University Academic Curriculum Vitae

Personal information

Name: **Torben Oliver Callesen**

Education since leaving school

- 2016-2019**; International Bachelor's degree in Natural Science in Chemistry and Physics**; Roskilde University
- 2019-2022**; International Master's degree in Horticultural Science**; University of Bologna / Free University of Bozen-Bolzano
- 2022-ongoing; **PhD in Mountain Environment and Agriculture**; Free University of Bozen-Bolzano

Present appointment

- Assegno di Ricerca (AR)
- Start June 2025
- Level of appointment (in national / international context)
- Free University of Bozen-Bolzano
- Data collection and maintenance of eddy covariance equipment at research site „Plantaditsch" at Caldaro (BZ), collection and synthesis of regional flux network data, regional lateral carbon flux assessment. Activities carried out within project CarboST: A monitoring system for carbon fluxes in South Tyrolian ecosystems.

Professional experience

Chronological list of all previous employments (each with job title, starting and finishing dates, level, employer, responsibilities)

From / to	Job title	Name of academic Institution	Academic level	responsibilities
02/10/2023-15/02/2024	Teaching assistant	Free University of Bozen-Bolzano		Assist in field and didactic activities, course LM-69 IMaHS
26/02/2024-26/08/2024	Teaching & Research Assistant	Royal Melbourne Institute of Technnology		Assist in field didactic activities, course Hydrosphere (JR28491)
04/05/2022-15/08/2022	Research Assistant	Free University of Bozen-Bolzano		Collection and analysis of biometric and flux data as part of ASTER project.
14/03/2021-30/10/2021	Internship	Laimburg Research Center		Assistance in viticultural field trials, data collection and farmer consultancy
2017-2019	Student Assistant	Roskilde University		Assisting students at FabLab/BioFabLab RUC

Participation in exhibitions (where applicable)

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Experience in academic teaching

- Teaching assistant in courses specified above under Professional Experience.
- Subject area: ecophysiology, agriculture
- Supervision of 1 bachelor's student thesis within subject area.

Other academic responsibilities

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Memberships

- European Geosciences Union
- Società di Ortofrutticoltura Italiana

Research and scholarships

- Research/teaching assistant positions stated under Professional Experience, as well as PhD scholarship funded by the Free University of Bozen-Bolzano (November 2022 – June 2025).

Publications

Publications over the last 15 years in chronological order within each category following the International Standard for bibliographic references with DOI whenever possible. With multiple authorship the main author's name appears in *Italics*. In addition, in the left-hand margin please star (*) what you consider were especially significant publications. For accepted but not yet published works please indicate expected publication date. PUBLICATIONS WILL ONLY BE EVALUATED WHEN THEY CAN BE TRACED IN PUBLIC CATALOGUES.

**Callesen, T. O.*, Gonzalez, C. V., Bastos Campos, F., Zanotelli, D., Tagliavini, M., & Montagnani, L. (2022). Gross and net primary productivity in a vineyard assessed by eddy covariance and biometric measurements. *Acta Horticulturae*, *1355*, 423–430. https://doi.org/10.17660/ActaHortic.2022.1355.54

**Callesen, T. O.*, Gonzalez, C. V., Bastos Campos, F., Zanotelli, D., Tagliavini, M., & Montagnani, L. (2023). Understanding carbon sequestration, allocation, and ecosystem storage in a grassed vineyard. *Geoderma Regional*, *34*, e00674. https://doi.org/10.1016/j.geodrs.2023.e00674

Campos, F. B., Callesen, T. O., Alberti, G., Montagnani, L., Tagliavini, M., & Zanotelli, D. (2024). Meteorological Drivers of Vineyard Water Vapor Loss and Water use Efficiency During dry Days. *IEEE Transactions on AgriFood Electronics*, 1–7. IEEE Transactions on AgriFood Electronics. https://doi.org/10.1109/TAFE.2024.3466552

Gunawardhana, M., Treby, S., Silvester, E., Callesen, T. O., Jones, O. A. H., & Grover, S. (2025). Intact Australian *Sphagnum* peatland is a strong carbon sink. *Science of The Total Environment*, *959*, 178197. https://doi.org/10.1016/j.scitotenv.2024.178197

Sodini, M., Callesen, T., Canton, M., Tezza, L., Bastos Campos, F., Zanotelli, D., Tarolli, P., Sivilotti, P., Pitacco, A., & Tagliavini, M. (2023). Major threats caused by climate change to grapevine. *Italus Hortus*, *30*(2), 1–24. https://doi.org/10.26353/j.itahort/2023.2.0124

Further data

- 19/11/2024; **Author and presenter** of talk titled *"Investigating boundary layer decoupling at an Alpine Peatland eddy covariance site"* at the Australian flux tower network (OzFlux) event in 2024.

- 10/09/2024; **Author and presenter** of talk titled "*The influence of bidirectional valley winds on CO2 flux estimation at a mountain vineyard*" at the International Carbon Observation System (ICOS) conference in 2024.
- 23/06/2023; **Author and presenter** of Smart Oral communication titled *"The impact of heatwaves on carbon dioxide and water fluxes of a grassed vineyard".* At the national conference SOI XIV Giornate Scientifiche 2023 in Italy.
- 23/04/2023; **Author and presenter of poster titled: "***Examining the Carbon Cycle of a Mountain Vineyard, evidence for tree-grass ecosystem behaviour"* at the European Geosciences Union (EGU) international conference.
- 13/08/2022; **Author**: Presentation at IHC 2022 31st International Horticultural Congress, titled "*Assessing carbon sequestration and its within-vine allocation in the vineyard*".

Entrepreneurship

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Statement of interest

I am an early career researcher in the field of agricultural biometeorology, currently completing the third and final year of my doctorate at the Free University of Bozen-Bolzano. I have a strong background in quantitative research methods, beginning with my Bachelor's degree in chemistry and physics, which was translated into a more applied setting during the course of my Master's degree in horticulture. Since the final year of the latter, my work has been entirely dedicated to studying the carbon cycle of agroecosystems, with a strong emphasis on the application of ecosystem-level gaseous flux analysis in vineyards. As detailed in sections Education and Training and Digital Skills, I have gained sufficient proficiency in relevant techniques to be able to maintain and improve eddy covariance sites such as the site in Kaltern am Weinstrasse. Indeed, I am strongly familiar with this particular site, having worked with it since 2021, including my ongoing PhD activities. This makes me uniquely qualified in resolving practical issues as well as troubleshooting and interpreting data phenomena resulting from the site's complexity, both due to it's agricultural nature and physical structure. Through participation in various projects (see Project Participation) and work of both professional and scholastic nature (Research and Work Exerience), I have learned to analyse and elaborate complex data using statistical computing software and disseminate findings though scientific publications (Publications) and presentations at (inter)national conferences (Conferences and Seminars). My experiences have taught me the importance of collaboration, resourcefullness and versatility in all activities. I believe myself to be a strongly suitable candidate for the advertised position due to my established research interests, my specialized technical and analytical competencies in this specific discipline and my familiarity with the agricultural and academic/research environment in which the eventual candidate must operate.

Language competence

- English – C1 (native speaker)
- Italian – B2
- Danish – B2

Torben Oliver Callesen 03.03.2025 13:14:44 GMT+02:00

Date 03/03/2025

Signature