

Curriculum vitae

Name: Dr. Eva Y. Pfannerstill
Date of birth: 24/07/1989
Researcher ID: <https://orcid.org/0000-0001-7715-1200>
Google Scholar: <https://tinyurl.com/pfannerstillscholar>
Languages: German (native), English (C2), French (C1), Dutch & Portuguese (B1)
URLs: www.eva-pfannerstill.eu
[www.fz-juelich.de/en/ice/ice-3/research/photochemistry-and-radicals/biogenic emissions and air quality impacts](http://www.fz-juelich.de/en/ice/ice-3/research/photochemistry-and-radicals/biogenic%20emissions%20and%20air%20quality%20impacts)

EDUCATION

08/2015 – 10/2019 **Dr. rer. nat.** in Atmospheric Chemistry (10/2019) | *Max Planck Institute for Chemistry and Johannes-Gutenberg-Universität (Mainz, Germany)*
Thesis: Total OH reactivity in pristine and polluted environments: Investigating atmospheric chemistry in the Anthropocene ([link](#)). Advisor: Jonathan Williams

04/2013 – 06/2015 **M. Sc.** in Chemical Biology | *Friedrich Schiller University (Jena, Germany with M.Sc. thesis at Royal Netherlands Institute for Sea Research (Texel, Netherlands)*
Thesis: The effects of salinity and alkalinity on the hydrogen isotope composition of long-chain alkenones in *Emilania huxleyi*. Supervisor: Marcel v. d. Meer

10/2009 – 04/2013 **B. Sc.** in Chemistry | *Friedrich Schiller University Jena (Germany) with semester abroad at Université de Montréal (Canada)*
Thesis: Light- and signal-induced pheromone production in *Semnavis robusta*

◆ CURRENT & UPCOMING POSITIONS

Since 10/2023 Postdoctoral Fellow (Return Fellowship of the Alexander von Humboldt Foundation) | *Forschungszentrum Jülich (Germany)*
Research: Climate stress impacts on forest emissions and aerosol pollution (using chamber experiments).

From 10/2024 Helmholtz Young Investigator Group Leader | *Forschungszentrum Jülich (Germany)*

◆ PREVIOUS POSITIONS

09/2020 – 08/2023 **Postdoctoral fellow** (Feodor Lynen Fellowship of the Alexander von Humboldt Foundation) | *University of California at Berkeley (CA, USA)*
Research: Investigation of the changing chemical cocktail of the urban and rural atmosphere using airborne flux measurements.

11/2019 – 08/2020 **Postdoctoral researcher** | *Max Planck Institute for Chemistry (Mainz, Germany)*
Research: Fieldwork at the Biosphere2 facility in Arizona studying drought effects on tropical forest emissions

08/2015 – 10/2019 **Doctoral researcher** | *Max Planck Institute for Chemistry (Mainz, Germany)*
Research: Total OH reactivity measurements in pristine and polluted environments

◆ GRANTS, AWARDS & FELLOWSHIPS

10/2024 – 10/2029 Helmholtz Young Investigator Group Grant
06/2024 DAAD Conference Travel Award
10/2023 – 09/2024 Return Fellowship of the Alexander von Humboldt Foundation
01/2023 Fellow of the 7th [German Scholars Organization Leadership Academy](#)
12/2022 Winner of the Story Exchange [Women in Science Incentive Prize](#)
01/2022 One of 20 [Falling Walls Female Science Talents 2022](#)
09/2020 – present Feodor Lynen Fellowship of the Alexander von Humboldt Foundation
01/2018 – 06/2019 Fellow of the Ada Lovelace Program for women in STEM
03/2011 – 06/2015 Scholarships for Bachelor and Master studies, Heinrich Böll Foundation
06/2008 Graduation prize of the German Mathematical Society (DMV)
06/2008 Graduation prize of the German Chemical Society (GdCh)

◆ EDITORIAL & REVIEWING ACTIVITIES

- Since 03/2024 Editor for the journal *Atmospheric Chemistry and Physics*
- 08/2017 – present
- Reviewed papers for the journals *Nature Geoscience*, *Environmental Science and Technology*, *Atmospheric Chemistry and Physics*, *Atmospheric Measurement Techniques*, *Geophysical Research Letters*, *Journal of Geophysical Research: Atmospheres*, *Atmospheric Environment*, and *Science of the Total Environment*
 - Reviewed the chapter on short-lived climate forcers in the IPCC Sixth Assessment Report
 - Judge for Student Presentation Awards, AGU Fall Meeting 2020 & 2022, AMS Annual Meeting 2022 & 2023, EGU General Assembly 2024

