EUROPEAN CURRICULUM VITAE FORMAT

PERSONAL INFORMATION

Name: **GERALD LANGER**

WORK EXPERIENCE

• Dates (from 2022– to 2024)	
• Name and address of employer	Institute of Environmental Science and Technology (ICTA), Autonomous University of Barcelona (UAB), Spain
• Type of business or sector	Research activity
• Occupation or position held	Postdoctoral research associate
• Main activities and responsibilities	Coccolithophore culture experiments and analysis of eco-physiological parameters such as growth rate, carbon production, morphology, minor element partitioning, and isotope fractionation. Participation in oceanographic campaigns studying phyto- and zooplankton diversity and production/dissolution in the water column and sediments. Student supervision and lecturing.
• Dates (from 2016– to 2021)	
• Name and address of employer	Marine Biological Association, Plymouth, UK
• Type of business or sector	Research activity
• Occupation or position held	Postdoctoral research associate
• Main activities and responsibilities	Coccolithophore culture experiments and analysis of eco-physiological parameters. Student supervision and lecturing.
• Dates (from 2011– to 2016)	
• Name and address of employer	Department of Earth Sciences, University of Cambridge, Cambridge, UK
• Type of business or sector	Research activity
• Occupation or position held	Postdoctoral research associate
• Main activities and responsibilities	Foraminifera culture experiments and analysis of eco-physiological and geochemical parameters. Coccolithophore culture experiments. Student supervision and lecturing.
• Dates (from 2010– to 2011)	
• Name and address of employer	Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, Germany
• Type of business or sector	Research activity
• Occupation or position held	Postdoctoral research associate
• Main activities and responsibilities	Foraminifera culture experiments and analysis of eco-physiological and geochemical parameters. Coccolithophore culture experiments. Student supervision and lecturing.
• Dates (from 2006– to 2010)	
• Name and address of employer	Institute of Environmental Science and Technology (ICTA), Autonomous University of Barcelona (UAB), Spain

• Type of business or sector	Research activity
• Occupation or position held	Postdoctoral research associate
• Main activities and responsibilities	Coccolithophore culture experiments and analysis of eco-physiological parameters such as growth rate, carbon production, morphology, minor element partitioning, and isotope fractionation. Student supervision and lecturing.
• Dates (from 2005– to 2006)	
• Name and address of employer	Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, Germany
• Type of business or sector	Research activity
• Occupation or position held	Postdoctoral research associate
• Main activities and responsibilities	Coccolithophore culture experiments and analysis of eco-physiological parameters. Participation in oceanographic campaigns studying bacterial diversity. Student supervision and lecturing.

OTHER WORK EXPERIENCE

- **Referee for scientific journals** including Science, Nature, Nature Geoscience, Nature Communications, PNAS, Geochimica et Cosmochimica Acta, Geochemistry, Geophysics, Geosystems, J Exp Mar Biol Ecol, Limnology and Oceanography, Biogeosciences, PLOS One.
- **Referee for funding bodies** including ERC (EU), NERC (UK), DFG (Germany).
- **Supervision of numerous students** including undergrad placement students, Master, and PhD (papers published on student projects of all mentioned levels, e.g. Langer and Bode 2011).
- **Academic teaching** (lecturing at universities in UK and Spain).
- **Guest teacher** in schools (10 to 19 year old students).

EDUCATION AND TRAINING

• Dates (from 2001– to 2005)	PhD in Rerum Naturalium
• Name and type of organisation providing education and training	Department of Biology and Chemistry, University of Bremen, Germany
• Principal subjects/occupational skills covered	Thesis title “Calcification of selected coccolithophore species: strontium partitioning, calcium isotope fractionation and dependence on seawater carbonate chemistry”. Main subjects: phytoplankton biology and cultivation in laboratory.
• Title of qualification awarded	Doctor of Philosophy in Rerum Naturalium
• Dates (from 1998 – to 20/03/2000)	Master in Biology
• Name and type of organisation providing education and training	Justus Liebig University, Giessen, Germany
• Principal subjects/occupational skills covered	Main subjects: cell biology, specifically electrophysiology on seed plants.
• Title of qualification awarded	Doctor in Biology
• Dates (from 1994 – to 1998)	Undergrad in Biology
• Name and type of organisation providing education and training	Justus Liebig University, Giessen, Germany
• Principal subjects/occupational skills covered	Main subjects: animal and plant biology.
• Title of qualification awarded	Doctor in Biology

PERSONAL SKILLS AND COMPETENCES

Acquired in the course of life and career but not necessarily covered by formal certificates and diplomas.

In my career I focused on ecophysiology and cell biology, especially of coccolithophores. I have acquired deep knowledge on marine biomineralization, in particular coccolithophore calcification, at various levels ranging from sub-cellular to geological processes. My approach is highly interdisciplinary including geochemistry and mineralogy. The overarching aim of this approach is to form a holistic picture of biomineralization with the view to achieving an integrated understanding of organism's responses to environmental change, past, present, and future.

MOTHER TONGUE

GERMAN

OTHER LANGUAGES

ENGLISH

- Reading skills: excellent
- Writing skills: excellent
- Verbal skills: excellent

SOCIAL SKILLS AND COMPETENCES

During my career, I have always worked in multicultural environments, working with people from different expertise and fields, so the teamwork and the communication skills have been fundamental for creating a productive and serene working environment.

ORGANISATIONAL SKILLS AND COMPETENCES

Coordination and administration of people, projects and budgets; at work, in voluntary work (for example culture and sports) and at home, etc.

During many years of research activities, I have acquired very good organizational skills, especially when it comes to coordinate research projects or supervise and coordinate PhD students.

