, J. A. Fisher, R. Ebinghaus, Y. Zhang and G. Edwards. 2014. "Progress on understanding mercury hampered by uncertain measurements" (Viewpoint). *Environmental Science and Technology*, 48(13):7204-7206.

N. E. Selin, "The Roads from Rio: Lessons Learned from Twenty Years of Multilateral Environmental Negotiations [book review]". Review of Policy Research 30(5):605-607, 2013.

N. E. Selin, "Carbon Offset," Encyclopaedia Britannica, 2010.

N. E. Selin, "Carbon Footprint," Encyclopaedia Britannica, 2010.

N. E. Selin, "The Politics of Climate and Environmental Change: Viewpoints and Cases." (Book Review) Review of Policy Research 27(5), 662-666, 2010.

N. E. Selin, "Carbon Sequestration," Encyclopaedia Britannica, 2009.

N. E. Selin, "Atmospheric Brown Cloud," Encyclopaedia Britannica, 2009.

N. E. Selin, "Wind Power," Encyclopaedia Britannica, 2008.

N. E. Selin, "Tidal Power," Encyclopaedia Britannica, 2008.

Jaeglé, L., D. J. Jacob, S.A. Strode, and **N.E. Selin**. "The GEOS-Chem Model." Chapter in: N. Pirrone and R. Mason, eds. Mercury Fate and Transport in the Global Atmosphere: Measurements, Models and Policy Implications. Interim Report of the UNEP Global Mercury Partnership Mercury Air Transport and Fate Research partnership area. United Nations Environment Programme, 14 July 2008.

N. E. Selin, "Alternative Energy," Encyclopaedia Britannica, 2008.

H. Selin and **N. E. Selin**. "State Must Push Feds to Get Tough on Mercury Pollution." San Jose Mercury News (op-ed), 19 July 2007.

J. J. McCarthy and M. L. Martello, et al. (**N. E. Selin**, Contributing Author) "Climate Change in the Context of Multiple Stressors and Resilience." Chapter 17 in Arctic Climate Impact Assessment (ACIA), 2004.

N. Eckley. and H. Selin. "The Arctic at Risk from Pollution: Arctic Pollution 2002." *Environment* (Report Review) 45(7):37-40, 2003.

N. Eckley. "The Precautionary Principle in the 20th Century: Late Lessons from Early Warnings." (Book Review) *Environment* 45(3):34, 2003.

B. D. Rodan, D. W. Pennington, **N. Eckley**, and R. S. Boethling. 2002. "The Addition of Chemicals—A Living Agreement." Chapter 9 in: B. D. Rodan, ed. The Foundation for Global Action on Persistent Organic Pollutants: A United States Perspective. Washington, D.C.: U.S. Environmental Protection Agency, Office of Research and Development. EPA/600/P-01/003F, NCEA-I-1200. March.

N. Eckley. "Designing Effective Assessments: The Role of Participation, Science and Governance, and Focus." Report from a Workshop Co-organized by the Global Environmental Assessment Project and the European Environment Agency, 1-3 March 2001. Expert's Corner, Environmental Issue Report No. 26. Copenhagen, Denmark: European Environment Agency. Also published as Research and Assessment Systems for Sustainability Program Discussion Paper 2001-16. Cambridge, MA: Environment and Natural Resources Program, Belfer Center for Science and International Affairs, Kennedy School of Government, Harvard University, 2001.

B. D. Rodan, **N. Eckley**, and R. S. Boethling. "International Action on Persistent Organic Pollutants: Developing Science-Based Screening Criteria." Proceedings of the Subregional Awareness Raising Workshop on Persistent Organic Pollutants (POPs). Cartagena, Colombia: Inter-Organization Programme for the Sound Management of Chemicals (IOMC), 27-30 January 1998, pp. 75-83.

