Christopher Andersen

Postdoc

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Education

Ph.D. in Environmental Science - Aarhus University

Department of Environmental Science *May 2020 - Jul. 2023*

- **Ph.D. thesis**: *High-Resolution Modeling of Air Pollution in Denmark - With the DAnish Lagrangian Model (DALM)*
- **Stay abroad**: Two month research stay at the PALM group at Leibniz University, Hannover, Germany —*Spring 2022*
- Presenting at two international conferences and participation in two summer schools.
- Courses completed in atmospheric modelling, micrometeorology, turbulence, GIS, and project management.
- Co-working with several researchers on different projects.
- Involvement in the editorial team of the department and the Ph.D. mentoring program.

M.Sc. in Physics - University of Copenhagen

Niels Bohr Institute - GPA: 12.0 *Sep. 2017 - Mar. 2020*

- **Master's Thesis**: *2D Cylindrical Poisson Solver for Self-gravitating Astrophysical Disks*
- **Semester Abroad**: University of Melbourne, Melbourne, Australia —*Spring 2018*
- Participation in an international conference and a summer school.
- First author of a published article.

B.Sc. in Physics - University of Copenhagen

Niels Bohr Institute - GPA: 10.1 *Sep. 2014 - Jun. 2017*

- **Bachelor's Thesis**: *Properties of Galaxies in the COSMOS and SDSS Surveys - Examining the Host Galaxies of Active Galactic Nuclei*
- **Semester Abroad**: University of Wisconsin-Madison, Madison, USA — *Autumn 2016*
- Participation in an extracurricular project at the Dark Cosmology Centre (DARK) during the second and third year of my Bachelor.

Experience

Postdoc in Atmospheric Modeling

Aarhus University - Department of Environmental Science *Jul. 2023 - today*

Continued development of the local-scale air pollution model DALM and collaboration on many other projects involving air pollution modeling, exposure and health impact assessments.

Research Assistant in Atmospheric Modeling

Aarhus University - Department of Environmental Science *May 2023 - Jun. 2023*

Involvement in projects related to air pollution.

Ph.D. in Environmental Science

Aarhus University - Department of Environmental Science *May 2020 - Jul. 2023*

Student Assistant in Atmospheric Modeling and IT support

Aarhus University - Department of Environmental Science *Apr. 2019 - Apr. 2020*

Performing data analysis of data from air pollution and climate models.

- Improvement of computational skills and experience in working in a professional team.
- Co-authoring a presentation for the European Meteorological Society Annual Meeting (EMS 2019) titled *Black Carbon Radiative Forcing over the Arctic*.

Mentor / Senior Mentor

MentorDanmark *Sep. 2014 - Apr. 2019*

Teaching of students from the primary and secondary school in mathematics, physics, astronomy, and history.

- Ranked first of more than one thousand mentors in the company, based on e.g., mentee satisfaction.

Skills

Languages Danish (native language), English (full professional proficiency), German (elementary).

Computing R, Fortran, Python, MatLab, C, HPC, Linux/Bash, LaTeX, Git, GIS, Maple, Microsoft Office.

Peer-reviewed Publications

Published as first author:

- **Andersen, C.**, Rosenstroem, C.A., and Ruchayskiy, O.: "How bright was the Big Bang?". American Journal of Physics **87**, 395 (2019).
  DOI: `https://doi.org/10.1119/1.5092705`

Published as co-author:

- Poulsen, A.H., Sørensen, M., Hvidtfeldt, U.A., Christensen, J.H., Brandt, J., Frohn, L.M., Ketzel, M., **Andersen, C.**, Jensen, S.S., Münzel, T., and Raaschou-Nielsena, O.: "Concomitant exposure to air pollution, green space, and noise and risk of stroke: a cohort study from Denmark". *The Lancet Regional Health - Europe* **31**, 100655 (2023).
  DOI: `https://doi.org/10.1016/j.lanepe.2023.100655`

- Poulsen, A.H., Sørensen, M., Hvidtfeldt, U.A., Christensen, J.H., Brandt, J., Frohn, L.M., Ketzel, M., **Andersen, C.**, and Raaschou-Nielsen, O.: "Source-Specific Air Pollution Including Ultrafine Particles and Risk of Myocardial Infarction: A Nationwide Cohort Study from Denmark". *Environmental Health Perspectives* **131**, 5, 057010 (2023).
  DOI: `https://doi.org/10.1289/EHP10556`

- Sørensen, M., Poulsen, A.H., Hvidtfeldt, U.A., Christensen, J.H., Brandt, J., Frohn, L.M., Ketzel, M., **Andersen, C.**, Valencia, V.H., Lassen, C.F., and Raaschou-Nielsen, O.: "Effects of sociodemographic characteristics, comorbidity and co-exposures on the association between air pollution and type 2 diabetes: A nationwide cohort study". *Environmental Health Perspectives* **131**, 2, 027008 (2023).
  DOI: `https://doi.org/10.1289/EHP11347`

- Frohn, L.M., Geels, C., **Andersen, C.**, Andersson, C., Bennet, C., Christensen, J.H., Im, U., Karvosenoja, N., Kindler, P.A., Kukkonen, J., Lopez-Aparicio, S., Nielsen, O.-K., Palamarchuk, Y., Paunu, V.-V., Plejdrup, M.S., Segersson, D., Sofiev, M., and Brandt, J.: "Evaluation of multidecadal high-resolution atmospheric chemistry-transport modelling for exposure assessments in the continental Nordic countries". *Atmospheric Environment* **290**, 119334 (2022).
  DOI: `https://doi.org/10.1016/j.atmosenv.2022.119334`

- Ketzel, M., Frohn, L.M., Christensen, J.H., Brandt, J., Massling, A., **Andersen, C.**, Im, U., Jensen, S.S., Khan, J., Nielsen, O.-K., Plejdrup, M.S., Manders, A., Dernier van der Gon, H., Kumar, P., and Raaschou-Nielsen, O.: "Modelling ultrafine particle number concentrations at address resolution in Denmark from 1979 to 2018-Part 2: Local and street scale modelling and evaluation." *Atmospheric Environment* **264**, 118633 (2021).
  DOI: `https://doi.org/10.1016/j.atmosenv.2021.118633`

- Frohn, L.M., Ketzel, M., Christensen, J.H., Brandt, J., Im, U., Massling, A., **Andersen, C.**, Plejdrup, M.S., Nielsen, O.-K., Gon, H.D.V.D., Manders-Groot, A., and Raaschou-Nielsen, O.: "Modelling ultrafine particle number concentrations at address resolution in Denmark from 1979-2018–Part 1: Regional and urban scale modelling and evaluation". Atmospheric Environment **264**, 118631 (2021): *Atmospheric Environment*.
  DOI: `https://doi.org/10.1016/j.atmosenv.2021.118631`

Presentations at Conferences and Summer Schools

International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes

Aveiro, Portugal — *27-30 Sep. 2022*

Conference presentation: *Development of a New Lagrangian Air Pollution Model for Denmark*

International Conference on Air Quality – Science and Application

Thessaloniki, Greece — *27 Jun. - 1 Jul. 2022*

Conference presentation: *New Lagrangian air pollution model for Denmark*

BERTHA Summer Meeting

Sønderborg, Denmark — *7-9 Sep. 2021*

Summer school presentation: *High-Resolution Modeling of Air Pollution in Denmark*