

# CURRICULUM VITAE

## PERSONAL INFORMATION

**Marandino, Christa**

Date of birth: 14-03-1976

Nationality: USA

Marital Status: Married, one child

<https://www.geomar.de/en/trase-ec>

ORCID ID 0000-0001-9947-4377

## CURRENT POSITION

02/18-present **Senior Scientist (permanent position)/Privat Dozent (PD, can officially supervise and teach)**

Marine and atmospheric chemistry,

Earth System Science Department, University of California, Irvine, USA

**DIRECT SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS (further details below)**

2010-present Chemical Oceanography, GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany: Postdocs . 6, PhD . 6, Master Students . 3

**TEACHING ACTIVITIES (further details below)**

2012-present **PD/W1** - Atmospheric Chemistry, Air-Sea Gas Exchange (and the Sea Surface Microlayer), Climate Physics Seminar on the Indian Ocean, Introduction to Chemical Oceanography - Exercises, Chemical Oceanography Lab Practical, Chemical Oceanography Field Practical at Christian Albrecht University Kiel, Germany; Educational training and capacity building within the German SPACES program on board the R/V Sonne for German and African students; Lectures for SOLAS MSc program at the University of Galway

2001-2002 **Teaching assistant, graduate student researcher** - Geology, The Atmosphere at University of California, Irvine, Earth System Science Department, USA

**COMMISSIONS OF TRUST (continued below under Institutional Responsibilities)**

2024-present **Co-Chair** of Surface Ocean Lower Atmosphere Study (SOLAS)

2021-present **Ombudsperson** GEOMAR (Good scientific practice . German Science foundation guidelines)

2020-present **Member** SCOR working group 162 Observing Air-Sea Interactions Strategy (OASIS) . also a UN Ocean Decade endorsed programme (**Co-chair since 2021**)

2020-2021 **Member** of GEOMAR working group to implement the Annual Dialogue (*Jahresdialog*)

2020-2021 **Member** of GEOMAR working group on internationalization

2019-2020 **Guest editor** of special issue in *Atmosphere* entitled *Evolution of Air-Sea Interaction Processes Near the Ocean-Atmosphere Interface*

2018-2020 **Co-Chair** of SOLAS MSc program at the University of Galway

2014-2024 **Member** of the **Advisory Committee**,  
GEOMAR Helmholtz Centre for Ocean Research Kiel/Germany (**Co-chair**  
**since 2021**)

**OUTREACH ACTIVITIES (continued below under Conference Organization)**

2018-2019 **Co-spokesperson** of German Committee for Sustainability Research (*DKM*)  
working group on



13. Zhang, M., **Marandino, C. A.**

Geophysical Research: Atmospheres, 123 (12). pp. 6624-6647. DOI  
10.1029/2017JD028071.

25. Lennartz, S. T., **Marandino, C. A.**, Hobe, M. v., CoeW\* 446 Tm.000008871 0 595.32 8BT4.

- marine source for the stratospheric sulphur layer* Atmospheric Chemistry and Physics, 13 (16). pp. 8427-8437. DOI 10.5194/acp-13-8427-2013.
37. Zindler, C., Bracher, A., **Marandino, C.**, Taylor, B., Torrecilla, E., Kock, A. and Bange, H. W. (2013) *Sulphur compounds, methane, and phytoplankton: interactions along a north-south transit in the western Pacific Ocean* Biogeosciences, 10 (5). pp. 3297-3311. DOI 10.5194/bg-10-3297-2013.
38. Goddijn-Murphy, L., Woolf, D. K. and **Marandino, C.** (2012) *Space-based retrievals of air-sea gas transfer velocities using altimeters: Calibration for dimethyl sulfide* Journal of Geophysical Research, 117 (C8). C08028. DOI 10.1029/2011JC007535.
39. Weichselgartner, J. and **Marandino, C.** (2012) *Priority knowledge for marine environments: challenges at the science society nexus* Current Opinion in Environmental Sustainability, 4 (3). pp. 323-330. DOI 10.1016/j.cosust.2012.05.001.
40. Zindler, C., Peeken, I.,

a *Community of Practice for Air-Sea Flux Observations*. Marine Technology Society Journal, 58 (1). pp. 20-25. DOI 10.4031/MTSJ.58.1.3.

