

KRISTIN DOERING, Ph.D.

Email: kristin.doering@geol.lu.se

Address: Department of Geology, Lund University, Sölvegatan 12, SE-223 62 Lund, Sweden

Nationality: German

Date of birth: 21.09.1986

ORCID: [0000-0002-7900-2169](https://orcid.org/0000-0002-7900-2169)Personal webpage: kristindoering.com**Scientific Profile**

I am an experienced isotope geochemist in paleoceanography, specifically focusing on modern and past marine nutrient cycling. I am especially interested in nutrient concentrations, phytoplankton utilisation, changes in productivity, and their linkage to changes in the biological pump and drawdown of carbon from the atmosphere. My expertise covers sample preparation, including liquid chromatography and isotopic analysis by MC ICPMS ($\delta^{30}\text{Si}$, i.e., in diatoms, radiolarians, and sponge spicules) and EA-IRMS analyses ($\delta^{15}\text{N}$). For reconstructing sea surface temperatures, salinity, age model calibrations and ocean ventilation, I also work with elemental ratios (Mg/Ca) stable isotopes ($\delta^{18}\text{O}$, $\delta^{13}\text{C}$) and C^{14} dating on planktic and benthic foraminifera. I am fascinated by paleoceanographic proxy applications on microfossils as they can tell us about various past conditions (SST, salinity, nutrient concentrations, and utilization), and I am constantly working to improve these proxies.

Current Position:

01/04/2022-31/03/2024 **Researcher** at **Lund University, Department of Geology, with Prof. Dr. Daniel Conley**
Project 'Reconstruction of past DSi concentrations during the Cretaceous based on $\delta^{30}\text{Si}$ of sponge spicules, radiolaria and diatoms.' **Project description:** Reconstruction of DSi concentrations between 100 and 80 Ma years ago based on $\delta^{30}\text{Si}$ composition

PROFESSIONAL EXPERIENCE

2020-2022 **Postdoctoral** at **Helmholtz Center for Ocean Research Kiel, Department of Paleoceanography,**
Researcher **Kiel, Germany with Dr. Heidi Kassens**

01/12/2020 – 31/03/2022 **Project** 'Changing Arctic Transpolar Systems – CATS': The silicon cycle in the Laptev and East Siberian shelf region: Comparison between seawater, diatoms, and sponges. diatoms, and sponges from the Laptev and East Siberian shelf region (**publication 12.**).

2018-2020 **Postdoctoral** at **Dalhousie University, Ocean Frontier Institute, Department of Oceanography,**
fellow (PI) **Halifax, Canada.**

01/08/2018 – 31/07/2020 **Postdoctoral** **Project** 'Linking changes in productivity and nutrient distribution in the Labrador Sea to ocean-atmosphere climate dynamics from the Glacial to today' funded by the Ocean Frontiers Institute (OFI) (first-author publications *in preparation*). Collaboration with Dr. H. Kolling (Kiel University, **publication 13.** in Paleoceanography and Paleoclimatology) on coupled productivity and sea-ice changes on the Labrador Shelf.

2016-2018 **Postdoctoral** at **Helmholtz Center for Ocean Research Kiel, Department of Paleoceanography,**
Researcher **Kiel, Germany. Within several projects funded by DFG within the SFB 754:**

01/04/18 – 30/06/18 **Postdoctoral researcher** **Helmholtz Center for Ocean Research Kiel, GEOMAR.**
 In the project 'Reconstructions of ventilation ages during the last 20,000 years based on benthic and planktonic ^{14}C measurements from single species' together with Dr. Nicolaas Glock (PI)

01/11/17 – 31/03/18 **PI** of the project 'Investigation of stable silicon isotope compositions of radiolaria from surface sediments off Peru' (**publication 10.** in *Frontiers in Mar. Sci.*)

- 01/01/17 – 30/04/17 Participation as Scientist, funded by the Inge-Lehmann-Fond, to participate in the 'Kosmos 2017' project, a mesocosm experiment off Peru. Work duties: preparation for experiment, daily sampling of mesocosms, sample preparation and analysis. (**publication 11**. In *Frontiers in Mar. Sci* and **9**. in *Biogeosciences*)
- 01/07/16 – 31/12/16 continued work from Ph.D. (funded by Prof. Martin Frank); Work duties: publication in International Journals (**publication 5**. *Paleoceanography and Paleoclimatology*), student supervision, preparation for scientific cruises (M135-138), and stable silicon isotope measurements on a *Nu plasma* ICP-MS.

