# Curriculum Vitae


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## Professional Experience and Education

2021-2024 **PostDoc** - Delft University of Technology, Netherlands
*Using the synergy of the cloud radars and lidar to create continuous wind profiles for studying turbulence in the boundary and cloud layers*
Advisor: Dr. Louise Nuijens

2017-2021 **PhD in Meteorology** - University of Cologne, Germany
*PhD's Thesis: Investigating aggregation in ice and snow clouds using novel combination of triple-frequency cloud radars and radar Doppler spectra*
Advisor: Dr. Stefan Kneifel

2014-2017 **Research Assistant** - National Institute For Space Research, Brazil
*Development of computational tools to read and evaluate large data arrays of Aerosol Optical Depth retrieved by new Generation of NOAA Polar Satellite System (SUOMI - NPP) over Brazilian territory*
Advisor: Dr. Simone Sievert da Costa Coelho

2012-2014 **MSc in Meteorology** - National Institute For Space Research, Brazil
*Master's Thesis: Pyrgeometer Characterization and Quality Control of Measured Data*
Advisor: Dr. José Celso Thomaz

2007-2011 **BSc in Physics** - Federal University of Rio Grande do Norte, Brazil
*Undergraduate Project: Ionospheric Plasma Irregularities - Effect on Satellite Telecommunication*
Advisor: Prof. Dr. Enivaldo Bonelli

2004-2007 **Soldier** - Brazilian Army, Brazil

## Experimental Campaigns

13 Sep 2021 - 3 Oct 2021 CMTRACE
*Assistant*

Planning of the experimental setup and the development of the data processing package of the **Tracing Convective Momentum Transport in Complex Cloudy Atmospheres Experiment** - Cabauw, Netherlands

1 Nov 2018 - 21 Feb 2019 Tripex-Pol
*Assistant*

Assistence during the **Triple-frequency and Polarimetric Radar Experiment** - Jülich, Germany

20 Nov 2013 - 25 Nov 2013 São Pedro and São Paulo Rocks Research Program
*Scientist crew*

Scientific cruise participation on board of the Brazilian Navy Araguari Ocean Patrol Vessel for **maintenance and data retrieval from meteorological stations in São Pedro and São Paulo rocks**.

04 Jun 2013 - 24 Jun 2013 Prediction and Research Moored Array in the Atlantic (PIRATA)
*Scientist crew*

Scientific cruise participation on board of the Ocean Stalwart ship for **maintenance of oceanic buoys and measuring oceanic/atmospheric variables using XCP, underwayCTD, and radiosonde**.

15 Feb 2013 - 25 Mar 2013 Prediction and Research Moored Array in the Atlantic (PIRATA)
*Scientist crew*

Scientific cruise participation on board of the Ocean Stalwart ship for **maintenance of oceanic buoys and measuring oceanic/atmospheric variables using XCP, underwayCTD, and radiosonde**.

## Dataset

**Dias Neto, J.** (2022). **The Tracing Convective Momentum Transport in Complex Cloudy Atmospheres Experiment - Level 2** [Data set]. *Zenodo.* https://doi.org/10.5281/zenodo.6926605

**Dias Neto, J.** (2022). **The Tracing Convective Momentum Transport in Complex Cloudy Atmospheres Experiment - Level 1** [Data set]. *Zenodo.* https://doi.org/10.5281/zenodo.6926483

**Dias Neto, J**., Kneifel, S., Ori, D. (2019). **The TRIple-frequency and Polarimetric radar Experiment for improving process observation of winter precipitation (version 2)** [Data set], *Zenodo*, http://doi.org/10.5281/zenodo.1341390

## Python Packages

**Dias Neto, J.**, Castelão, G., (2020). **McRdar: an Open Source Python package to simulate the multi-frequency radar variables using the output from McSnow**, *Zenodo*, https://doi.org/10.5281/zenodo.3723886

**Dias Neto, J.**, Castelão, G., (2022). **lidarwind: A Python package for retrieving wind profiles from Doppler lidar observations**, *GitHub:* https://github.com/jdiasn/lidarwind
*Zenodo:* https://doi.org/10.5281/zenodo.7026548

## Conferences

**2023** - EMS Annual Meeting 2023 (Slovakia)
Talk: Boundary layer coherent structures and circulations viewed through collocated wind lidar and cloud radar profiling

**2022** - 11th European Conference on Radar in Meteorology and Hydrology (Switzerland)
Poster: Clouds Blowing in the Wind: Momentum Transport in Cloudy Boundary Layers Observed From Collocated Wind Lidar and Cloud Radars and Simulated With Dales

**2022** - EGU General Assembly 2022 (Austria)
Talk: Visualising and quantifying momentum transport in cloudy boundary layers using collocated lidar and cloud radars

**2019** - 39th International Conference on Radar Meteorology (Japan)
Talk: Investigating snow aggregation close to the melting layer using novel ground-based triple-frequency observations (**prize: 2nd best talk**)

**2019** - 2nd International Summer Snowfall Workshop (Finland)
Poster: Intense aggregation close to the melting layer observed with triple-frequency radars

**2018** - 15th Conference on Cloud Physics/15th Conference on Atmospheric Radiation (Canada)
Talk: Intense Aggregation Above The Melting Layer Observed With Novel Triple-frequency Radars

**2017** - 1st International Summer Snowfall Workshop (Germany)
Poster: First results of the TRIple-frequency and Polarimetric radar Experiment for improving process observation of winter precipitation (TRIPEx campaign)

## Skills

- **Soft Skills**

  Creativity, Communicative, Alternative thinking, Problem solving, Teamwork, Adaptability, Work ethic and experience applying SCRUM

- **Remote sensing**

  Good experience working with **cloud radars**: **Meteor 50DX (X-band)** from Selex ES, **MIRA 35 (Ka-Band)** from Meteorologische Messtechnik, **FMCW 94 (W-band)** from Radiometer Physics. Good experience working **wind lidar**: **WindCube-200s** from Vaisala (level 1 certification from Vaisala). Experience working with **VIIRS (Suomi NPP/NOAA-20)**

- **Microwave scattering models**

  Good experience working with **PAMTRA** and **PyTMatrix**.

- **Coding**

  Good knowledge of scientific programming; all projects were developed in **Python** and **Shell-Script**. Introductory knowledge developing in **C**.

- **Operational Systems**

  Good experience working with **Unix-based** and **Mac OS X** operating systems, experience with administration and installation of **Rocks cluster (HPC)**.

## Languages

- Portuguese (native language)
- English
- Dutch (starting inbugeren)

## References Contact

| | | | |
|---|---|---|---|
| **Name** | Dr. Louise Nuijens | **Name** | Dr. Stefan Kneifel |
| **Institution** | Delft University of Technology | **Institution** | Ludwig-Maximilians-University |
| **Contact** | Louise.Nuijens@tudelft.nl | **Contact** | stefan.kneifel@lmu.de |

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|---|---|---|---|
| **Name** | Dr. Guilherme Pimenta Castelão | **Name** | Christine Unal |
| **Institution** | Scripps Institution of Oceanography | **Institution** | Delft University of Technology |
| **Contact** | castelao@ucsd.edu | **Contact** | c.m.h.unal@tudelft.nl |