

**Charlotte Wagner**  
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## Education

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<b>Harvard University</b> Ph.D. Candidate in Environmental Science and Engineering. GPA: 3.9/4.0	Cambridge, MA, US expected Dec 2020
<b>Technical University of Cyprus</b> M.Sc. Environmental Health. GPA: 10/10 Valedictorian.	Limassol, Cyprus July 2012
<b>University College Maastricht</b> B.A. Political Sciences and Environmental Policy. GPA: 8.4/10	Maastricht, Netherlands May 2010
<b>Institute des Etudes Politiques de Toulouse</b> European Exchange Semester (Erasmus). Political Sciences.	Toulouse, France Spring 2009

## Research and Professional Experiences

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<b>Harvard University</b> PhD researcher	Cambridge, MA, US Sept 2015 – <i>present</i>
<ul style="list-style-type: none"><li>developed global ocean simulations for PCBs and perfluoroalkyl substances embedded in chemical transport model in <i>Fortran77</i></li><li>participated in 2-week GIS intensive training in mapping, geo-coding and georeferencing, spatial analysis with vector and raster data, regression and autocorrelation</li><li>used GIS analysis to develop global chemical release inventory</li><li>extracted and analyzed 60 seawater samples using LCMS</li><li>processed, analyzed and visualized results in <i>R</i>, <i>Matlab</i> and <i>ArcMap</i></li><li>(co-)authored 5 peer-reviewed articles and gave oral presentations at 5 (inter)national conferences</li><li>mentored master student during 6-month research internship</li></ul>	
<b>NASA DEVELOP National Program</b> Intern	Jan – April 2020
<ul style="list-style-type: none"><li>developed priority index for cooling initiatives for the Philadelphia Department of Public Health and the Office of Sustainability using Principal Component Analysis (in <i>R</i>)</li><li>employed <i>Google Earth Engine</i> to retrieve and process land surface temperature, normalized difference vegetation index, normalized difference building index, and land cover from satellites</li><li>designed maps and Story Map of priority areas in <i>ArcMap</i></li></ul>	
<b>Harvard University – Applied Environmental Toxicology (ES163)</b> Teaching Fellow	Cambridge, MA, US Fall 2016
<ul style="list-style-type: none"><li>taught sections gave and lecture on organic chemistry to 15 undergraduate students</li><li>developed and graded problem sets and final exams</li><li>supervised final projects on pollution exposure</li></ul>	
<b>Food Packaging Forum</b> Scientific Editor	Zurich, Switzerland Sept 2012 – Nov 2014

- wrote daily news articles and bi-weekly newsletter on health risks from chemicals used in food packaging
- web-published 11 research articles on [www.foodpackagingforum.org](http://www.foodpackagingforum.org)
- co-first authored peer-reviewed research article viewed ~9,000 times and covered by Guardian and Neue Zürcher Zeitung
- organized 2 conferences with >100 attendants
- represented non-governmental stakeholders at European Commission's Directorate-General for Health and Food Safety
- built client-base of 200 newsletter recipients and managed webpage

**Municipal Department of the Environment**

Cordoba, Argentina

Intern

Feb – May 2011

- identified environmentally hazardous economic activities
- inspected companies for environmental compliance
- wrote inspection reports

**Leadership and Service Experience**

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**Harvard NSF REU Steering Committee, Harvard University**

Cambridge, MA, US

- designed selection criteria
- evaluated applications
- planned summer program

Spring 2019

**Harvard Climate Solutions Living Lab**

Cambridge, MA, US

Student

Spring 2018

- developed agroforestry project with 4 other students
- proposed to convert conventional farmland in Missouri to alley cropping with Chinese chestnuts and hay to save 100,000t CO<sub>2</sub>(eq) and generate \$8400 net profit per acre while also improving air, water and soil quality and building economic resilience of farmers

**Harvard Climate Task Force**

Cambridge, MA, US

Student Delegate

Fall 2016-Spring 2017

- developed recommendations for university-wide climate goals with senior faculty and management
- presented on co-benefits of controlling greenhouse gas emissions through reduced air pollution to senior faculty and management
- recommendation to become carbon neutral by 2026 and carbon free by 2050 was adopted by Harvard President Faust in 2017 and received Climate Leadership Award for Excellence in GHG Management in 2018

**Skills**

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**Language**

German	Native.
English	Professional.
French	Fluent.
Spanish	Fluent.