◆ SCIENCE OUTREACH

- 06/2022 – present “Meet a scientist”, “[Skype a scientist](#)” & “I’m a Scientist” events with (pre-)schools, e.g. [German School Shanghai](#), Arnoldschule Gotha (Germany)
- 06/2017 – present **Author and editor of scientific blogs**
- [European Geosciences Union Atmospheric Sciences blog](#)
 - [Amazon Tall Tower Observatory research blog](#)
 - [Air Quality and Climate Change in the Arabian Basin ship campaign blog](#)
- 03/2019 – 02/2020 **Scientists4Future Mainz** outreach activities on climate change, e.g. information booths in city center
- 12/2018 **Youth representative at COP 2018** (UNFCCC climate change summit) in Katowice, Poland
- 01/2016 – 09/2019 Developed interactive **demonstration experiments** for children and other visitors, Max Planck Institute for Chemistry, Mainz

◆ TEACHING ACTIVITIES

- 04/2022 Undergraduate course “**Air Pollution**”; University of California, Berkeley, Department of Civil and Environmental Engineering
- 07/2018 – 08/2018 Introductory course in **inorganic chemistry**; Johannes Gutenberg University (Mainz), Department of Inorganic Chemistry
- 04/2012 – 07/2013 Student teaching assistant in **inorganic analytics**; Friedrich Schiller University (Jena), Department of Inorganic Chemistry

◆ MENTORING & SUPERVISION OF STUDENTS

- 03/2023 – present Supervision of MSc student Biplob Dey
- 08/2023 – present Co-supervising PhD student Jennifer Ofodile in an environmental justice publication project
- 09/2022 – 02/2023 Mentoring Priscilla Adong via the AGU [Mentoring 365](#) program
- 01/2021 – 08/2023 Training of PhD student Erin Katz on PTR-MS instrumentation and data analysis
- 07/2021 – 06/2022 Supervision of undergraduate student Nathan Sweet for operation of PTR-MS and data analysis

◆ SERVICE & LEADERSHIP ACTIVITIES

- Since 01/2024 Co-coordinator of the “Vocus-focused” community (bimonthly international virtual meetings on instrument development and use)
- Since 06/2023 **GEIA (Global Emissions Initiative)** VOC working group coordinator
- Coordination of global efforts at improving VOC emission inventories
- Since 2021 **Convener at scientific conferences**
- ACTRIS Science Conference 2024 (Session “Atmospheric processes”)
 - AGU Fall Meeting 2022 (Session “Sources and Fate of Volatile Organic Compounds and NO_x in Human-Made Environments”)
 - AGU Fall Meeting 2021 (Session “Novel VOC emission sources and atmospheric reactivity”)
 - ATTO Research Seminar 2021 (Session “VOCs and atmospheric chemistry”)
- 03/2010 – 06/2020 **Leadership positions in national & international youth organizations**
Grüne Jugend, *Global Young Greens* & *Federation of Young European Greens*
- Led executive committee and staff of *Grüne Jugend Thüringen*

- Managed and moderated national and international conferences/seminars, coordinated working groups on- and offline
 - Communicated with press
 - Designed and managed the website of *Global Young Greens*
- 08/2008 – 08/2009 **Volunteer in development service**
Deutscher Entwicklungsdienst (German Development Service), “weltwärts” program. Service in local organization Mlup Baitong in Kampong Speu (Cambodia)
- GPS mapping of protected community forests
 - Taught English and environmental education to youth in a remote village

◆ **ADDITIONAL PROFESSIONAL CERTIFICATES AND TRAININGS (SELECTION)**

- 04/2023 & 09/2023 German Scholars Organization **Leadership Academy**
 10/2021 Certificate in **Scientific Teaching** (UC Berkeley)
 01/2018 – 06/2019 Ada Lovelace Program Johannes-Gutenberg Universität Mainz (professional development workshops on conflict resolution, negotiations, presentations, etc.)

