

Linda Forster

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Education

Mar 2013 –
Dec 2017

Dr.rer.nat, Meteorology

[LMU, München](#)

Dissertation: “Information Content of Halo Displays for Remote Sensing of Ice Crystal Properties”.
Advisors: Prof. Dr. Bernhard Mayer (LMU) and Prof. Dr. Markus Rapp (DLR, Oberpfaffenhofen).

Oct 2009 –
Aug 2012

Master of Science, Meteorology

[LMU, München](#)

Thesis: “Retrieval of Water Cloud Optical Properties using Ground-Based Polarimetric Measurements”. Advisor: Dr. Claudia Emde.

Specialized courses: Monte Carlo Radiative Transport Modeling, Statistics, Numerical Modeling.

Oct 2006 –
Aug 2009

Bachelor of Science, Physics

[LMU, München](#)

Thesis: “Effects of Three-Dimensional Photon Transport on the Radiative Forcing of Contrails”, at DLR (Deutsches Zentrum für Luft- und Raumfahrt), Oberpfaffenhofen. Advisor: Dr. Claudia Emde.

Experience

Nov 2018 –
Present

Postdoctoral Fellow

[NASA JPL, Pasadena & LMU, München](#)

3D tomographic cloud reconstruction using MISR multi-angle satellite observations.

Jun 2018 –
Sep 2018

Data Scientist

[mVISE, München](#)

Created training material on theory and applications of time series analysis.

Jan 2018 –
Mar 2018

Postdoctoral Research Assistant

[LMU, München](#)

Continuing research and further publications on the project “Information Content of Halo Displays for Remote Sensing of Ice Crystal Properties”.

Mar 2013 –
Dec 2017

Graduate Research Assistant

[LMU, München](#)

Project: “Information Content of Halo Displays for Remote Sensing of Ice Crystal Properties”

- Set-up and implementation of a weather-proof sun-tracking camera system
- Camera calibration (geometric and radiometric)
- Employed image processing and machine learning methods for automated image classification
- Developed a Monte Carlo based raytracing algorithm for radiative transfer simulations
- Organized and carried out (international) field campaigns

Teaching Assistant for the lecture “Clouds: Microphysics and Convection”.

Aug 2012 –
Sep 2012

Visiting Scientist

[NASA GISS, New York City](#)

Retrieval of cloud droplet size distribution in water clouds using polarimetric multi-wavelength observations of the RSP (Research Scanning Polarimeter) instrument. Advisor: Dr. Brian Cairns.

Apr 2011 –
Oct 2010

Assistant Meteorologist

[Meteo Systems, Abu Dhabi](#)

- Preparation and presentation of daily meteorological forecast
- Now-casting and monitoring of (heavy) rain events using radar observations

Publications

- **Forster, L.** et al., 2017: Ice Crystal Characterization in Cirrus Clouds: a Sun-Tracking Camera System and Automated Detection Algorithm for Halo Displays. *Atmos. Meas. Tech.*, 10 (7), 2499–2516, doi:10.5194/amt-10-2499-2017.
- Voigt, C. et al., 2016: ML-CIRRUS - The airborne experiment on natural cirrus and contrail cirrus with the high-altitude long-range research aircraft HALO. *Bull. Amer. Meteor. Soc.*, 98, 271–288, doi:10.1175/BAMS-D-15-00213.1.
- **Forster, L.** et al., 2012: Effects of Three-Dimensional Photon Transport on the Radiative Forcing of Realistic Contrails. *J. Atmos. Sci.*, 69 (7), 2243–2255, doi:10.1175/JAS-D-11-0206.1.

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Awards

2018

Outgoing LMU Research Fellowship

2015

Amelia Earhart International Fellowship

2014

Amelia Earhart Award

Workshops

Sep 2014

ITaRS (Initial Training for atmospheric Remote Sensing) [University of Cologne](#)
Summer School “Clouds and Precipitation: Observation and Processes”, Jülich, Germany.

Feb 2014

LGS-CAR (Leipzig Graduate School, Aerosols and Radiation) [TROPOS, Leipzig](#)
Advanced Training Module “Polarized Radiative Transfer in the Troposphere”, Leipzig, Germany.
Invited talk: “Monte-Carlo polarized radiative transfer modeling” (on behalf of Dr. Claudia Emde).

Internships

Jan 2012 –
Mar 2012

Working student at LMU [LMU, München](#)
Generating look-up tables for the atmospheric correction of ESA's Sentinel-2 satellite imagery within the “ESA's light” project. Advisor: Dr. Claudia Emde.

Mar 2010 –
Apr 2010

Internship at DLR (Deutsches Zentrum für Luft- und Raumfahrt) [DLR, Oberpfaffenhofen](#)
Department of Dynamics of the Atmosphere
Project: time series analysis of meteorological and chemical data from model simulations and observations. Advisor: Prof. Dr. Martin Dameris

Acquisition of Funding

Sep 2014 –
Nov 2014

ACTRIS TransNational Access [CESAR, Lopik](#)
ICYHALO campaign: Observation of ice particle shape and orientation from ground-based remote sensing measurements.

Peer Review

Journal of the Atmospheric Sciences (JAS)
Atmospheric Measurement Techniques (AMT)

Research Interests

Satellite and ground-based remote sensing of clouds and aerosols. 1D and 3D radiative transfer modeling including polarization. Instrument design and characterization. Machine learning as a tool for processing large datasets.

Tools & Methods

Python, C, Fortran90, Shell Scripting, AWK, Git, \LaTeX , machine learning, image processing, ray tracing, unit testing, multi processing and parallel computing.