

Salomon Eliasson

Curriculum vitae

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Personal information

Date of birth	8 April 1978
Place of birth	Alingsås, Sweden
Nationality	Swedish; Australian (resident)
Webpage	www.sat.ltu.se/members/salomon
Webpage	click link to get to my webpage at SMHI
Drivers Licence	yes

Research interests

My main interests lie in clouds and upper tropospheric humidity, and in particular in satellite based retrievals of such and their representation in climate models. A short summary:

- Cloud detection based on AVHRR night time measurements in Arctic regions [Eliasson et al., 2007]
- Climate model validation projects (EC-Earth) [Johnston et al., 2012]
- The climatological spatial distribution of clouds from multiple satellite instruments, and how they compare to the distributions of several GCMs [Eliasson et al., 2011]
- Upper tropospheric humidity measurements [PhD thesis and Moradi et al., 2010]
- Finding systematic and random errors between satellite observations of ice clouds. [Eliasson et al., 2013]
- Finding the conditions where cloud retrievals based on different sensors are similarly sensitive to clouds [Eliasson et al., 2013]
- Atmospheric response to deep convection in climate models [PhD thesis]
- Uncertainties in cloud ice retrievals dependent on cloud types and parametrisations [PhD thesis]

Experience

Research

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|---------------|--|
| 201308— | Scientist , <i>Swedish Meteorological and Hydrological Institute</i> , Norrköping, Sweden.
Several duties including the development of satellite simulators for AVHRR products |
| 201306—201308 | Visiting Scientist , <i>Deutsche Wetterdienst</i> , Germany, Contact: Dr. Martin Stengel.
Evaluation of an ESA Cloud_cci satellite-based ice water path dataset |

- 201301—201306 **Research Engineer**, *Luleå University of Technology*, Kiruna, Sweden.
Assessing the uncertainties in passive and active satellite measurements of clouds
- 2007–2013 **PhD student**, *Luleå University of Technology*, Kiruna, Sweden.
- 2006–2007 **Research Assistent**, *Swedish Meteorological and Hydrological Institute (SMHI) for the Climate Monitoring Satellite Applications Facility (CMSAF)*, Norrköping, Sweden.
Validation and development of a cloud mask for Arctic regions using AVHRR satellite data.
- 2006-(01–02) **Head Quarters Assistent**, *Tropical Warm Pool International Cloud Experiment (TW-PICE)*, Darwin, Australia.
Participation in international measurement campaign

Teaching

- 2007–2012 **Course Assistent**, *Remote Sensing*, Luleå University of Technology.
3 rounds. Chairing tutorials and grading exercises
- 2008–2010 **Laboratory teaching: Spectrometry**, *Luleå University of Technology* .
2 courses. Overseeing and grading student lab reports
- 2002 **Substitute teacher Junior High**, *Tunaholmskolan and Högalidskolan*, Mariestad, Sweden.
2 + 4 months Science and Social Science

Education

PhD

- date 2013-01-31
title *Ice Clouds in Satellite Observations and Climate Models*
- supervisor Prof. Stefan Buehler, Luleå University of Technology, Kiruna Campus
- opponent Dr. Tristan L'Ecuyer, University of Wisconsin-Madison
- description Depending on the measurement techniques cloud ice retrievals are based on, the retrievals are sensitive to parts of the ice particle size distribution and hence cloud depth. The main aim was to assess the agreement of datasets based on different techniques, and assess how they may be complementary.

PhD studies

- 2007-08 – 2013-01 **PhD. Space Technology / Atmospheric Remote Sensing**, *Luleå University of Technology*, supervised by Prof. Stefan A. Buehler, Kiruna, Sweden.
- 2007-08 – 2013-01 **60 ECTS Post Graduate courses**, *Luleå University of Technology*.

MSc. Thesis

- title *An Extrapolation Technique of Cloud Characteristics Using Tropical Cloud Regimes*
supervisor Prof. Christian Jakob, Bureau of Meteorology Research Centre, Australia

2002–2006 **MSc. in Physics**, *Uppsala University*, Uppsala, Sweden.
Specialising in atmospheric physics

Community services

2010-2012 **Representative at PhD student association**, *Luleå University of Technology*.
For the institute of space science

2010-2012 **Board member of the Research School in Space Technology**, *Luleå University of Technology*.
PhD student representative

2011— **Peer review for journals**, *Journals: ACP, JAMC*.
2 for ACP and 1 for JAMC

Technical skills

Programming MATLAB, GMT, FORTRAN90, IDL, ENVI.