◆ **INVITED PRESENTATIONS**

- 11/2024 Wageningen University and Research, *Wageningen*, Netherlands
 08/2023 American Chemical Society Fall Meeting 2023, *San Francisco*, CA, USA.
 01/2023 Atmospheric Chemistry Seminar Univ. of Copenhagen, *Copenhagen*, Denmark.
 12/2022 American Geophysical Union Fall Meeting, *Chicago*, IL, USA.
 11/2022 Atmospheric Chemistry Seminar, FZ Jülich, *Jülich*, Germany.
 11/2022 Meteorology Colloquium University of Cologne, *Cologne*, Germany.
 10/2022 NASA Goddard Atmospheric Composition and Dynamics Seminar, *Greenbelt*, MD, USA.
 06/2022 Gordon Research Seminar on Biogenic Hydrocarbons and the Atmosphere, *Oxnard*, CA, USA.
 05/2022 Max Planck Institute for Chemistry Seminar, *Mainz*, Germany.
 04/2022 Berkeley Atmospheric Sciences Center Seminar, Univ. of California, *Berkeley*, CA, USA.
 11/2021 Massachusetts Institute of Technology Atmospheric Chemistry Colloquium, *Boston*, MA, USA.

◆ **PEER-REVIEWED PUBLICATIONS**

*corresponding author

1. **Pfannerstill, E. Y.***, Arata, C., Zhu, Q., Place, B., Schulze, B., Ward, R., Woods, R., Harkins, C., Schwantes, R. H., Seinfeld, J. H., Bucholtz, A., Cohen, R. C., and Goldstein, A. H.*: Temperature-dependent emissions dominate aerosol and ozone formation in Los Angeles, *Science*, 384, 1324–1329, <https://doi.org/10.1126/science.adg8204>, 2024.
2. **Pfannerstill, E. Y.***, Arata, C., Zhu, Q., Schulze, B. C., Woods, R., Seinfeld, J. H., Bucholtz, A., Cohen, R. C., and Goldstein, A. H.: Volatile organic compound fluxes in the agricultural San Joaquin Valley – spatial distribution, source attribution, and inventory comparison, *Atmospheric Chemistry and Physics*, 23, 12753–12780, <https://doi.org/10.5194/acp-23-12753-2023>, 2023.
3. **Pfannerstill, E. Y.***, Arata, C., Zhu, Q., Schulze, B. C., Woods, R., Harkins, C., Schwantes, R. H., McDonald, B. C., Seinfeld, J. H., Bucholtz, A., Cohen, R. C., and Goldstein, A. H.: Comparison between Spatially Resolved Airborne Flux Measurements and Emission Inventories of Volatile Organic Compounds in Los Angeles, *Environ. Sci. Technol.*, XXX, <https://doi.org/10.1021/acs.est.3c03162>, 2023.
4. Zhu, Q., Schwantes, R. H., Coggon, M., Harkins, C., Schnell, J., He, J., Pye, H. O. T., Li, M., Baker, B., Moon, Z., Ahmadov, R., **Pfannerstill, E. Y.**, Place, B., Wooldridge, P., Schulze, B. C., Arata, C., Bucholtz, A., Seinfeld, J. H., Warneke, C., Stockwell, C. E., Xu, L., Zuraski, K., Robinson, M. A., Neuman, A., Veres, P. R., Peischl, J., Brown, S. S., Goldstein, A. H., Cohen, R. C., and McDonald, B. C.: A better representation of VOC chemistry in WRF-Chem and its impact on ozone over Los Angeles, *EGUsphere*, <https://doi.org/10.5194/egusphere-2023-2742>, 2023.
5. Coggon, M. M., Stockwell, C. E., Clafin, M. S., **Pfannerstill, E. Y.**, Xu, L., Gilman, J. B., Marcantonio, J., Cao, C., Bates, K. H., Gkatzelis, G. I., Lamplugh, A., Katz, E. F., Arata, C., Apel, E. C., Hornbrook, R. S., Piel, F., Majluf, F., Blake, D. R., Wisthaler, A., Canagaratna, M. R., Lerner, B. M., Goldstein, A. H., Mak, J. E., and Warneke, C.: Identifying and correcting interferences to PTR-ToF-

