

Fabien Paulot

201 Forrestal Rd

Princeton, NJ 08540

Email: fabien.paulot@noaa.gov

Education

- 2011 **PhD in Environmental Science and Engineering**
California Institute of Technology (Pasadena – USA)
Thesis title: Insights into the isoprene photochemical cascade
Advisor: Prof. Paul O. Wennberg
- 2007 **Dipôme d'ingénieur**
Ecole Polytechnique (Palaiseau – France)
Majors: Chemistry & Environmental Sciences
- 2001-2003 **Classes préparatoires**
Lycée Louis Le Grand (Paris – France)
Prep-class to the entrance examination to the French Grandes Ecoles
Intensive undergraduate program in mathematics, physics and chemistry.
- 2001 **Baccalauréat** in sciences with very high honors

Professional Experience

- 2014- **Princeton University (Princeton – USA)**
Associate research scholar in the Atmospheric and Oceanic Sciences program
- 2011-2014 **Harvard University Center for the Environment (Cambridge – USA)**
HUCE fellow in the Harvard Atmospheric Chemistry Modeling Group (Prof. Daniel J Jacob)
- Summer 2006 **CIBA (Basel – Switzerland)**
Analysis of waste water by UV/VIS spectrometry
- Oct 2003 - Apr 2004 **Bassin d'essai des carènes – DGA (Val de Rueil – France)**
Modeling of hydrodynamic coefficients of submarines' keels

Teaching Experience

- 2009 Atmospheric chemistry teaching assistant (Profs. Wennberg and Seinfeld)
- 2004-2005 Private tutor in physics and chemistry with Acadomia (Vincennes – France)

Awards

- 2011-2013 Harvard University Center for the Environment Fellowship
- 2010-2011 NASA Earth and Space Science Fellowship
- 2007-2008 William and Sonya Davidow Graduate Fellowship

Publications

- [1] H.-M. Lee, F. Paulot, D. K. Henze, et al. Sources of nitrogen deposition in federal class I areas in the us. *Atmos. Chem. Phys.*, 16(2):525–540, 2016. doi: 10.5194/acp-16-525-2016.
- [2] F. Paulot, P. Ginoux, W. F. Cooke, et al. Sensitivity of nitrate aerosols to ammonia emissions and to nitrate chemistry: implications for present and future nitrate optical depth. *Atmos. Chem. Phys.*, 16(3):1459–1477, 2016. doi: 10.5194/acp-16-1459-2016.
- [3] Tzung-May Fu, Yiqi Zheng, Fabien Paulot, et al. Positive but variable sensitivity of August surface ozone to large-scale warming in the southeast United States. *Nature Climate Change*, advance online publication, 2015. doi: 10.1038/nclimate2567.
- [4] W. W. Hu, P. Campuzano-Jost, B. B. Palm, et al. Characterization of a real-time tracer for isoprene epoxydiols-derived secondary organic aerosol (iepoX-soa) from aerosol mass spectrometer measurements. *Atmos. Chem. Phys.*, 15(20):11807–11833, 2015. doi: 10.5194/acp-15-11807-2015.
- [5] D. B. Millet, M. Baasandorj, D. K. Farmer, et al. A large and ubiquitous source of atmospheric formic acid. *Atmos. Chem. Phys.*, 15(11):6283–6304, 2015. doi: 10.5194/acp-15-6283-2015.
- [6] Tran B. Nguyen, John D. Crounse, Alex P. Teng, et al. Rapid deposition of oxidized biogenic compounds to a temperate forest. *Proc. Natl. Acad. Sci. U.S.A.*, 112(5):E392–E401, 2015. doi: 10.1073/pnas.1418702112.
- [7] F. Paulot, D. J. Jacob, M. T. Johnson, et al. Global oceanic emission of ammonia: Constraints from seawater and atmospheric observations. *Global Biogeochem. Cycles*, pages n/a–n/a, 2015. doi: 10.1002/2015GB005106. 2015GB005106.
- [8] Y. Zhao, L. Zhang, Y. Pan, et al. Atmospheric nitrogen deposition to the northwestern Pacific: seasonal variation and source attribution. *Atmos. Chem. Phys.*, 15(18):10905–10924, 2015. doi: 10.5194/acp-15-10905-2015.
- [9] L. Zhu, D. Henze, J. Bash, et al. Global evaluation of ammonia bidirectional exchange and livestock diurnal variation schemes. *Atmos. Chem. Phys.*, 15(22):12823–12843, 2015. doi: 10.5194/acp-15-12823-2015.
- [10] Fabien Paulot and Daniel J. Jacob. Hidden cost of U.S. agricultural exports: Particulate matter from ammonia emissions. *Environ. Sci. Technol.*, 48(2):903–908, 2014. doi: 10.1021/es4034793.