**Software**

R, MATLAB, GIS, Python (numpy, sklearn), Fortran77, Git, Unix, GIS, website content management, contact relations management, Analytica, Life Cycle Assessment Software SimaPro.

## Publications

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### Peer-reviewed publications

- **CC Wagner**, HM Amos, CP Thackray, Y Zhang, EW Lundgren, G Forget, CL Friedman, NE Selin, R Lohmann and EM Sunderland. 2019. [A global 3-D ocean model for polychlorinated biphenyls \(PCBs\): Benchmark compounds for understanding the impacts of global change on neutral persistent organic pollutants.](#) *Global Biogeochemical Cycles*.
- E.M. Sunderland, X.C. Hu, C. Dassuncao, **CC Wagner**, A.K. Tokranov, J.G. Allen. 2018. [A review of the pathways of human exposure to poly- and perfluoroalkyl substances \(PFASs\) and present understanding of health effects.](#) *Journal of Exposure Science and Environmental Epidemiology*.
- Y Ma, DA Adelman, E Bauerfeind, A Cabrerizo, CA McDonough, DMuir, T Soltwedel, C Sun, EM Sunderland, **CC Wagner**, and R Lohmann. [Using passive samplers to determine concentrations and water mass transport of legacy POPs in the Arctic Ocean.](#) *Geophysical Research Letters*.
- B Geueke, **CC Wagner** and J Muncke. [Food contact substances and chemicals of concern: a comparison of inventories.](#) *Food Additives and Contaminants: Part A*, 31:8, 1438-1450

### Selected other publications

- Elsie Sunderland and Charlotte C. Wagner. 4/13/2020. "[The global chemical experiment.](#)" In *Earth 2020 - An insider's guide to a rapidly changing planet.*, 1st ed., Pp. 185-193. Cambridge, UK: Open Book Publishers.
- J Becanova, G Bothun, C Dassuncao, P Grandjean, X Hu, R Lohmann, E Martell, A Neville, M Pfohl, H Pickard, A Robuck, N Rohr, B Ruyle, L Schaidler, E Sunderland, J Swift, A Tokranov, **C Wagner**. 2018. [Re: Draft Toxicological Profile: Perfluoroalkyls. Docket ID No. ATSDR-2015-0004](#)
- ET Broas, A Elfarsdóttir, PIIO MacNaughton, and **CC Wagner**. 2017. [Beyond Climate: A student perspective.](#) The Harvard Crimson.
- **C Wagner**. 2015. [Regulation on Food Packaging.](#) Food Packaging Forum, Zurich, Switzerland.
- **C Wagner**. 2014. [Chemical Risk Assessment.](#) Food Packaging Forum, Zurich, Switzerland.

### Science talks

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<b>Oral presentation</b> at the 2019 Goldschmidt meeting. "A global 3-D ocean model for PFOS: Exploring the persistence of the "forever" chemistry."	Barcelona, Spain May 2020
<b>Invited talk</b> at New England Water Environment Association (NEWEA) meeting. 'Waste water treatment plants and other sources of PFASs to the environment.'	Lowell, MA, US Oct. 2018
<b>Oral presentation</b> at the 256th American Chemical Society National Meeting. 'PCBs: Understanding the impact of global change on neutral persistent organic pollutants.' Boston, MA, United States, August 19-23, 2018	Boston, MA, US Aug. 2018
<b>Oral presentation</b> at the Society for Environmental Toxicology and Chemistry (SETAC) Europe 28th Annual Meeting. 'Quantifying the marine burden of PFOS during an era of shifting emissions.'	Rome, Italy May 2018
<b>Oral presentation</b> at Society for Environmental Toxicology and Chemistry (SETAC) North America 38 <sup>th</sup> Annual Meeting. 'Impacts of ocean circulation on biologically relevant PCB residence times in marine environments.'	Minneapolis, MN, US Nov. 2017