- MS measurements of isoprene and other urban volatile organic compounds, *Atmos. Meas. Tech.*, 1–20, <https://doi.org/10.5194/egusphere-2023-1497>, 2023.
6. Nussbaumer, C. M., Place, B. K., Zhu, Q., **Pfannerstill, E. Y.**, Wooldridge, P., Schulze, B. C., Arata, C., Ward, R., Bucholtz, A., Seinfeld, J. H., Goldstein, A. H., and Cohen, R. C.: Measurement report: Airborne measurements of NO_x fluxes over Los Angeles during the RECAP-CA 2021 campaign, *Atmospheric Chemistry and Physics*, 23, 13015–13028, <https://doi.org/10.5194/acp-23-13015-2023>, 2023.
 7. Zhu, Q., Place, B., **Pfannerstill, E. Y.**, Tong, S., Zhang, H., Wang, J., Nussbaumer, C. M., Wooldridge, P., Schulze, B. C., Arata, C., Bucholtz, A., Seinfeld, J. H., Goldstein, A. H., and Cohen, R. C.: Direct observations of NO_x emissions over the San Joaquin Valley using airborne flux measurements during RECAP-CA 2021 field campaign, *Atmospheric Chemistry and Physics*, 23, 9669–9683, <https://doi.org/10.5194/acp-23-9669-2023>, 2023.
 8. Schulze, B. C., Ward, R. X., **Pfannerstill, E. Y.**, Zhu, Q., Arata, C., Place, B., Nussbaumer, C., Wooldridge, P., Woods, R., Bucholtz, A., Cohen, R. C., Goldstein, A. H., Wennberg, P. O., and Seinfeld, J. H.: Methane Emissions from Dairy Operations in California's San Joaquin Valley Evaluated Using Airborne Flux Measurements, *Environ. Sci. Technol.*, <https://doi.org/10.1021/acs.est.3c03940>, 2023.
 9. Honeker, L. K., Pugliese, G., Ingrisch, J., Fudyma, J., Gil-Loaiza, J., Carpenter, E., Singer, E., Hildebrand, G., Shi, L., Hoyt, D. W., Chu, R. K., Toyoda, J., Krechmer, J. E., Clafin, M. S., Ayala-Ortiz, C., Freire-Zapata, V., **Pfannerstill, E. Y.**, Daber, L. E., Meeran, K., Kreuzwieser, J., Williams, J., Ladd, S. N., Werner, C., Tfaily, M. M., and Meredith, L. K.: Drought re-routes soil microbial carbon metabolism towards emission of volatile metabolites in an artificial tropical rainforest, *Nature microbiology*, 8, 1480–1494, doi.org/10.1038/s41564-023-01432-9, 2023.
 10. Pugliese, G., Ingrisch, J., Meredith, L. K., **Pfannerstill, E. Y.**, Klüpfel, T., Meeran, K., Byron, J., Purser, G., Gil-Loaiza, J., van Haren, J., Dontsova, K., Kreuzwieser, J., Ladd, S. N., Werner, C., and Williams, J.: Effects of drought and recovery on soil volatile organic compound fluxes in an experimental rainforest, *Nature Communications*, 14, 5064, <https://doi.org/10.1038/s41467-023-40661-8>, 2023.
 11. Ringsdorf, A., Edtbauer, A., Vilà-Guerau de Arellano, J., **Pfannerstill, E. Y.**, Gromov, S., Kumar, V., Pozzer, A., Wolff, S., Tsokankunku, A., Soergel, M., Sá, M. O., Araújo, A., Ditas, F., Pöhlker, C., Lelieveld, J., and Williams, J.: Inferring the diurnal variability of OH radical concentrations over the Amazon from BVOC measurements, *Scientific reports*, 13, 14900, <https://doi.org/10.1038/s41598-023-41748-4>, 2023.
 12. **Pfannerstill, E. Y.***, Reijrink, N. G., Edtbauer, A., Ringsdorf, A., Zannoni, N., Araújo, A., Ditas, F., Holanda, B. A., Sá, M. O., Tsokankunku, A., Walter, D., Wolff, S., Lavrič, J. V., Pöhlker, C., Sörgel, M., and Williams, J.: Total OH reactivity over the Amazon rainforest: variability with temperature, wind, rain, altitude, time of day, season, and an overall budget closure, *Atmospheric Chemistry and Physics*, 21, 6231–6256, <https://doi.org/10.5194/acp-21-6231-2021>, 2021.
 13. **Pfannerstill, E. Y.***, Nölscher, A. C., Yáñez-Serrano, A. M., Bourtsoukidis, E., Keßel, S., Janssen, R. H. H., Tsokankunku, A., Wolff, S., Sörgel, M., Sá, Williams, J., et al.: Total OH Reactivity Changes Over the Amazon Rainforest During an El Niño Event, *Frontiers in Forests and Global Change*, 1, 600, <https://doi.org/10.3389/ffgc.2018.00012>, 2018.
 14. **Pfannerstill, E. Y.***, Wang, N., Edtbauer, A., Bourtsoukidis, E., Crowley, J. N., Dienhart, D., Eger, P. G., Ernle, L., Fischer, H., Hottmann, B., Paris, J.-D., Stöner, C., Tadic, I., Walter, D., Lelieveld, J., and Williams, J.: Shipborne measurements of total OH reactivity around the Arabian Peninsula and its role in ozone chemistry, *Atmospheric Chemistry and Physics*, 19, 11501–11523, <https://doi.org/10.5194/acp-19-11501-2019>, 2019.
 15. Werner, C., Meredith, L. K., Ladd, S. N., Ingrisch, J., Kübert, A., van Haren, J., Bahn, M., Bailey, K., Bamberger, I., Beyer, M., Blomdahl, D., Byron, J., Daber, E., Deleeuw, J., Dippold, M. A., Fudyma, J., Gil-Loaiza, J., Honeker, L. K., Hu, J., Huang, J., Klüpfel, T., Krechmer, J., Kreuzwieser, J., Kühnhammer, K., Lehmann, M. M., Meeran, K., Misztal, P. K., Ng, W.-R., **Pfannerstill, E.**, Williams, J., et al.: Ecosystem fluxes during drought and recovery in an experimental forest, *Science*, 374, 1514–1518, <https://doi.org/10.1126/science.abj6789>, 2021.
 16. Carter, T. S., Heald, C. L., Kroll, J., Apel, E. C., Blake, D., Coggon, M., Edtbauer, A., Gkatzelis, G., Hornbrook, R., Peischl, J., **Pfannerstill, E. Y.**, Piel, F., Reijrink, N., Ringsdorf, A., Warneke, C., Williams, J., Wisthaler, A., Xu, L.: An Improved Representation of Fire Non-Methane Organic Gases (NMOGs) in Models: Emissions to Reactivity, *Atmospheric Chemistry and Physics*, 22, 12093–12111, <https://doi.org/10.5194/acp-22-12093-2022>, 2022.