EDUCATION

- 2012-2016 Ph.D. Dr. rer. Nat, Christian-Albrecht's-University of Kiel, Germany.**
- 01/03/12 – 19/07/16 Ph.D. in Paleoceanography and marine Biogeochemistry
Supervisors: R. Schneider and M. Frank
Title: Changes in silicon and nitrogen cycling off Peru during the past 20,000 years
Publications 1., 3., 5. and 6. (in *Geochimica et Cosmochimica Acta*, *Paleoceanography*, and *Biogeosciences*)
- 2006-2012 Diploma Geology at the Christian-Albrecht's University of Kiel, Germany.**
- 01/10/2006 – 18/02/2012 Major in Palaeontology and Paleoceanography
Diploma thesis: 'Surface and deep-water hydrographic conditions over the last 18,000 years from the Peruvian coast based on $\delta^{18}\text{O}$ and Mg/Ca ratios of *Globigerinoides ruber* and *Uvigerina peregrina*'.
Research Unit Paleoceanography, Supervisor: Prof. Dr Dirk Nürnberg
Publication 2. in *Paleoceanography*.

SCIENTIFIC EXPERTISE

Experience with micropaleontological studies

- Taxonomy of planktonic and benthic foraminifera
- Taxonomy of marine diatoms (subtropical and arctic species)
- Taxonomy of radiolaria

Experience with geochemical preparations

- Marine sediment preparation for various measurements (TIC/TOC, TN, biogenic opal)
- Water sample preparation for nutrient measurements and isotope analysis (MAGIC)
- Picking, crushing, and oxidative cleaning of foraminifera for Mg/Ca ratio measurements on an **ICP-OES**
- Preparation of samples and analysis with a scanning electron microscope (**SEM**) and EDS analysis
- Preparation and analysis of samples for X-ray diffraction (**XRD**)
- Physical and chemical cleaning of diatoms, radiolaria, and sponge spicules from marine sediments
- Chemical preparation with ion-exchange chromatography
- Cleaning procedure for diatom-bound nitrogen isotopes

Experience with geochemical measurements and different measurement techniques

- Stable Isotope measurements ($\delta^{18}\text{O}$, $\delta^{13}\text{C}$) with a ThermoFisher Scientific MAT253 (**IRMS**)
- Mg/Ca ratio measurements with an **ICP-OES**
- Elemental ratios with an *Agilent 7500 Series quadrupole ICPMS*
- Biogenic opal measurement via rapid wet/alkaline digestion and automated-leaching technique
- Stable Isotope measurements ($\delta^{30}\text{Si}$) with **MC-ICPMS** (*Nu Plasma HR* and *Neptune Plus*)
- In-situ micrometer ($\delta^{30}\text{Si}$) measurements of sponges with a CAMECA ims1280 ion microprobe (**SIMS**)
- Stable isotope measurements ($\delta^{15}\text{N}$) for bulk sediment analyses (Carlo-Erba CN analyser interface with a Micromass-Isoprime mass spectrometer **EA-IRMS**, Bordeaux) and diatom-bound compounds

Experience with data, databases, software and coding

Data quality

- Creation of standard operating procedures (SOP) for sample preparation and measurements

- Creation of templates for data reduction and quality assessment
- 'R' software and coding**
- Age modeling using Bayesian calibration.
- Creating Ocean maps
- Applying statistical calculations
- SQL databases**
- Creation, handling, and daily application

FELLOWSHIPS, HONORS, AND GRANTS

I received in total 215 612 € funding.