Book Chapters

6. E. Saikawa and **N. E. Selin.** "The Impact of China's Vehicle Emission Regulations on Regional Air Quality and Welfare in 2020." Chapter in: D-C. Shin, ed. Hazardous Air Pollutants: Case Studies from Asia. CRC Press, 2016, p. 151-168.

5. R. D. Collins,* V.Sakhrani,* **N. E. Selin**, A. Alsaati, and K. M. Strzepek. "Using inclusive wealth for policy evaluation: the case of infrastructure capital," Chapter 8 in: UNU-IHDP and UNEP (2014). *Inclusive Wealth Report 2014. Measuring progress toward sustainability.* Cambridge: Cambridge University Press.

4. **N.E. Selin**, "Atmospheric Chemistry, Modeling and Biogeochemistry of Mercury." 2012. Book chapter in: M.S. Bank, ed. *Mercury in the Environment: Pattern and Process.* Berkeley, CA: University of California Press.

3. L. Jaeglé, S.A. Strode, **N.E. Selin**, and D.J. Jacob**.** 2009. "The GEOS-Chem model." Book chapter in: N. Pirrone and R. Mason, eds. *Mercury Fate and Transport in the Global Atmosphere*. New York: Springer.

2. **N.E. Selin**. 2006. "From Regional to Global Information: Assessment of Persistent Organic Pollutants (POPs)." Book chapter in: Ronald B. Mitchell, William C. Clark, David W. Cash, and Frank Alcock, eds. *Global Environmental Assessments: Information, Institutions, and Influence.* Cambridge, MA: MIT Press.

1. **N.E. Selin**. 2005. "Applying Assessment Lessons to New Challenges: Sulfur and POPs." Book chapter in: Alex Farrell and Jill Jäger, eds. *Assessments of Regional and Global Environmental Risks: Designing Processes for the Effective Use of Science in Decisionmaking.* Washington, DC: Resources for the Future.

INVITED LECTURES (since 2010)

ACM/IEEE 21st International Conference on Model Driven Engineering Languages and Systems (MODELS), Copenhagen, Denmark (October 2018); Swiss Federal Institute of Aquatic Science and Technology (EAWAG) (September 2018); Technical University of Munich-Institute for Advanced Study Annual meeting (June 2018); Libby Lecture in Natural Resource Policy, University of Maine (April 2018); Stockholm University, Analytical Chemistry and Environmental Sciences Seminar (February 2018); Linköping University, Sweden, Higher Seminar (with H. Selin, February 2018); Stockholm Resilience Centre (January 2018); University of Geneva, Switzerland/UN Environment

