

John D. Hader, M.Sc.

orcid.org/0000-0002-1033-4499

<https://www.aces.su.se/staff/john-hader/>

John.Hader@aces.su.se

Twitter: @John_D_Hader

Research focus: Chemical fate, transport, and exposure modeling, environmental geospatial analysis, and risk assessment. Passionate about exploring the intersection of environmental science and human health, particularly with respect to exposure to chemicals in the environment. Currently pursuing a Ph.D. in environmental science, focusing on the impact of global change scenarios on human and ecological exposure to agricultural and urban contaminants.

Education

- | | |
|------------------------------------|---|
| March 2023
(anticipated) | Ph.D. Environmental Science, Stockholm University, Stockholm, Sweden
Advisor: Matthew MacLeod, Ph.D. |
| July 2016
GPA: 3.45/4.00 | M.S. Atmospheric Science, NC State University, Raleigh, NC
Advisor: Sandra E. Yuter, Ph.D.
Thesis: Propagating, Cloud-eroding Boundaries in Southeast Atlantic Marine Stratocumulus |
| May 2014
Magna Cum Laude | B.S. Meteorology, NC State University, Raleigh, NC |

Research Experience

- | | |
|-----------------------------|--|
| April 2019-Present | Ph.D. Student and Marie Skłodowska-Curie Fellow, Stockholm University, Stockholm, Sweden |
| | <ul style="list-style-type: none">• One of 13 Ph.D. students within the EU-funded ECORISK2050 project taking place across 8 European universities.• Focus is on developing a novel exposure modeling framework for investigation of human and ecological exposure to agricultural and urban chemicals under different global change scenarios. |
| July 2016-March 2019 | Associate/Senior Health Scientist, ICF, Durham, NC, USA |
| | <ul style="list-style-type: none">• Conducted fate and transport modeling in support of the U.S. EPA's Risk and Technology Review investigating risk from persistent, bioaccumulative hazardous air pollutants.• Conducted a risk assessment with the Colorado Department of Public Health and Environment investigating exposures to VOCs emitted from oil and gas operations.• Performed inhalation exposure modeling with the U.S. EPA for the review of the National Ambient Air Quality Standard (NAAQS) for sulfur oxides. |
| Jan 2015-July 2016 | Graduate Research Assistant, NC State University, Raleigh, NC, USA |
| | <ul style="list-style-type: none">• Investigated variability in marine stratocumulus clouds employing data from geostationary and polar-orbiting satellites and numerical weather models. |

May 2012-Dec 2014 Undergraduate/Graduate Research Assistant, NC State University, Raleigh, NC, USA

- Conducted ice nucleation experiments on atmospheric aerosols.
- Participated in an ice nucleation instrument intercomparison with colleagues from various national and international institutions.

Teaching Experience

April-June 2020 & 2021 Teaching Assistant, System Dynamics, Lifecycle Analysis, and Modelling, Stockholm University

- One of several part-time teaching assistants within the system dynamics section of the course.
- Introduced master students to system dynamics modeling software, guided students through hands-on modelling exercises, and provided feedback on student projects and presentations.
- Ran one lecture session on designing a causal loop diagram of a COVID-19 model.

Aug 2015-Dec 2015 Teaching Assistant, MEA 215, North Carolina State University

- Devised lab activities and presentations for an introductory meteorology course with a focus on active learning.

Aug 2014-Dec 2014 Teaching Assistant, MEA 315, North Carolina State University

- Conducted a MATLAB-based lab session of a sophomore level meteorology class.

Publications

Holder, C., **Hader, J.**, Avanas, R., Hong, T., Carr, E., Mendez, B., Wignall, J., Glen, G., Guelden, B., Wei, Y., 2019: Evaluating Potential Human Health Risks from Modeled Inhalation Exposures to Volatile Organic Compounds Emitted from Oil and Gas Operations. *Journal of the Air and Waste Management Association*, doi:10.1080/10962247.2019.1680459.

Kosnik, M.B., Reif, D.M., Lobdell, D.T., Astell-Burt, T., Feng, X., **Hader, J.D.**, & Hoppin, J.A., 2019: Associations between access to healthcare, environmental quality, and end-stage renal disease survival time: Proportional-hazards models of over 1,000,000 people over 14 years. *PLoS ONE*, 14(3): e0214094, doi: 10.1371/journal.pone.0214094.