TECHNICAL SKILLS AND COMPETENCES

With computers, specific kinds of equipment, machinery, etc.

I have great knowledge in using Scanning Electron Microscope (SEM), Inverted and Polarized microscopes. Coccolithophore culture laboratory, culture maintenance, media preparation, titration system. Good knowledge of Microsoft Office software and software for data analysis.

FUNDING ACQUIRED

Research funding.

- Juan de la Cierva grant (Spanish Ministerio de Educacion y Ciencia). Influence of changing seawater carbonate chemistry on coccolithophore calcification and stable isotope fractionation. **PI**. 2008-2011
- Weizmann – UK Making Connections Programme ($100,000). **Co-I**.
- Maria Zambrano grant (Spanish Ministry of Universities) **PI**, 2022-2024

DRIVING LICENCE(S)

Driving licence for cars

LIST OF PUBLICATIONS

For the full list of publications see https://orcid.org/0000-0002-7211-4889

- **h-index**: 34 (Scopus), 39 (Google Scholar)
- **m-index**: 1.8 (Scopus), 2.1 (Google Scholar)

Below are reported the most significant publications:

1) Walker JM, Greene HJM, Moazzam Y, Quinn PD, Parker JE, **Langer G.** (2024) An uneven distribution of strontium in the coccolithophore *Scyphosphaera apsteinii* revealed by nanoscale X-ray fluorescence tomography. Environ Sci Process Impacts. 2024 Jun 19;26(6):966-974. doi: 10.1039/d3em00509g. PMID: 38354057.
2) Nehrke, Gernot, and **Langer G**. (2023). Proxy Archives Based on Marine Calcifying Organisms and the Role of Process-Based Biomineralization Concepts; Minerals 13, no. 4: 561. https://doi.org/10.3390/min13040561
3) **Langer G.**, Taylor, A.R., Walker, C.E., Meyer, E.M., Ben Joseph, O., Gal, A., Harper, G.M., Probert, I., Brownlee, C. and Wheeler, G.L. (2021), Role of silicon in the development of complex crystal shapes in coccolithophores. New Phytol. https://doi.org/10.1111/nph.17230
4) **Langer G.**, Aleksey Sadekov, Gernot Nehrke, Cecilia Baggini, Riccardo Rodolfo-Metalpa, Jason M. Hall-Spencer, Emilio Cuoco, Jelle Bijma, Henry Elderfield (2018) Relationship between mineralogy and minor element partitioning in limpets from the Ischia CO_2 vent site provides new insights into their biomineralization pathway, Geochimica et Cosmochimica Acta, 236, 218–229.
5) Keul, N., **Langer G.**, Silke Thoms, Lennart Jan de Nooijer, Gert-Jan Reichart, Jelle Bijma (2017) Exploring foraminiferal Sr/Ca as a new carbonate system proxy, Geochimica et Cosmochimica Acta, Volume 202, Pages 374-386.
6) Jaya, B.N., R. Hoffmann, C. Kirchlechner, G. Dehm, C. Scheu, **G. Langer** (2016) Coccospheres confer mechanical protection: New evidence for an old hypothesis, Acta Biomaterialia, Volume 42, Pages 258-264.
7) **Langer, G.**, Nehrke, G., Baggini, C., Rodolfo-Metalpa, R., Hall-Spencer, J. M., Bijma, J. (2014) Limpets counteract ocean acidification induced shell corrosion by thickening of aragonitic shell layers. Biogeosciences, 11, 7363-7368.
8) Stoll, H., **Langer, G.**, Shimizu, N. and Kanamaru, K. (2012): B/Ca in coccoliths and relationship to calcification vesicle pH and dissolved inorganic carbon concentrations, Geochimica et Cosmochimica Acta, 80 , pp. 143-157.
9) **Langer, G.** and Bode, M. (2011): CO2 mediation of adverse effects of seawater acidification in Calcidiscus leptoporus , Geochem. Geophys. Geosyst., 12, Q05001, doi:10.1029/2010GC003393
10) **Langer, G.**, Nehrke, G. , Probert, I. , Ly, J. and Ziveri, P. (2009): Strain specific responses of Emiliania huxleyi to changing seawater carbonate chemistry , Biogeosciences, 6, pp. 2637-2646.
11) **Langer, G.**, Gussone, N. , Nehrke, G. , Riebesell, U. , Eisenhauer, A. , Kuhnert, H. , Rost, B. , Trimborn, S. and Thoms, S. (2006): Coccolith strontium to calcium ratios in Emiliania huxleyi: The dependence on seawater strontium and calcium concentrations , Limnology and Oceanography, 51 (1), pp. 310 320
12) **Langer, G.**, Geisen, M. , Baumann, K. H. , Kläs, J. , Riebesell, U. , Thoms, S. and Young, J. R. (2006): Species specific responses of calcifying algae to changing seawater carbonate chemistry , Geochemistry Geophysics Geosystems, 7, Q09006 . doi: 10.1029/2005gc001227

Declaration

The information contained in this curriculum vitae is made under the personal responsibility of the undersigned in accordance with Articles 46 and 47 of Presidential Decree no. 445 of 28.12.2000, aware of the criminal responsa-bility provided for in Article 76 of the same Presidential Decree no. 445 of 28.12.2000, for the hypotheses of falsity in deeds and false statements.

I authorize the processing of my personal data in the curriculum vitae in accordance with Legislative Decree no. 196 of June 30, 2003 « Code on the protection of personal data » and Article 13 of the GDPR (EU Regulation 2016/679).

Date
12/05/2025

Signature

GERALD LANGER - DNI C4YMWXJ94

Digitally signed by GERALD LANGER - DNI C4YMWXJ94
Date: 2025.06.18 15:58:07 +02'00'