Programming – Developing a satellite simulator in FORTRAN90

Programming – Authored a publicly available toolbox which is interface between MATLAB and generic mapping tools (GMT)
– Authored many generic MATLAB functions shared by several research groups as part of the publicly available MATLAB toolbox called ATMLAB (<http://www.sat.ltu.se/arts/tools/>)

Other Experienced using LaTeX for written documents and presentations

Computers Experienced working in a Unix environment.

Computers Experienced working in a Microsoft environments

Languages

English **excellent**

15 years in Australia

Swedish **excellent**

19 years in Sweden

German **basic**

language classes in secondary school

Publications

Eliasson, S., G. Holl, S. A. Buehler, T. Kuhn, M. Stengel, F. Iturbe-Sanchez, and M. Johnston (2013), Systematic and random errors between collocated satellite ice water path observations, *J. Geophys. Res.*, 118, 1–14, doi:10.1029/2012JD018381.

Buehler, S. A., S. Östman, C. Melsheimer, G. Holl, **S. Eliasson**, V. O. John, T. Blumenstock, F. Hase, G. Elgered, U. Raffalski, T. Nasuno, M. Satoh, M. Milz, and J. Mendrok (2012), A multi-instrument comparison of integrated water vapour measurements at a high latitude site, *Atmos. Chem. Phys.*, 10925–10943, doi:10.5194/acp-12-10925-2012.

Johnston, M. S., P. Eriksson, **S. Eliasson**, C. Jones, R. Forbes, and D. P. Murtagh (2012), The representation of tropical upper tropospheric water in EC Earth V2, *Climate Dynamics*, 39(11), 2713–2731, doi:10.1007/s00382-012-1511-0.

Buehler, S. A., E. Defer, F. Evans, **S. Eliasson**, J. Mendrok, P. Eriksson, C. Lee, C. Jimenéz, C. Prigent, S. Crewell, Y. Kasai, R. Bennartz, and A. J. Gasiewski (2012), Observing Ice Clouds in the Submillimeter Spectral Range: The CloudIce Mission Proposal for ESA's Earth Explorer 8, *Atmos. Meas. Tech.*, 5, 1529–1549, doi:10.5194/amt-5-1529-2012.

Eliasson, S., S. A. Buehler, M. Milz, P. Eriksson, and V. O. John (2011), Assessing observed and modelled spatial distributions of ice water path using satellite data, *Atmos. Chem. Phys.*, 11, 375–391, doi:10.5194/acp-11-375-2011.

Moradi, I., S. A. Buehler, V. O. John, and **S. Eliasson** (2010), Comparing upper tropospheric humidity data from microwave satellite instruments and tropical radiosondes, *J. Geophys. Res.*, 115, D24310, doi:10.1029/2010JD013962.

PhD Thesis

Eliasson, S. (2013), Ice clouds in satellite observations and climate models, PhD Thesis, Luleå University of Technology, Department of Computer Science, Electrical and Space Engineering Division of Space Technology, ISBN 978-91-7439-544-0 ISSN: 1402-1544. Weblink: [http://pure.ltu.se/portal/en/publications/ice-clouds-in-satellite-observations-and-climate-models\(889d0b0f-ced5-4bff-9c4a-85e9da835d1d\).html](http://pure.ltu.se/portal/en/publications/ice-clouds-in-satellite-observations-and-climate-models(889d0b0f-ced5-4bff-9c4a-85e9da835d1d).html)

Theses and reports

Eliasson, S., A. Tetzlaff, and K.-G. Karlsson (2007), Prototyping an improved PPS cloud detection for the Arctic polar night, SMHI. Weblink: <http://www.smhi.se/publikationer/prototyping-an-improved-pps-cloud-detection-for-the-arctic-polar-night-1.1772>

Eliasson, Salomon (2006), An Extrapolation Technique of Cloud Characteristics Using Tropical Cloud Regimes, Thesis, Uppsala Universitet.

Conference contributions

- 2013 **Talk and poster at EUMETSAT conference**, *Vienna, Austria*.
- 2013 **Snowfall workshop**, *Mammoth Lakes, USA*, Title: Systematic and random errors between collocated satellite ice water path observations.
- 2010 **Invited talk at GEWEX CA workshop**, *Berlin, Germany*, Title: Ice clouds: Ice water path, effective radius and cloud optical depth.
- 2010 **EGU conference**, *Vienna, Austria*, Title: Assessing Modelled Spatial Distributions of Ice Water Path using Satellite Data (Oral).
- 2010 **EUMETSAT conference**, *Cordoba, Spain*, Title: Assessing Modelled Spatial Distributions of Ice Water Path using Satellite Data (Oral).
- 2007 **EUMETSAT conference**, *Amsterdam, Netherlands*, Title: An improved NWCSAF PPS cloud detection for the Arctic polar night (poster).