(September 2017); American Chemical Society (San Francisco, CA, April 2017); MIT 40th Global Change Forum (Washington, DC, March 2017); American Geophysical Union Fall Meeting (San Francisco, CA, December 2016); Harvard University Atmospheric Chemistry Seminar Series (Cambridge, MA, October 2016); Weston Roundtable, University of Wisconsin-Madison (September 2016); Lamont-Doherty Earth Observatory, Columbia University (October 2016); University of Tokyo, Graduate School of Frontier Sciences (Tokyo, Japan, March 2016); Nicholas School of the Environment, Duke University (Durham, NC, November 2015); Norma Slepecky Memorial Lecture, Syracuse University (Syracuse, NY, April 2015); Tufts University Environmental and Water Resources Engineering Seminar (Medford, MA, April 2015); The Civic Series (Cambridge, MA, January 2015); National Conference on Science and the Environment (Washington, DC, January 2015); American Geophysical Union Fall Meeting (San Francisco, CA, December 2014); Michigan Technological University (Houghton, MI, November 2014); Gordon Conference on Oceans and Human Health (Biddeford, ME, June 2014); Institute for Chemical and Bioengineering, Swiss Federal Institute of Technology (ETH) (Zurich, Switzerland, May 2014); Laboratoire de Glaciologie et Géophysique de l'Environnement (Grenoble, France, May 2014); Carnegie Mellon University, Center for Climate and Energy Decision-Making Seminar (Pittsburgh, PA, December 2013); Boston University Biogeochemistry Seminar (Boston, MA, November 2013); Society for Environmental Toxicology and Chemistry/National Institute for Minamata Disease Symposium (Kumamoto, Japan, October 2013); MIT Honorary Women's League (Cambridge, MA, October 2013); All-School Meeting, Kaleidoscope Program, Phillips Academy (Andover, MA, October 2013); MIT Sociotechnical Systems Research Center seminar, (Cambridge, MA, September 2013); University of New Hampshire Environmental Sciences Seminar Series, (Durham, NH, September 2013); University of Copenhagen (Copenhagen, Denmark, May 2013); Stockholm University, Lectures in Contaminant Science (Stockholm, Sweden, May 2013); U.S. Environmental Protection Agency (Region I), Asian American and Pacific Islander Program, Regional Science Council, Office of Civil Rights and Urban Affairs (Boston, MA, May 2013); Boston University, Pardee House Seminar (Boston, MA, February 2013); Boston University School of Public Health, Gijs van Seventer Environmental Health Seminar, (Boston, MA, January 2013); Cornell University, Biogeochemistry Seminar Series (Ithaca, NY, November 2012); MIT Program on Atmospheres, Oceans and Climate annual retreat (Yarmouth, MA, October 2012); University of Connecticut, Marine Sciences Seminar Series (Groton, CT, September 2012); Metcalf Institute 14th Annual Science Immersion Workshop for Journalists, University of Rhode Island Graduate School of Oceanography, (Narragansett, RI, June 2012); Harvard University, China's Leaders in Development Executive Training Program, (Cambridge, MA, May 2012); Georgetown University, Public Health in Asia Lecture Series (Washington, D.C, April 2012); King Abdullah University of Science and Technology (KAUST), (Jeddah, Saudi Arabia, March 2012); Global Change Conference, Instituto Techologico Vale (Belem, Brazil, March 2012); Harvard University, Atmospheric Chemistry Seminar Series (Cambridge, MA, December 2011); Invited oral presentation at American Geophysical Union Fall Meeting (San Francisco, CA, December 2011); Invited oral presentation at Society of Environmental Toxicology and Chemistry (SETAC) North America meeting (Boston, MA, November 2011); Dalhousie University, Department of Physics and Atmospheric Science (Halifax, NS, Canada, July 2011); Boston Museum of Science (Boston, MA, April 2011); Transportation@MIT Seminar Series (Cambridge, MA, March 2011); MIT Technology and Policy Program IAP Seminar Series (Cambridge, MA, January 2011); Woods Hole Oceanographic Institution, Marine Chemistry and Geochemistry Seminar (Woods Hole, MA, September 2010); 2010 International Mercury Expo, College of William and Mary (Williamsburg, VA, April 2010); Marine and Atmospheric Seminar Series, University of Rhode Island (Narragansett, RI, April 2010).

CONFERENCE AND WORKSHOP PRESENTATIONS (since 2010)

Workshop on "Ecological Modernization," Technical University of Munich (October 2018); Dagstuhl seminar "Modeling for Sustainability," Wadern, Germany (August 2018); Saltsjöbaden VI: Clean Air for a Sustainable Future – Goals and Challenges, Gothenburg, Sweden (March 2018); Global Observation System for Mercury (GOS4M) GEO Flagship planning meeting (via webinar, October 2017); 13th International Conference on Mercury as a Global Pollutant (Providence, RI, July 2017); IGAC Atmospheric Chemistry Conference (Breckenridge, CO, October 2016); American Geophysical Union Fall Meeting (San Francisco, CA, December 2015); Gordon Conference, Atmospheric Chemistry [poster] (Waterville Valley, NH, July 2015); 7th International GEOS-Chem Meeting (Cambridge, MA, May 2015); Community Earth System Model Workshop (Boulder, CO, February 2015); Global Mercury Observing System Mercury Modeling Task Force Meeting (Rome, Italy, April 2014); National Institute for Environmental Health Sciences (NIEHS) Core Centers Meeting, New Investigator Talk (Los Angeles, CA, April 2014); Community and Partner Workshop: Managing Impacts of Global Transport of Atmosphere-Surface Exchangeable Pollutants (ASEPs)