17. Edtbauer, A., **Pfannerstill, E. Y.**, Pires Florentino, A. P., Barbosa, Williams, J., et al.: Cryptogamic organisms are a substantial source and sink for volatile organic compounds in the Amazon region, *Communications Earth and Environment*, 2, <https://doi.org/10.1038/s43247-021-00328-y>, 2021.
18. Dienhart, D., Crowley, J. N., Bourtsoukidis, E., Edtbauer, A., Eger, P. G., Ernle, L., Harder, H., Hottmann, B., Martinez, M., Parchatka, U., Paris, J.-D., **Pfannerstill, E. Y.**, Rohloff, R., Schuladen, J., Stöner, C., Tadic, I., Tauer, S., Wang, N., Williams, J., Lelieveld, J., and Fischer, H.: Measurement report: Observation-based formaldehyde production rates and their relation to OH reactivity around the Arabian Peninsula, *Atmospheric Chemistry and Physics*, 21, 17373–17388, <https://doi.org/10.5194/acp-21-17373-2021>, 2021.
19. Friedrich, N., Eger, P., Shenolikar, J., Sobanski, N., Schuladen, J., Dienhart, D., Hottmann, B., Tadic, I., Fischer, H., Martinez, M., Rohloff, R., Tauer, S., Harder, H., **Pfannerstill, E. Y.**, Wang, N., Williams, J., Brooks, J., Drewnick, F., Su, H., Li, G., Cheng, Y., Lelieveld, J., and Crowley, J. N.: Reactive nitrogen around the Arabian Peninsula and in the Mediterranean Sea during the 2017 AQABA ship campaign, *Atmospheric Chemistry and Physics*, <https://doi.org/10.5194/acp-2021-42>, 2021.
20. Edtbauer, A., Stöner, C., **Pfannerstill, E. Y.**, Berasategui, M., Walter, D., Crowley, J. N., Lelieveld, J., and Williams, J.: A new marine biogenic emission: methane sulfonamide (MSAM), dimethyl sulfide (DMS), and dimethyl sulfone (DMSO₂) measured in air over the Arabian Sea, *Atmospheric Chemistry and Physics*, 20, 6081–6094, <https://doi.org/10.5194/acp-20-6081-2020>, 2020.
21. Bourtsoukidis, E., Pozzer, A., Sattler, T., Matthaios, V. N., Ernle, L., Edtbauer, A., Fischer, H., Könemann, T., Osipov, S., Paris, J.-D., **Pfannerstill, E. Y.**, Stöner, C., Tadic, I., Walter, D., Wang, N., Lelieveld, J., and Williams, J.: The Red Sea Deep Water is a potent source of atmospheric ethane and propane, *Nature Communications*, 11, 1–9, <https://doi.org/10.1038/s41467-020-14375-0>, 2020.
22. Dlugi, R., Berger, M., Mallik, C., Tsokankunku, A., Zelger, M., Acevedo, O. C., Bourtsoukidis, E., Hofzumahaus, A., Kesselmeier, J., Kramm, G., Marno, D., Martinez, M., Nölscher, A. C., Ouwersloot, H., **Pfannerstill, E. Y.**, Rohrer, F., et al.: Segregation in the Atmospheric Boundary Layer: The Case of OH - Isoprene, *Atmospheric Chemistry and Physics Discuss.*, 1–61, <https://doi.org/10.5194/acp-2018-1325>, 2019.
23. Fuchs, H., Novelli, A., Rolletter, M., Hofzumahaus, A., **Pfannerstill, E. Y.**, Kessel, S., Edtbauer, A., Williams, J., Michoud, V., Dusanter, S., Locoge, N., Zannoni, N., Gros, V., et al.: Comparison of OH reactivity measurements in the atmospheric simulation chamber SAPHIR, *Atmospheric Measurement Techniques*, 10, 4023–4053, <https://doi.org/10.5194/amt-10-4023-2017>, 2017.
24. Praplan, A. P., **Pfannerstill, E. Y.**, Williams, J., and Hellén, H.: OH reactivity of the urban air in Helsinki, Finland, during winter, *ATM. ENVIRONM.*, 169, 150–161, <https://doi.org/10.1016/j.atmosenv.2017.09.013>, 2017.
25. Weiss, G. M., **Pfannerstill, E. Y.**, Schouten, S., Sinninghe Damsté, J. S., and van der Meer, M. T. J.: Effects of alkalinity and salinity at low and high light intensity on hydrogen isotope fractionation of long-chain alkenones produced by *Emiliania huxleyi*, *Biogeosciences*, 14, 5693–5704, <https://doi.org/10.5194/bg-14-5693-2017>, 2017.