## Book chapters

1. Bange, H. W., Arevalo-Martinez, D. L., Bikkina, S., ~~Mapendia, C. Q., Gnanadesikan, A., and Valsala, V.~~ (2024) *Air-sea exchange and its impact on biogeochemistry in the Indian Ocean* In: *The Indian Ocean and its Role in the Global Climate System* (Ed. by Gnanadesikan, A.), pp. 329-350. Amsterdam, Netherlands, pp. 329-350. Paperback ISBN: 9780128226988 eBook ISBN 9780128232866 <https://doi.org/10.1016/B978-0-12-822698-8.00010-X>.
- 2.



10. **Marandino, C. A.** (2021) The ocean cool skin and eddy covariance measurements (*invited short talk*), Global Carbon Budget Ocean Workshop

26. Zavorsky, A., Steinhoff, T., Goddjin-Murphy, L., **Marandino, C.** (2017) What can we learn from eddy covariance direct flux measurements of multiple trace gases, momentum, and heat simultaneously? (*poster*), Frontiers in ocean-atmosphere exchange: Air-sea interface and fluxes of mass and energy, SOLAS Workshop, Cargese, France.
27. Lennartz, S.T., von Hobe, M., Pozzer, A., Brühl, C., Quack, B., Krüger, K., and **Marandino, C.A.** (2016) The role of oceanic emissions in the atmospheric budget of carbonyl sulfide (*poster*), Air-Sea Gas Flux: Progress and Future Prospects Workshop, Brest, France.
28. **Marandino, C. A.** (2016) How the ocean impacts the atmosphere: Biogeochemical cycling in the ocean and air-sea gas exchange (*invited talk*), Biogenic Hydrocarbons & the Atmosphere Gordon Research Conference, Girona, Spain.
29. Paulsen, M., Steinhoff, T., Zavorsky, A., and **Marandino, C. A.** (2016) Towards continuous direct flux measurements of CO<sub>2</sub> in the North Atlantic Ocean (*poster*), 2nd ICOS Science Conference, Helsinki, Finland.
30. Endres, S., Hepach, H., **Marandino, C.**, Quack, B., and Engel, A. (2015) Mikrobielle Kontrolle organischer Bromverbindungen im oberen Ozean (*poster*), Statusseminar Meeresforschung mit FS SONNE, Bremen, Germany.
31. Krüger, K., Quack, B., **Marandino, C. A.** and SO235 and SO234/2 Team (2015) OASIS: Organische sehr kurzlebige Substanzen und ihr Luft-Wasser-Austausch vom Indischen Ozean bis in die Stratosphäre und SO234/2 Ausbildung (*talk given by K. Krüger and C. Marandino*), Statusseminar Meeresforschung mit FS SONNE 2015, Bremen, Germany.
32. Lennartz, S. T., **Marandino, C.**, Quack, B., von Hobe, M., and Krüger, K. (2015) Carbonylsulfid (OCS) im äquatorialen Indischen Ozean. (*poster*), Statusseminar Meeresforschung mit FS SONNE 2015, Bremen, Germany.
33. **Marandino, C. A.** (2015) Can we use CRDS for direct measurements of open ocean air-sea exchange using the eddy covariance technique? (*talk*), Marine applications and perspea0 g 841.95.32 8nBT/F5 11.04 Tf1 0 0 1 372.55 415.15 Tm0 g0 G[t]-4(al)6(k)]TJETQq0.d(c-nBT

41. **Marandino, C. A.** (2011) Using the eddy correlation technique to measure open ocean DMS air-sea fluxes (*invited talk*), Yantai, China.
42. **Marandino, C. A.** (2011) Using the eddy correlation technique to measure open ocean DMS air-sea fluxes (*invited talk*), 8th Japanese-German Frontiers of Science Symposium (sponsored by Humboldt Foundation), Tokyo, Japan.
43. **Marandino, C. A.** (2010) Direct air-sea gas transfer measurements of DMS: Implications for gas exchange and atmospheric sulfate (*invited talk*), 5th International Symposium on Biological and Environmental Chemistry of DMS(P) and Related Compounds, Goa, India.
44. **Marandino, C. A.** (2010) How the Ocean Effects the Air We Breathe (*talk*), Humboldt Network Meeting, Ulm, Germany.
45. **Marandino, C. A.** (2010) Measuring open ocean DMS fluxes: A comparison and synthesis of air-sea gas transfer velocity experiments (*invited talk*), SOPRAN 3rd Annual Meeting, Hamburg, Germany.
46. **Marandino, C. A.** (2010) The role of the ocean in the atmospheric budget of OVOCs (*talk*), Plymouth Marine Laboratory, Plymouth, UK.
47. **Marandino, C. A.**, Zindler, C., Bange, H. W., Saltzman, E. S. and Wallace, D. W. R. (2010) Concurrent DMS and isoprene surface seawater variability in the eastern Atlantic Ocean (*talk*), Goldschmidt, Knoxville, TN, USA.
- 48.