Yuter, S.E., **Hader, J.D.**, Miller, M.A., & Mechem, D.B., 2018: Abrupt cloud clearing of marine stratocumulus in the subtropical southeast Atlantic. *Science*, 361(6403), 697-701, doi:10.1126/science.aar5836.

Hiranuma, N., et al., 2015: A comprehensive laboratory study on the immersion freezing behavior of illite NX particles: a comparison of 17 ice nucleation measurement techniques. *Atmos. Chem. Phys.*, 15, 2489-2518, doi:10.5194/acp-15-2489-2015.

Hader, J.D., Wright, T.P., & Petters, M.D., 2014: Contribution of pollen to atmospheric ice nuclei concentrations. *Atmos. Chem. Phys.*, 14, 5433-5449, doi:10.5194/acp-14-5433-2014.

Wright, T.P., **Hader, J.D.**, McMeeking, G.R., & Petters, M.D., 2014: High relative humidity as a trigger for widespread release of ice nuclei. *Aerosol Sci. Technol.*, 48(11), i-v, doi:10.1080/02786826.2014.968244.

Wright, T.P., Petters, M.D., **Hader, J.D.**, Morton, T., & Holder, A.L., 2013: Minimal cooling rate dependence of ice nuclei activity in the immersion mode. *J. Geophys. Res. Atmos.*, 118(18), 10,535–10,543, doi:10.1002/jgrd.50810.

Presentations

Hader, J.D., Frenzel, M., MacLeod, M., 2021: Estimating risk to sewage treatment plants from upstream chemical spills using a dynamic, online version of SimpleTreat. IWA Digital World Water Congress (virtual). May 25th, 2021 (platform presentation).

Hader, J.D., Frenzel, M., MacLeod, M., 2020: Assessing Risk to Sewage Treatment Plants from Upstream Chemical Spills: A Combined Screening/Modelling Management Approach. SETAC Europe SciCon Annual Meeting (virtual). May 4th, 2020 (platform presentation).

Graham, S., & Glen, G., 2018: Introduction to APEX: Estimating Population-Based Air Pollutant Exposure, Dose, and Health Risk Workshop. ISES-ISEE Joint Annual Meeting, Ottawa, Canada. August 30th, 2018 (ancillary workshop; co-instructor).

Graham, S.E., Langstaff, J., **Hader, J.D.**, Glen, G., and Levasseur, J., 2018: Estimating fine-scale temporal and spatial characteristics of SO₂ exposures using U.S. EPA's Air Pollutants Exposure (APEX) Model. Abstracts, ISES-ISEE Joint Annual Meeting, Ottawa, Canada. August 28th, 2018 (poster).

Hader, J.D., 2015: Abrupt cloudiness transitions in the marine stratocumulus off the west coast of Africa. Department of Marine, Earth, and Atmospheric Sciences Graduate Student Seminar, North Carolina State University. October 23rd, 2015 (oral presentation).

Hader, J.D., Petters, M.D., and Wright, T.P., 2014: Contribution of pollen to atmospheric ice nuclei concentrations. Abstracts, Sixth Symposium on Aerosol-Cloud-Climate Interactions, 94th AMS Annual Meeting, Atlanta, GA. February, 2014 (poster).

Awards and Fellowships

September 16th, 2020 SETAC UK “Keep it simple, Scientists” (KISS) Twitter Conference Poster Competition Award

April 2019 - March 2022 Marie Skłodowska-Curie Fellowship within the ECORISK2050 Innovative Training Network

December 2018 ICF Divisional ‘Collaboration’ Award

Professional Activities and Affiliations

May 2019-Present Secondary/ordinary member, Lärarförslagsnämnden (Teacher Proposal Committee), student representative for the Department of Environmental Science, Stockholm University

Sept. 2019-Present Member, Exposure Models Working Group, International Society of Exposure Science, Europe

August 2019 Sorbonne Université Institut de Biologie Paris Seine (IBPS) Summer School on Endocrine Disruptors, Paris, France

April 2019-Present Member, Society of Environmental Toxicology and Chemistry

April 2019-Present Member, Marie Curie Alumni Association

June 2018-Present Member, International Society of Exposure Science

Manuscript Reviewer

Feb. 2021-Present Environmental Science and Technology

Feb. 2021-Present Environmental Science: Processes and Impacts