

Curriculum Vitae

AKSEL WALLØE HANSEN

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MAIN RESEARCH AREAS:

My scientific interest over the years has had two components: models of the atmosphere and studies of the climate. My work started in the 70's within atmospheric modeling, especially aiming at the implementation of spectral models in numerical weather forecast systems. Together with a colleague I made the very first 10-day global weather forecast using the spectral method. And we also made the very first non-linear normal mode initialization of realistic data for the same model. I have employed global model to the study of ozone in climate context. In the last decade or so I have worked on climate issues of different kinds, e.g. the possible impact of Sun on climate. A new area of research is important aspects of the energy budget of the atmosphere and how to utilize the energy for human society at a large scale.

EDUCATION:

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| BSc degree in geophysics at University of Copenhagen, Denmark | 1970 |
| MSc degree in meteorology at University of Copenhagen, Denmark | 1974 |
| PhD degree in meteorology at University of Copenhagen, Denmark | 1980 |

CAREER:

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| Assistant Professor at the Niels Bohr Institute, Dept. Of Geophysics | 1974-1980 |
| Researcher at ECMWF, UK | 1976-1977 |
| Associate Professor, The Niels Bohr Institute | 1981- now |
| Head of Institute, Geophysical Institute | 1985-1989 |
| Head of Department, Dept. of Geophysics, NBI | 1998-2004 |

PROFESSIONAL COMMITMENTS:

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| Chairman for "Faggruppe", Strategic Environmental Research Program, Air pollution | 1992 -1997 |
| Chairman for Danish National Committee on Climate research | 1989 - now |
| Treasurer of IUGG, International Union for Geodesy and Geophysics | 1999 - now |
| Vice head of the COGCI PhD School, Faculty of Science, University of Copenhagen | 2001 - now |
| Referee at "Atmospheric Chemistry and Physics" | 2003 - now |

TEACHING & OUTREACH:

I have been teaching university students in physics, geophysics and meteorology for more than 30 years. I have been responsible for more than 75 university courses at bachelor, master and PhD level since 1972. I have given courses at Danish Meteorological Institute in numerical weather forecasting. I have given 11 courses/lectures at Folkeuniversitet. And I have given numerous lectures at different places like high schools, training courses for teachers etc.

I have written several popular articles on physics, geophysics, meteorology and climate to the Danish National Encyclopedia during the period 1993-2000.

Major articles: "Green House effect" (1995), "Climate theories and Models " (1997), "Meteorology" (1999).

"Kronik" in the Danish national newspaper Politiken:

A.W. Hansen: "Vejrudsigten", March 15, 2000. The same article is also published in the book: "Hvordan lever vi til år 2025", Ed. Ove Nathan, Politikens Forlag, 2000, ISBN 87-567-6338-7, pages 63-73.

Since 1999 I have been responsible for the cooperation between Lund University and University of Copenhagen about the Bachelor degree in meteorology at Lund University.

SUPERVISOR FOR GRADUATE STUDENTS (2000 – now):

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| Number of Master degrees | 16 |
| Number of PhD degrees | 9 |

SELECTED PUBLICATIONS:

D. Dahl-Jensen, K. Mosegaard, N. Gundestrup, S. Johnsen, A.W. Hansen, G.D. Clow and N. Balling, University of Aarhus, "Past Temperatures Directly from the Greenland Ice Sheet", Science, 282, pp. 268-271, 1998.

T. Stockfleth Jørgensen, DMI, and A.W. Hansen, "Comments on "Variation of cosmic ray flux and global cloud coverage - a missing link in solar-climate relationships" by H. Svensmark and E. Friis-Christensen", Journal of Solar-Terrestrial Physics, 62, pp. 63-77, 2001.

C. Geels, J.H. Christensen, A.W. Hansen, S. Kiilsholm, N.W. Larsen, S.E. Larsen, T. Pedersen and L.L. Sørensen, "Modeling Concentrations and Fluxes of Atmospheric CO₂ in the North East Atlantic Region", Phys. Chem. Earth (B), Vol 26, No 10, pp. 763-768, 2001.

B.M. Vinther, S.J. Johnsen, K.K. Andersen, H.B. Clausen, and A.W. Hansen: "NAO signal recorded in the stable isotopes of Greenland ice Cores", Geophysical Research Letters, Vol 30, No 7, 1387, doi:10.1029/2002GL016193, 2003

B.M. Vinther, K.K. Andersen, A.W. Hansen, T. Schmidt, P. Jones: "Improving the Gibraltar/Reykjavik NAO index", Geophysical Research Letters, vol 30, No 23, 2222, doi: 10.1029/2003GL018220, 2003

C. Geels, J.H. Christensen, A.W. Hansen, J. Heinemeier, S. Kiilsholm, N.W. Larsen, S.E. Larsen, T. Pedersen, L.L. Sørensen, J. Brandt, L.M. Frohn and S. Djurhuus: "Identifying the European Fossil Fuel Plumes in the Atmosphere over the Northeast Atlantic Region through Isotopic Observations and Numerical Modelling", Environmental Monitoring and Assessment, No. 117, pp. 387-409, doi: 10.1007/s10661-006-0775-4, 2006

C.W. Stjern, J.E. Kristjánsson, A.W. Hansen: "Global dimming and global brightening - an analysis of surface radiation and cloud cover data in northern Europe", International Journal of Climatology, DOI: 10.1002/joc.1735, 2008.