- [11] Fabien Paulot, Daniel J. Jacob, and Daven K. Henze. Sources and processes contributing to nitrogen deposition: An adjoint model analysis applied to biodiversity hotspots worldwide. *Environ. Sci. Technol.*, 47(7):3226–3233, 2013.
- [12] M. R. Beaver, J. M. St. Clair, F. Paulot, et al. Importance of biogenic precursors to the budget of organic nitrates: observations of multifunctional organic nitrates by CIMS and TD-LIF during BEARPEX 2009. *Atmos. Chem. Phys.*, 12(13):5773–5785, 2012. doi: 10.5194/acp-12-5773-2012.
- [13] J. D. Crouse, H. C. Knap, K. B. Ørnsø, et al. Atmospheric Fate of Methacrolein. 1. Peroxy Radical Isomerization Following Addition of OH and O₂. *J. Phys. Chem. A*, 116(24):5756–5762, 2012. doi: 10.1021/jp211560u.
- [14] H. G. Kjaergaard, H. C. Knap, K. B. Ørnsø, et al. Atmospheric Fate of Methacrolein. 2. Formation of Lactone and Implications for Organic Aerosol Production. *J. Phys. Chem. A*, 116(24):5763–5768, 2012. doi: <http://pubs.acs.org/doi/abs/10.1021/jp210853h>.
- [15] E. A. Marais, D. J. Jacob, T. P. Kurosu, et al. Isoprene emissions in Africa inferred from OMI observations of formaldehyde columns. *Atmos. Chem. Phys.*, 12(14):6219–6235, 2012. doi: 10.5194/acp-12-6219-2012.
- [16] F. Paulot, D. K. Henze, and P. O. Wennberg. Impact of the isoprene photochemical cascade on tropical ozone. *Atmos. Chem. Phys.*, 12(3):1307–1325, 2012. doi: 10.5194/acp-12-1307-2012.
- [17] G. M. Wolfe, J. D. Crouse, J. D. Parrish, et al. Photolysis, OH reactivity and ozone reactivity of a proxy for isoprene-derived hydroperoxyenals (HPALDs). *Phys. Chem. Chem. Phys.*, 14(20):7276–7286, 2012. doi: 10.1039/C2CP40388A.
- [18] M. P. Barkley, P. I. Palmer, L. Ganzeveld, et al. Can a "state of the art" chemistry transport model simulate amazonian tropospheric chemistry? *J. Geophys. Res.*, 116:D16302, 2011. doi: 10.1029/2011JD015893.
- [19] John D. Crouse, Fabien Paulot, Henrik G. Kjaergaard, et al. Peroxy radical isomerization in the oxidation of isoprene. *Phys. Chem. Chem. Phys.*, 13(30):13607–13613, 2011. doi: 10.1039/C1CP21330J.
- [20] F. Paulot, D. Wunch, J. D. Crouse, et al. Importance of secondary sources in the atmospheric budgets of formic and acetic acids. *Atmos. Chem. Phys.*, 11(5):1989–2013, 2011. doi: 10.5194/acp-11-1989-2011.
- [21] Anna L. Garden, Fabien Paulot, John D. Crouse, et al. Calculation of conformationally weighted dipole moments useful in ion–molecule collision rate estimates. *Chem. Phys. Lett.*, 474(1–3):45–50, 2009. doi: 10.1016/j.cplett.2009.04.038.
- [22] F. Paulot, J. D. Crouse, H. G. Kjaergaard, et al. Isoprene photooxidation: new insights into the production of acids and organic nitrates. *Atmos. Chem. Phys.*, 9(4):1479–1501, 2009. doi: 10.5194/acp-9-1479-2009.

- [23] F. Paulot, J. D. Crouse, H. G. Kjaergaard, et al. Unexpected Epoxide Formation in the Gas-Phase Photooxidation of Isoprene. *Science*, 325(5941):730–733, 2009. doi: 10.1126/science.1172910.

Presentations

- 2015 CCMI (Rome, Italy) – poster
- 2015 AEROCOM meeting (Rome, Italy) – talk
- 2015 Ocean Carbon Biogeochemistry meeting (Woods Hole, USA) – talk
- 2014 Boston University (Boston, USA) – talk
- 2014 GEIA meeting (Hamburg, Germany) – talk
- 2014 AQAST (Houston, USA) – talk
- 2013 AGU (San Francisco, USA) – talk
- 2013 AQAST (College Park, USA) – talk
- 2012 AQAST (Madison, USA) – talk
- 2012 AMS Biogeosciences conference (Boston, USA) – talk
- 2011 Gordon Research Conference (Mount Snow, USA) – poster
- 2011 ACCESS XI (Brookhaven, USA) – talk
- 2010 AGU Fall Meeting (San Francisco, USA) – talk
- 2010 Atmospheric chemical mechanisms (Davis, USA) – talk
- 2009 AGU Fall Meeting (San Francisco, USA) – poster
- 2009 GEOS-Chem Meeting (Cambridge, USA) – talk
- 2008 IGAC (Annecy, France) – poster
- 2007 AGU Fall Meeting (San Francisco, USA) – talk and poster