in the Context of Global Change, Michigan Technological University (Houghton, MI, November 2013); Environment and Health – Bridging South, North, East and West, Conference of ISEE, ISES and ISIAQ [poster] (Basel, Switzerland, August 2013); 11th International Conference on Mercury as a Global Pollutant (Mercury 2013) (Edinburgh, Scotland. July 2013); U.S. EPA Office of Research and Development, STAR grant progress review (Durham, NC, November 2012); 6th International Conference on Heavy Metals in the Environment (ICHMET) (Rome, Italy, September 2012); American Geophysical Union Fall Meeting, San Francisco, CA (December 2011); Path of Professorship Workshop, MIT (Cambridge, MA, October 2011); MIT Carbon Sequestration Forum XII (Cambridge, MA, October 2011); Climate Change 2011: When Policymakers Fail, Massachusetts Institute of Technology (Cambridge, MA, October 2011); Mercury 2011 Conference (Halifax, NS, Canada, July 2011); IKIMP (Integrating Knowledge to Inform Mercury Policy) Workshop (Oxford, UK, May 2011); 2011 Colorado Conference on Earth System Governance (Fort Collins, CO, May 2011); 5th International GEOS-Chem Meeting (Cambridge, MA, May 2011); Harvard University, Career Panel (Cambridge, MA, February 2011); American Geophysical Union Fall Meeting [oral, poster] (San Francisco, CA, December 2010); MIT Joint Program on the Science and Policy of Global Change Sponsors' Meeting (Brussels, Belgium, October 2010); EPA-STAR Grant Kickoff Meeting (Research Triangle Park, NC, October 2010); Goldschmidt Conference (Knoxville, TN, June 2010); Developing Student Understanding of Complex Systems in the Geosciences, Carleton College (Northfield, MN, April 2010); American Association for Aerosol Research (AAAR) 2010 Specialty Conference, Air Pollution and Health: Bridging the Gap from Sources to Health Outcomes [poster] (San Diego, CA, March 2010).

TEACHING

MIT Courses

"Science, Technology, and Public Policy" (17.310/IDS.412/STS.482 Graduate, 17.309/IDS.055/STS.082 Undergraduate, with K. Oye), Fall 2017.

"People and the Planet: Environmental Governance and Science" (12.387/IDS.063/15.874, with S. Solomon and J. Sterman), Fall 2017

"Global Environmental Negotiations: Climate and COP-21" (ESD.S30), Fall 2015

"Global Environmental Science and Negotiations" (ESD.110/IDS.062/IDS.525/12.846/12.346), Fall 2011, Fall 2013, Fall 2014, Fall 2016, Fall 2017.

"Modeling and Assessment for Policy" (ESD.864/IDS.410/12.844), Spring 2011, 2012, 2013, 2014, 2016, 2017.

"Global Environmental Negotiations: Mercury" (ESD.S50), IAP (January term) 2013

"Sustainability: Principles and Practice", MIT Professional Short Program (ESD.45s), Summer 2011-2014

"Sustainability Science and Engineering Seminar" (ESD.120J/12.845J), Fall 2010, Fall 2012.

"Systems Modeling and Assessment for Policy" (ESD.936), Spring 2010.

"Global Climate Change: Economics, Science and Policy" (Co-instructor, 15.023/15.026/12.848/ESD.128), Spring 2010.

