Curriculum Vitae — Robert Bergström

(short version, August 2021)

Full Name: Jan Robert Bergström

ORCID: https://orcid.org/0000-0003-2910-747X

Year of Birth: 1968 **Nationality:** Swedish

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Current Position: Research leader, Swedish Meteorological and Hydrological Institute (SMHI)

Key qualifications: Robert is a chemist and physicist (Ph. D. in Natural Science – specialization Chemistry, and Ph. Lic. in Quantum Chemistry) with over 20 years of experience at the Swedish Meteorological and Hydrological Institute (SMHI), and at the Chalmers University of Technology and the University of Gothenburg, mainly within air pollution research, model development and air quality assessments (e.g., for the Swedish Environmental Protection Agency). His current research is focused on modelling of atmospheric chemistry and particulate matter from various sources, including biomass combustion, anthropogenic and biogenic VOCs. He is also contributing to the development of the EMEP MSC-W model (one of the key tools within European air pollution policy assessments; used for calculations in support of the Convention of Long-Range Transboundary Air Pollution, CLRTAP; see http://www.emep.int/) in collaboration with the Norwegian Meteorological Institute and Chalmers University of Technology.

University Education:

- Ph. D., Natural Science, specialization in Chemistry, University of Gothenburg, 2015.
- Licentiate Degree, Quantum Chemistry, Uppsala University, 2005.
- Physics and Chemistry, Uppsala University (including courses at Vrije Universiteit Amsterdam and Stockholm University) 1988–1992.

Work Experience:

- 2021 – present Research scientist / Research leader
  Swedish Meteorological and Hydrological Institute, 60176 Norrköping, Sweden, www.smhi.se
  - Air quality modelling
  - Atmospheric chemistry and deposition of air pollutants
  - Carbonaceous aerosol – organic aerosol and soot
  - Particle formation and aerosol dynamics
  - Emissions from biomass combustion and other anthropogenic and biogenic sources
  - Development of chemical transport models

- 2019 – 2021 Research scientist
  Department of Space, Earth and Environment, Chalmers University of Technology, SE-412 96 Gothenburg, Sweden, www.chalmers.se
  - Biogenic VOCs and secondary organic aerosol formation
  - Development of gas phase atmospheric chemistry mechanisms
  - Global and European scale modelling of – organic aerosol, elemental carbon and gas phase pollutants
  - Source-apportionment of carbonaceous aerosol
  - Atmospheric chemistry and deposition of air pollutants

- 2017 – 2019 **Postdoctoral research associate**
  Department of Space, Earth and Environment, Chalmers University of Technology, SE-412 96 Gothenburg, Sweden, www.chalmers.se
  - Biogenic VOCs and secondary organic aerosol formation
  - Global and European scale modelling of – organic aerosol, elemental carbon and gas phase pollutants
  - Source-apportionment of carbonaceous aerosol and alkali-containing particles

- 2016 **Guest researcher (part time)**
  Department of Chemistry and Molecular Biology, University of Gothenburg, Gothenburg, Sweden, www.gu.se
  - Modelling biogenic VOCs and secondary organic aerosol formation
  - Stress-induced emissions of BVOC
  - Source-apportionment of particulate matter

- 2008 – 2012 **Research Assistant (part time)**
  Department of Chemistry and Molecular Biology, University of Gothenburg, Gothenburg, Sweden, www.gu.se
  - Carbonaeous aerosol modelling and source apportionment
  - Secondary organic aerosol formation from anthropogenic and biogenic VOC-emissions
  - Stress-induced BVOC emissions and SOA formation
  - Light-absorbing carbon in Europe (elemental carbon / black carbon)
  - Particulate matter from biomass combustion emissions

- 1997 – 2017 **Research scientist**
  Swedish Meteorological and Hydrological Institute, 60176 Norrköping, Sweden, www.smhi.se
  - Development of chemical transport models
  - Research, consultancy work, and investigations for the Swedish EPA and other Swedish and European agencies
  - Continental, national and regional scale air quality modelling
  - Acidification, Eutrophication, Tropospheric ozone, Particulate matter
  - Wet and dry deposition of air pollutants
  - Anthropogenic and natural emissions (e.g Power plants, Residential biomass combustion, Ship emissions, Aircraft emissions, Road dust, fugitive VOC emissions, Biogenic VOC, Sea salt)
  - Polycyclic aromatic hydrocarbons
  - Air pollution forecasts
  - Teaching (atmospheric chemistry and air pollution)

- 1992 – 1997 **Research Assistant and Editorial Assistant**
  Department of Quantum Chemistry, Uppsala University, 751 05 Uppsala, Sweden, www.uu.se
  - Quantum Chemistry
  - Transition metal oxides, clusters and surfaces
  - Density Functional Theory of transition metal compounds
  - Photoelectrochemistry modelling
  - Teaching (Theoretical Chemistry, Quantum Chemistry)
  - Publishing, Editorial work International Journal of Quantum Chemistry

Publication statistics (ORCID ID: orcid.org/0000-0003-2910-747X, 23 August, 2021)**:**

- Total number of peer-reviewed international journal articles: 38
- Total number of citations (Web of Science): 2773
- h-index (Web of Science): 25

Scientific reviewer for:

- FWF - Fonds zur Förderung der wissenschaftlichen Forschung (Austrian Science Fund)
- Atmosphere
- Atmospheric Chemistry and Physics
- Atmospheric Environment
- Atmospheric Research
- Comptes Rendus de l'Académie des Sciences (Geoscience)
- Environmental Pollution
- Environmental Science and Technology
- International Journal of Environmental Research and Public Health
- International Journal of Quantum Chemistry
- Water Air and Soil Pollution

Languages: Swedish (native), English (C2), Dutch (A2/B2), German (A2/B2)

Programming/Digital skills:

- Systems: Linux/UNIX, Windows
- Languages: Fortran (F77, F90), C, UNIX/Linux shell scripts, python, perl
- Long experience from using HPC systems
- Knowledge of version control using e.g. git, cvs, rcs
- Other: LaTex, Matlab, MS Office suite, Google Drive/Docs etc.