CARL SVENHAG

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ACADEMIC CAREER

January 2025 – Present

Postdoctoral Researcher
Aarhus University, Department of Environmental Science

Full-time, Funded by EU project: CleanCloud, Supervised by: Ulas Im.

May 2020 – December 2024

PhD Student
Lund University, Faculty of Engineering

Full-time doctoral student at LTH's Department of Physics, Lund University, starting May 2020 with thesis defense in December 2024. Funded by FORMAS and the Swedish National Space Agency. Supervisors: Moa Sporre, Pontus Roldin, Sara Blichner, and Birgitta Svenningsson.

Sep 2020 – June 2024

Departmental Service
Lund University, Faculty of Engineering

Includes teaching and supervision in various courses: FAFA45 Physics, FAFF10 Atomic and Nuclear Physics with Applications, METN11 Chemistry and Physics of the Atmosphere, FAFA30 Physics - Electricity, Gases, and Liquids, FAFA76 Energy and Environmental Physics.

Jan 2020 – May 2020

Research Assistant at Lund University

Part-time at the Department of Physics, Lund University, under Johan Friberg, conducting research on SAGE II & SAGE III satellite data and cloud algorithms.

EDUCATION

May 2014 – June 2017

Bachelor's degree in physics, 180 ECTS, Lund University:
Physics program with a specialization in Meteorology.

Sep 2017 – Jan 2020

Master's Degree, 120 ECTS, Atmospheric Science and Biogeochemical Cycles, Lund University:
Included in the Nordplus program with 30 ECTS of international studies at the University of Copenhagen.

Jun 2017 – Aug 2017

Summer School Hong Kong University of Science and Technology:
Studied a course in Urban Air Pollution.

PUBLICATIONS

Article – Atmospheric Chemistry and Physics – Main Author (in Review)

- *A Seasonal differences in observed versus modeled new particle formation at two European boreal stations*, Carl Svenhag, Pontus Roldin, Tinja Olenius, Robin Wollesen de Jonge, Sara Blichner, Daniel Yazgi, and Moa Sporre, https://doi.org/10.5194/egusphere-2024-3626, 2025.

Article – Atmospheric Chemistry and Physics – Co-Author (preprint)

- *A process-evaluation of the impact of precipitation on aerosol particle number size distributions in three Earth System Models*, Sara Blichner, Theodore Khadir, Sini Talvinen, Paulo Artaxo, Liine Heikkinen, Harri Kokkola, Radovan Krejci, Irfan Muhammed, Twan van Noije, Tuukka Petäjä, Christopher Pöhlker, Øyvind Seland, Carl Svenhag, Antti Vartiainen, and Ilona Riipinen, 2025.

Article – Nature Communications – Co-author

- Blichner, S. M., Yli-Juuti, T., Mielonen, T., Pöhlker, C., Holopainen, E., Heikkinen, L., Mohr, C., Artaxo, P., Carbone, S., Meller, B. B., Quaresma Dias-Júnior, C., Kulmala, M., Petäjä, T., Scott, C. E., Svenhag, C., Nieradzik, L., Sporre, M., Partridge, D. G., Tovazzi, E., Virtanen, A., … Riipinen, I. Process-evaluation of forest aerosol-cloud-climate feedback shows clear evidence from observations and large uncertainty in models. *Nature communications*, *15*(1), 969, https://doi.org/10.1038/s41467-024-45001-y, 2024.

Article – Geoscientific Model Development – Main author

- Svenhag, C., Sporre, M. K., Olenius, T., Yazgi, D., Blichner, S. M., Nieradzik, L. P., and Roldin, P.: Implementing detailed nucleation predictions in the Earth system model EC-Earth3.3.4: sulfuric acid-ammonia nucleation, EGUsphere, https://doi.org/10.5194/gmd-17-4923-2024, 2024.

Article – Environmental Science & Technology – Co-author

- Robin Wollesen de Jonge, Carlton Xavier, Tinja Olenius, Jonas Elm, Carl Svenhag, Noora Hyttinen, Lars Nieradzik, Nina Sarnela, Adam Kristensson, Tuukka Petäjä, Mikael Ehn, and Pontus Roldin, *Environmental Science & Technology 58* (25), 10956-10968, https://doi.org/10.1021/acs.est.4c01891, 2024.

Article - Geophysical Research Letter – Co-author

- *Springtime Stratospheric Volcanic Aerosol Impact on Midlatitude Cirrus Clouds*, Moa Sporre, J. Friberg, C. Svenhag O. Sourdeval, T. Storelvmo, Geophysical Research Letters, vol. 49, 2, https://doi.org/10.1029/2021GL096171, 2022.

Master Thesis – Main Author

- *Interpreting and composing SAGE II-III satellite data with a cloud algorithm for stratospheric Aerosols,* 2020. In Student thesis series, INES, NGEM01, Dept of Physical Geography and Ecosystem Science.

Bachelor Thesis – Main Author

- *Analyzing Meteorological Relationships to Aerosols in China,* FYSK02 20171 Department of Physics Combustion Physics.

CONFERENCE PRESTATIONS

- Swedish Climate Symposium 2022, Norrköping, Sweden (Poster Presentation)
- Swedish Climate Symposium 2024, Norrköping, Sweden (Poster Presentation)
- International Aerosol Conference 2022, Athens, Greece (**Oral** Presentation)
- European Geoscience Union General Assembly 2024, Wien, Austria (**Oral** Presentation)
- European Aerosol Conference 2024, Tampere, Finland (Poster Presentation)

SPECIAL ASSIGNMENTS

PhD representative in the board for the strategic research area **MERGE** (ModElling the Regional and Global Earth system).

Chairing the **CleanCloud** monthly seminar-series.

PROGRAMMING KNOWLEDGE:

- Python - Proficient
- MATlab - Proficient
- Fortran - Proficient
- LaTEX - Proficient
- BASH - Proficient
- Microsoft Office - Proficient

LANGUAGES

- Swedish - Native
- English - Proficient
- Danish - Limited Proficiency
- German - Basic
- Japanese - Basic