Teaching Assistantships

"Environmental Politics," Harvard University, (Environmental Science and Public Policy 78), Fall 2006 (2 sections); Spring 2006 (2 sections), Fall 2004 (1 section), Fall 2003 (1 section)

"Introduction to Environmental Science and Public Policy," Harvard University, (Environmental Science and Public Policy 10), Spring 2005 (1 section)

"Atmospheric Chemistry," Harvard University, (Earth and Planetary Sciences 133), Spring 2004 (1 section)

Guest Lectures in non-MIT courses

"Climate and Air Pollution Risks," Harvard School of Public Health (Risk Assessment), April 2014; April 2012; April 2011

"Comparative Environmental Politics and Policy," Brown University (International Relations 180.08), March 2007 (Topic: Precaution, Risk and Science in Policy Making)

"Comparative Environmental Politics and Policy," University of New Hampshire (Political Science 751/851), March 2006 (Topic: Precaution, Risk and Science in Policy Making)

"Politics of Global Resources," University of New Hampshire (Political Science 567), February 2005 (Topic: Global Commons Debates)

"U.S. and Comparative Environmental Politics," University of New Hampshire (Political Science 798/898), February 2005 (Topic: Precaution, Risk and Science in Policy Making)
"Global Environmental Policy and Negotiation," Boston University (International Relations/Environmental Analysis 594), October 2003 (Topic: The Montreal Protocol: Ozone Science and Policy)

Guest Lectures in MIT courses

"Air Pollution Policy," 1.085 (Air Pollution), November 2012; November 2013; November 2014; November 2015; December 2016.
"International Regulations and Supply Chains: The Case of Mercury." ESD.s43 (Green Supply Chain Management), April 2014.
"Aerosols and Policy," 12.338/12.814 (Aerosols and Cloud Microphysics and Chemistry), April 2014, April 2013.
"Sustainability Science," ESD 83, Doctoral Seminar, September 2012
"Toxic Substances in the Environment," Sloan Executive Education, April 2013.
"Science and Strategies to Reduce Mercury Risks," ESD 83, Doctoral Seminar, November 2011.
"Atmospheric Chemistry Models and Applications," 12.807/1.84/10.817 (Atmospheric Chemistry), October 2010; November 2011; October 2012.
"Science, Policy and Management of Hazardous Substances and Air Pollutants." System Design and Management (SDM) Thesis seminar, February 2011.
"Atmospheric Chemistry Models and Applications," 12.807/1.84/10.817 (Atmospheric Chemistry), October 2010.
"Atmospheric Modeling of Mercury Pollution." EAPS Undergraduate Seminar (12.080), October 2010.
"Sources of mercury exposure for U.S. seafood consumers: Implications for policy," ESD 83, Doctoral Seminar, September 2010.
"Climate Change: Science, Modeling and Policy," MIT Professional Short Program, "Capturing the Sun," August 2010.
"Tales from an Interdisciplinary Job Search," ESD 944 Engineering Systems Scholarship Seminar, November 2009.

Graduate Students

As advisor:

Minghao Qiu, Ph.D. Student in Social and Engineering Systems
Mingwei Li, Ph.D. candidate in Earth, Atmospheric and Planetary Sciences (expected 2019)
Amanda Giang, M.Sc. Technology and Policy 2013, Ph.D., Engineering Systems, 2017 (now Assistant Professor, University of British Columbia)
Shaojie Song, Ph.D in Earth, Atmospheric and Planetary Sciences, 2016 (now postdoc, Harvard University)
Colin Pike-Thackray, Ph.D. in Earth, Atmospheric and Planetary Sciences, 2016 (now postdoc, Harvard University)
Jareth Holt, Ph.D. in Earth, Atmospheric and Planetary Sciences, 2016 (co-advised with Prof. S. Solomon)
Emil Dimantchev, M.Sc. in Technology and Policy, 2018
Kathleen Mulvaney, M.Sc. in Technology and Policy, 2017 (now PhD student, University of North Carolina)
Rebecca Saari, Ph.D. Engineering Systems, 2015 (now Assistant Professor, University of Waterloo)
Ellen Czaika, Ph.D. Engineering Systems, 2015 (now EY-Parthenon, Zurich)
Genevieve Flanagan, M.Sc. in System Design and Management, 2012 (co-advised with Prof. O. deWeck)

