

# Tzvetan Simeonov, Ph.D.

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## Employment History

- 2019 – 2023 **Research scientist** Lindenberg Meteorological Observatory, Deutscher Wetterdienst (DWD), Germany. Worked on radiosonde positioning uncertainty determination and radiosonde comparison within the GCOS Reference Upper-Air Network.
- 2016 – 2019 **PhD student** Section 1.1 Space Geodetic Techniques, German Research Centre for Geosciences, GFZ Potsdam, Germany. Worked on soil moisture and snow depth retrieval from GNSS reflected signals.
- 2013 – 2015 **Research assistant** Department Meteorology and Geophysics, Sofia University, Bulgaria. Responsible for the development and maintenance of the Sofia University Atmospheric Data Archive, GNSS data processing and tropospheric products retrieval.
- 2012 **Science journalist intern** Information directorate, Bulgarian National Television, Bulgaria. Author of several reports.

## Education

- 2016 – 2019 **Ph.D., Technische Universität Berlin**  
Thesis title: *Derivation and analysis of hydrological parameters from ground-based GNSS stations*  
Degree: *Doctor rerum naturalium*  
Defended with *Magna cum laude*, 2020
- 2011 – 2013 **M.Sc. Sofia University "St. Kliment Ohridski"** in Meteorology.  
Thesis title: *Sofia University Atmospheric Data Archive (SUADA)*.  
Degree with honours
- 2007 – 2011 **B.Sc. Sofia University "St. Kliment Ohridski"** in Astrophysics Meteorology and Geophysics.  
Thesis title: *GNSS Meteorology applications in Bulgaria*.
- 2009 – 2011 **B.Sc. Sofia University "St. Kliment Ohridski"** certificate for qualified Teacher in Physics and Astronomy.

## Research Publications

### Journal Articles

- 1 **T. Simeonov**, M. Sommer, C. von Rohden, and R. J. Dirksen, "Analysis of the GRUAN-wide RS92-RS41 intercomparison; results for pressure, coordinates and wind profiles," *Atmospheric Measurement Techniques*, 2023, in preparation.
- 2 **T. Simeonov**, M. Sommer, C. von Rohden, and R. J. Dirksen, "Analysis of the GRUAN-wide RS92-RS41 intercomparison; results for temperature and relative humidity profiles," *Atmospheric Measurement Techniques*, 2023, in preparation.
- 3 M. Slavchev, **T. Simeonov**, K. Vassileva, and G. Guerova, "IWV Measurement and Modelling with GNSS and NWP (WRF) over Northwest Bulgaria," *Proceedings of the Bulgarian Academy of Sciences*, vol. 75, no. 6, pp. 845–852, 2022. [DOI: 10.7546/CRABS.2022.06.08](https://doi.org/10.7546/CRABS.2022.06.08).

- 4 J. Wickert, G. Dick, T. Schmidt, *et al.*, “GNSS remote sensing at GFZ: Overview and recent results,” *ZfV-Zeitschrift für Geodäsie, Geoinformation und Landmanagement*, no. zfv 5/2020, 2020. [DOI](#): 10.12902/zfv-0320-2020.
- 5 J. Wickert, G. Dick, M. Ge, *et al.*, “Erdbeobachtung mit Navigationsatelliten,” *System Erde*, vol. 7, no. 2, pp. 24–31, 2017. [DOI](#): 10.2312/GFZ.syserde.07.02.4.
- 6 G. Guerova, **T. Simeonov**, and N. Yordanova, “The Sofia University Atmospheric Data Archive (SUADA),” *Atmospheric Measurement Techniques*, vol. 7, no. 8, pp. 2683–2694, 2014. [DOI](#): doi:10.5194/amtd-7-2153-2014.
- 7 **T. Simeonov**, K. Vassileva, and G. Guerova, “Application of ground-based GNSS meteorology in Bulgaria/Southeast Europe: case study 2007 heat wave,” *Annual of University of Sofia*, vol. 106, pp. 88–100, 2013.