58. **Marandino, C.A.**, de Bruyn, W. J., Miller, S. D. and Saltzman, E. S. (2006) Southern Pacific Ocean measurements of dimethylsulfide air/sea flux using the eddy correlation technique (*poster*), American Geophysical Union Fall Meeting, San Francisco, CA, USA.
59. **Marandino, C.A.**, de Bruyn, W. J., Miller, S. D., Prather, M. J. and Saltzman, E. S. (2005) Oceanic uptake and the global atmospheric acetone budget (*talk*), American Geophysical Union Fall Meeting, San Francisco, CA, USA.
60. **Marandino, C.A.**, de Bruyn, W. J. and Saltzman, E. S. (2003) Eddy correlation study of DMS flux at the Scripps Institute of Oceanography (*poster*), American Geophysical Union Fall Meeting, San Francisco, CA, USA.



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## TEACHING HOURS (since 2012)

SS 2012

Chemical Oceanography Laboratory Practical (1 student)

Air-sea exchange (and the SML) 3 SWS  
Chemical Oceanography Laboratory Practical (1 student) 2.5 SWS

SS 2022  
Chemical Oceanography Laboratory Practical (1 student) 2.5 SWS

WS 2022/2023  
Atmospheric Chemistry 2.5 SWS

SS 2023  
Air-sea exchange (and the SML) 3 SWS  
Chemical Oceanography Laboratory Practical (1 student) 2.5 SWS

WS 2023/2024 & SS 2024  
No teaching (above average field work) - 8 SWS 11.04 T/F1 11.04



## STUDENTS/POSTDOCS SUPERVISED

### Postdocs

**Dong, Y.** (2024-ongoing) Humboldt Fellowship - Quantifying the importance of bubbles in air-sea gas exchange

**Booge, D.** (2018-ongoing) measurements of sulfur gases and isoprene and their impact on climate in the Southern Ocean

**Lennartz, S.** (2017-2018) measurements of sulfur gases and their impact on climate in the Southern Ocean

**Ji, Q.** (2016-2018) nitrous oxide cycling in oxygen minimum zones

**Zindler/Schlundt, C.** (2013-2015) cycling and air-sea exchange of marine derived atmospherically important trace gases

**Shi**

**M. Liu**



**Dohms, M.** (2015) *Verteilung von DMSP/O im West Indischen Ozean Ergebnisse der OASIS-Fahrt Juli/August 2014*

### **External Students/Scientists Hosted**

**Moloto, T. M.** (2022) five-week exchange from the Republic of South Africa to measure DMS samples (PhD candidate)

**Astruc-Delur, C.** (2019) five-week internship from France in trace gas lab

**Scherelis, C.** (2017) one-month practical to learn trace gas measurement techniques (master)

**Pimentel, J.** (2016) two-month American university stipend to perform incubation experiments in the Kiel Fjord investigating the influence of crude oil spills on DMS production (student)

**Burger, M.** (2016) summer semester practical to learn trace gas measurement techniques (finished secondary school)

**Scherelis, V.** (2015) summer semester practical to learn trace gas measurement techniques

**Miming, Z.** (2014-2015/2019-2020) four-month Chinese stipend to learn analytical methods for DMS(P/O) measurements (PhD student); returning as permanent scientist for an 11 month visiting scholar stipend from Chinese State Oceanic Administration (SOA)