As committee member at MIT:

Guillaume Chossiere, Ph.D. candidate in Aeronautics and Astronautics
Sam Silva, Ph.D. candidate in Civil and Environmental Engineering
Megan Lickley, Ph.D. candidate in Earth, Atmospheric, and Planetary Sciences
Akshat Agarwal, Ph.D. candidate in Aeronautics and Astronautics
Ross Collins, Ph.D. Engineering Systems, 2015 (research co-supervisor)
Philip Wolfe, Ph.D. Aeronautics and Astronautics 2015
Danya Rumore, Ph.D. Urban Studies and Planning 2015
Leah Stokes, Ph.D. Urban Studies and Planning 2015 (research co-supervisor; general exam committee)
Tao Feng, M.Sc. in Earth, Atmospheric and Planetary Sciences, 2017
Caleb Waugh, M.Sc. Technology and Policy 2011(co-supervisor)

As committee member outside MIT:

Tanvir Kahn, Ph.D. 2018, Environmental Engineering, Michigan Technological University

S. Morteza Mesbah, Ph.D. 2014, Environmental Engineering, Carleton University, Ontario, Canada
Karl Seltzer, Ph.D. student in Earth and Ocean Sciences, Nicholas School, Duke University

Undergraduate Students

Emma Rutkowski, Earth, Atmospheric, and Planetary Sciences, 2018-pres.; Nick Hoffman, Earth, Atmospheric, and Planetary Sciences, 2017-2018; 2014-2015 (undergraduate research assistant and undergraduate thesis); Elizabeth Rider, Earth, Atmospheric and Planetary Sciences, 2016-2017 (undergraduate research assistant and undergraduate thesis); Siyi Zhang, Civil and Environmental Engineering, 2015-2016 (undergraduate research assistant and capstone project); Elisabeth Berg, Earth, Atmospheric and Planetary Sciences, 2015-2016 (undergraduate research assistant and undergraduate thesis); Abby Harvey, Earth, Atmospheric and Planetary Sciences, 2015-2016. (undergraduate research assistant); Libby Koolik, 2014 (undergraduate research assistant); Rebecca Silverman, Department of Urban Studies and Planning, 2013-2014 (undergraduate thesis advisor); Jessica Haskins, Earth, Atmospheric and Planetary Sciences, 2011-2014 (concentration advisor); Kathryn Buggs, Political Science, Fall 2013-Spring 2014 (undergraduate research assistant); Anthony Longboat, Chemistry, Summer 2011 (undergraduate research assistant); Anastasia Maheras, Earth, Atmospheric and Planetary Sciences, 2010-2011 (undergraduate research assistant and undergraduate thesis); Kristen Watkins, Department of Urban Studies and Planning /Political Science, spring 2011 (undergraduate research assistant); Abby Koss, Earth, Atmospheric and Planetary Sciences, fall 2010 (undergraduate research assistant)

Postdoctoral trainees

Helene Angot (Ph.D. University of Grenoble), 2017-2018.
Amanda Giang (Ph.D. MIT), 2017, now Assistant Professor, University of British Columbia
Daniel Rothenberg (Ph.D. MIT), 2016-2017, now Director of Meteorology, ClimaCell.
Sae Yun Kwon (Ph.D. University of Michigan), 2015-2017, now Assistant Professor, School of Environmental Sciences and Engineering, Pohang University of Science and Technology, South Korea
Benjamin Brown-Steiner (Ph.D. Cornell University), 2015-2017 (co-supervised with Prof. R. Prinn), now Atmospheric and Environmental Research, Inc.
Fernando Garcia Menendez (Ph.D. Georgia Tech), 2013-2015, now Assistant Professor, North Carolina State University
Carey Friedman (Ph.D. University of Rhode Island), 2010-2015, now Assistant Professor, Maine Maritime Academy
Evan Couzo (Ph.D. University of North Carolina), 2014-2015, now Assistant Professor, University of North Carolina-Asheville
Tammy Thompson (Ph.D. University of Texas), 2010-2013, now AAAS Fellow, U.S. Environmental Protection Agency.