## Books and Chapters

- 1 G. Guerova and **T. Simeonov**, *Global Navigation Satellite System Monitoring of the Atmosphere*. Elsevier, 2021, ISBN: 9780128191521.
- 2 J. Douša, G. Dick, Y. Altiner, *et al.*, “Advanced GNSS processing techniques (working group 1),” in *Advanced GNSS Tropospheric Products for Monitoring Severe Weather Events and Climate: COST Action ES1206 Final Action Dissemination Report*, Springer, 2019, pp. 33–201. [DOI](#): 10.1007/978-3-030-13901-8\_3.

## Technical documents

- 1 M. Sommer, C. von Rohden, and **T. Simeonov**, “User Guide for the RS41 GRUAN Data Product Version 1 (RS41-GDP.1),” GRUAN Lead Centre, GRUAN Technical Note GRUAN-TN-13, 2022, v1.0 (2022-11-21). [URL](https://www.gruan.org/documentation/gruan/tn/gruan-tn-13): <https://www.gruan.org/documentation/gruan/tn/gruan-tn-13>.
- 2 M. Sommer, C. von Rohden, **T. Simeonov**, *et al.*, “GRUAN characterisation and data processing of the Vaisala RS41 radiosonde,” GRUAN Lead Centre, GRUAN Technical Document GRUAN-TD-8, 2022, DRAFT vo.9.1 (2022-04-12), in preparation.

## Conference Proceedings

- 1 **T. Simeonov**, S. Vey, F. Alshawaf, *et al.*, “GNSS Derived Soil Moisture from the Global IGS Permanent Network,” in *IGL-1 First International Workshop on Innovating GNSS and LEO Occultations and Reflections for Weather, Climate and Space Weather*, 2018.
- 2 **T. Simeonov**, S. Vey, F. Alshawaf, *et al.*, “Monitoring of water cycle elements using GNSS geodetic receivers in North-East Germany at sub-daily resolution,” in *European Meteorological Society annual meeting EMS2017-28*, 2017.
- 3 **T. Simeonov**, D. Sidorov, F. N. Teferle, *et al.*, “Sofia University GNSS Analysis Center (SUGAC),” in *Proceedings of the FIG annual conference*, Sofia, Bulgaria, 2015.
- 4 P. Dankov, M. Gachev, Z. Kiss’ ovski, *et al.*, “Small Communication Satellite Mission for Enhancement of Antarctic Investigations,” in *UN/Japan Nanosatellite Symposium, Nagoya, Japan*, 2012, pp. 10–13.
- 5 G. Guerova, J. Morland, and **T. Simeonov**, “GNSS and heat waves: case studies for 2003 and 2007,” in *3rd Int. Colloquium - Galileo Science*, Copenhagen, Denmark, 2011.

## Skills

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- Languages    **▀** Strong reading, writing and speaking competencies for **English, Russian, Bulgarian**; Working knowledge in **German, Czech**,
- Coding       **▀** Python, XML,  $\LaTeX$ , Matlab, bash
- Databases    **▀** MySQL, PostgreSQL.
- Web Dev      **▀** HTML, css.
- Misc.        **▀** Academic research, scientific journalism, teaching.

## Miscellaneous

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### Awards and Achievements

- 2016    **▀** **FameLab** Germany finalist.
- 2012    **▀** **FameLab** Bulgaria award from Bulgarian National Television.
- 2011    **▀** **Alma Mater** award of Sofia University for excellence in study.

## References

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### Letters of reference

Letter from **Dr. Anthony Rea**, Director for Infrastructure at World Meteorological Organization (WMO) to **Dr. Gerhardt Adrian**, Director of Deutscher Wetterdienst, regarding the performance of **Dr. Tzvetan Simeonov** in GRUAN Lead Centre.

Letter from **Prof. Dr. Sarah Jones**, Director Research and Development at Deutscher Wetterdienst to **Dr. Tzvetan Simeonov** for performance during WMO UAI12022 campaign.

### Referees

**Assoc. Prof. Guergana Guerova** Head of Department Meteorology and Geophysics, Sofia University "St. Kliment Ohridski", Bulgaria.

**Dr. Ruud Dirksen** Head of GRUAN Lead Centre, Meteorological Observatory Lindenberg, Deutscher Wetterdienst, Germany.

**Prof. Jens Wickert** Head of program "Atmosphere" at German Research Centre for Geosciences, GFZ Potsdam, Germany.

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