◆ SCIENCE OUTREACH PUBLICATIONS (NON-PEER-REVIEWED)

- E. Y. Pfannerstill**, Sophie Elschner: Von der Chemie unserer Atmosphäre. *RealScientists*, <http://realscientistsde.blogspot.com/2023/03/von-der-chemie-unserer-atmosphere-eva.html>, 03/2023.
- E. Y. Pfannerstill**: Atmospheric research in the middle of the Amazon forest: The Amazon Tall Tower Observatory celebrates its anniversary. *EGU Atmospheric Sciences blog*, <https://blogs.egu.eu/divisions/as/2020/09/16/atmospheric-research-in-the-middle-of-the-amazon-forest-the-amazon-tall-tower-observatory-celebrates-its-anniversary/>, 09/2020. *This article won the EGU prize for the best atmospheric science blog article of 2020.*
- E. Y. Pfannerstill**: Making sense of Teflon spaghetti: The Comparative Reactivity instrument. *ATTO research blog*, <https://www.attoproject.org/making-sense-of-teflon-spaghetti-the-comparative-reactivity-instrument/>, 11/2020.
- E. Y. Pfannerstill**: AQABA – tales from a Max Planck Institute for Chemistry research cruise (several articles), <https://aqabacruise.wordpress.com/author/tilvi/>, 07/2017.