PROFESSIONAL SERVICE

MIT Service

MIT Press Editorial Board (2017-pres.); Campus Sustainability Incubator Fund Advisory Committee (2017); Chair, Technology and Policy Program Curriculum Committee (2017); Technology and Policy Program Admissions Committee (2017); MIT Sustainability Task Force (2015-2017); Internal Advisory Committee, MIT Center for Environmental Health Sciences (2015-pres.); Freshman Advisor (2012-2013; 2015-2017); Member, School of Science Faculty Search Oversight Committee (2011-2013); Member, Engineering Systems Division education committee (2012-2014); Member, Engineering Systems Division admissions committee (2010-2011; 2011-2012; 2012-2013; 2013-2014); Member, Earth, Atmospheric and Planetary Sciences admissions committee (2010-2011; 2011-2012); Member, Earth, Atmospheric and Planetary Sciences Program in Atmospheres, Oceans and Climate General Exam Committee (2013-2014); Member, Search Committee, Earth, Atmospheric and Planetary Sciences (Sedimentology) (2011-2012; 2012-2013); Member, Search Committee, Engineering Systems Division (Service Science) (2010-2011); Member, Engineering Systems Division Undergraduate Curriculum Committee (2010-2011); Member, Search Committee, Earth, Atmospheric and Planetary Sciences (Atmospheric Chemistry) (Spring 2010); Member, Technology and Policy Program Curriculum Committee (Spring 2010); Led 25 freshmen on climate change themed walking tour of Boston for MIT Energy Initiative Freshman Pre-Orientation Program (DELTA FPOP, Fall 2010)

External Service

Advisory Board, *Environmental Science: Processes and Impacts* (2018-pres.); Scientific Steering Committee, 2019 International Conference on Mercury as a Global Pollutant; Executive Committee, 2017 International Conference on Mercury as a Global Pollutant (2015-2017); Scientific Advisory Committee, Center for Air, Climate, and Energy Solutions (CACES) (Carnegie Mellon University, University of Washington, and others) (2017-pres.); Co-chair, Chemistry-Climate Working Group, Community Earth System Model (CESM) (2014-2016); Co-Chair, Mercury and POPs Working Group, International GEOS-Chem Steering Committee (2011-2015); Member, Task Team, Joint Group of Experts on the Scientific Aspects of Marine Environmental Pollution, GEF/IOC/UNEP Trans-boundary Waters Assessment (2014); Co-Convener of American Geophysical Union Fall Meeting sessions: "Interactions between Tropospheric Chemistry and Climate" (2013, 2012, 2011); "Mercury Cycling in Heterogeneous Environments: Global and Local Factors" (2011); "Pathways of Mercury Transport and Exposure at Multiple Scales" (2009); Contributing Editor, *Environment: Science and Policy for Sustainable Development* (2005-2017)*;* Peer reviewer/proposal reviewer for *Atmospheric Chemistry and Physics, Atmospheric Environment, Environmental Science and Technology, Geophysical Research Letters, Global Environmental Change, Journal of Atmospheric Chemistry, Journal of Environment and Development, Journal of Geophysical Research-Atmospheres, Nutrition Reviews, Science of the Total Environment, Policy & Politics, Proceedings of the National Academy of Sciences, Science, Water Resources Research, National Science Foundation, National Aeronautics and Space Administration;* Reviewer for 2010 Assessment on Hemispheric Transport of Air Pollution, Convention on Long-Range Transboundary Air Pollution, Task Force on Hemispheric Transport of Air Pollution; Member, Global Warming Solutions Project advisory committee, Environmental League of Massachusetts, 2010-2011; Member, American Geophysical Union (2006-pres.), Society for Environmental Toxicology and Chemistry (2011-pres.), American Chemical Society (2011-pres.).