## CONFERENCE ORGANIZATION

- 2024 **Organizer** of hybrid workshop SOLAS Science and Society/approx. 30 participants/India
- 2024 **Organizer** of hybrid OASIS Face-to-Face Community Workshop/approx. 55 participants/USA
- 2023 **Scientific committee** for the Shipping and the Environment Conference/approx. 150 participants/Sweden
- 2022 **Organizer** of hybrid workshop Cross-linking lab and field measurements and numerical modeling to identify and quantify the mechanisms of air-sea gas transfer/approx. 100 participants/Germany
- 2022 **Organizer** of UN Ocean Decade Productive Ocean Laboratory Satellite Event . OASIS for a Productive Ocean (offshore wind energy)/approx. 100 participants/online
- 2022 **Organizer and note taker** for UN Ocean Decade Accessible Ocean Laboratory Satellite Event . OASIS for an Accessible Ocean (FAIR data)/approx. 100 participants/online
- 2022 **Organizer** for OASIS Panel Discussion/Webinar - Best Practices panel discussion on Essential Ocean Variables (EOVs) needed for air-sea CO<sub>2</sub> fluxes/approx. 50 participants/online
- 2021 **Lead organizer** of UN Ocean Decade Clean Ocean Laboratory Satellite Event . OASIS for a Clean Ocean/approx. 75 participants/online
- 2021 **Lead organizer** of Open ocean eddy covariance best practices workshop series planning event . Ocean Best Practices System (OBPS) workshop/9 participants/online
- 2021 **Organizer and moderator** for UN Ocean Decade Predicted Ocean Laboratory Satellite Event . OASIS for a Predicted Ocean/approx. 200 participants/online
- 2020-2022 **Scientific steering committee member** for 8th International Symposium on Gas Transfer at Water Surfaces/approx. 150 participants/United Kingdom
- 2019 **Member** of organizing committee and **moderator** for panel discussion for *DKN* Transdisciplinary Workshop on Ship Emissions/approx. 30 participants/Germany
- 2017 **Member** of organizing committee for 3 follow up SOLAS Science and Society meetings/approx. 10 participants each/Monaco, Italy, Sweden
- 2016 **Organizer** of international SOLAS Science and Society Workshop/approx. 25 participants/Belgium
- 2016 **Scientific steering committee member** for second OceanFlux workshop/approx. 100 participants/France

- 2015 **Member** of the local organizing committee and **session convener** for the International SOLAS Open Science Conference/approx. 300 participants/Germany
- 2014 **Scientific reviewer** for the Earth Observation for Ocean-Atmosphere Conference/approx. 100 participants/Italy

### **Convener/sessions led**

- 2023 **Convener** . Marine processes - fate of pollution from shipping in the marine environment: impact studies on ecotoxicology, eutrophication and acidification, energy pollution including underwater noise & induced mixing; experimental work, modelling studies of dispersion, transport, and chemical and biological processes in marine waters, Shipping and the Environment Conference, Gothenburg, Sweden.
- 2022 **Convener** . Get Involved! Observing Air-Sea Interactions Strategy (OASIS) Theme Teams, hybrid Town Hall Meeting, AGU Fall Meeting, Chicago, USA
- 2022 **Discussion session lead** . Strengthening Partnerships between OASIS and the Global South, SOLAS Open Science Conference, Cape Town, Republic of South Africa.
- 2022 **Discussion session co-lead** - SOLAS Science & Society: building upon past achievements & future possibilities, SOLAS Open Science Conference, Cape Town, Republic of South Africa.
- 2022 **Discussion session lead** . SOLAS science and global ship emissions . common challenges and next steps, SOLAS Open Science Conference, Cape Town, Republic of South Africa.
- 2022 **Discussion session co-lead** . How to cross-link lab and field measurements, Gas Transfer at Water Surfaces, Plymouth, UK.
- 2022 **Convener** . Get Involved! Observing Air-Sea Interactions Strategy (OASIS) Theme Teams, virtual Town Hall Meeting, Ocean Sciences Meeting
- 2021 **Forum convener** . The apparent mismatch between science and policy at the air-sea interface, Sustainability Research & Innovation Congress, Brisbane, Australia
- 2019 **Discussion session lead** - Can long term observatories be used to study the processes controlling air-sea exchange, SOLAS Open Science Conference, Sapporo, Japan.
- 2019 **Discussion session co-lead** - SOLAS Science & Society: achievements, present status & future possibilities, SOLAS Open Science Conference, Sapporo, Japan.
- 2015 **Discussion session lead** - SOLAS Science & Society, SOLAS Open Science Conference, Kiel, Germany

## INSTITUTIONAL RESPONSIBILITIES (continued from Commissions of Trust above)

- 2016-2019 **Member** of the Ocean Cluster in Kiel/Germany
- 2015-2017 **Alternate** for W1 Professors and Group Leaders-Scientific Advisory Committee, GEOMAR Helmholtz Centre for Ocean Research Kiel/Germany
- 2014-2017 **Elected alternate** to the Faculty of Mathematics and Natural Science Convent, Kiel University/Germany
- 2013-2020 **Co-speaker** for Work Package 1 Ocean-Atmosphere Coupling of Topic 2 Ocean Warming, Acidification, and Deoxygenation in the GEOMAR program-oriented funding OCEANS
- 2013 **Member** of the Future International SOLAS Junior Scientific Steering Committee
- 2013 **Member** of the reference user group of the OceanFlux GreenHouseGas (GHG) Project
- 2013 **Atmospheric science co-representative** of the Indian Ocean Initiative (Germany) project organizational board
- 2012-present **Full member** of the Ocean Cluster in Kiel/Germany