- 2019: Ocean Frontier Seed Fund** for material expenses and measurements ($\delta^{30}\text{Si}$, biogenic opal and ^{14}C of benthic foraminifera) received for the proposal 'Phytoplankton productivity and nutrient distribution in the Labrador Sea: Comparing recent warming with past warm phases' (**20.000 CAD ~ 14440 €**)
- 2018: Postdoctoral Fellowship**, funded by the Ocean Frontier Institute for 2 years as PI for the project 'Linking changes in productivity and nutrient distribution in the Labrador Sea to ocean-atmosphere climate dynamics from the Glacial to today' (**100%; 150,000 CAD ~ 105000 €**)
- Poster Award**, PDF Research Day at Dalhousie University (**100 CAD – 72.5 €**)
- 2017: DFG Mini-proposal** within the Collaborative Research Centre 754 at GEOMAR *Helmholtz Centre for Ocean Research Kiel* for a 3-Month Postdoctoral Researcher position (100%) for myself, 3- month positions for two student assistants, 10-month (25%) for Dr. Nicolaas Glock (PI) and ~60 samples for radiocarbon dating (**100%; 49,5000€**)
- 2017: DFG Mini-proposal** within the Collaborative Research Centre 754 at GEOMAR *Helmholtz Centre for Ocean Research Kiel*, Germany, Kiel (2017-2018): 5-Month Postdoctoral Researcher position as PI to study stable silicon isotopes in radiolaria (**100%; 22000€**)
- 2016: Inge-Lehman-Fonds** (Gender equality grant from the Helmholtz Association of German Research Centre: 4-month Post Doc Position and travel costs for support of Dr. Patricia Grasse (PI) during the mesocosm Experiment 2017 in Peru (**100%; 24,672€**)

FIELD EXPERIENCE

- 17/05/22-20/05/22 Sampling of potential diatom and sponge samples around Stuttgart, Germany
- 02/2017-04/2017 Offshore Mesocosm experiment KOSMOS in Lima, Peru.
- 10/2012-12/2012 R/V Meteor (M90): (Cristobal) Panama to Callao (Peru)

TEACHING EXPERIENCE

Lund University, Department of Geology:

- 2023: GEON08-Quaternary Geology – Marine Geology and Environmental Change, *Paper Discussion*
- 2023: GEON08-Quaternary Geology – Marine Geology and Environmental Change, *Lecture: Biogeochemistry – The Silicon Cycle*
- 2022: GEOM10- Sedimentary Geology and Basin analysis, *Lecture: Stable Isotopes*
- 2022: GEOM10- Sedimentary Geology and Basin analysis, Supervision of 1-week *Field-trip to Austria*

MEMBERSHIPS

- Paleoclimate Society, since 2021
- Association of Polar Early Career Scientists (APECS), since 2021
- European Association of Geochemistry (EAS), since 2019

PROFESSIONAL SERVICES

Review Editor for Frontiers in Marine Sciences

Reviewer in several Journals, including Quaternary Science Reviews, Biogeosciences, Limnology and Oceanography, and Geophysical Research Letters.

2012-2016: **Graduate Student representative** in the extended board of the Project ‘SFB 754-Climate-Biogeochemistry Interactions in the Tropical Ocean’

LANGUAGES

German (native), English (fluent), French (basic), Swedish (basic)

PUBLICATIONS (peer-reviewed)

I have an H-Index of 8 (Scopus) and, in total, 12 publications in international peer-reviewed journals (4 as 1st author)

13. Kolling H., Schneider R., Gross F., Hamann C., Kienast M., Kienast S., **Doering K.**, Fahl K., Stein R. 2023. Biomarker records of environmental shifts on the Labrador Shelf during the Holocene. *Paleoceanography and Paleoclimatology*, 38, e2022PA004578. <https://doi/10.1029/2022PA004578>
Key findings: Sea ice on the Labrador Shelf mainly follows the solar insolation and meltwater input from the decaying Laurentide Ice Sheet. It increased following the Lake Agassiz outburst and Hudson Bay Ice Saddle Collapse between 8.5 and 8.2 kyr BP. Low Sea ice conditions during the HTM were replaced by an increase following the Neoglacial cooling trend.
Contribution: Biogenic opal measurements and manuscript writing.
12. Laukert G., Grasse P., Novikhin A., Povazhnyi V., **Doering K.**, Hölemann J., Janout M., Bauch D., Kassens H., Frank M. 2022. Nutrient and Silicon Isotope Dynamics in the Laptev Sea and Implications for Nutrient Availability in the Transpolar Drift. *Global Biogeochemical Cycles* 36, e2022GB007316. <https://doi.org/10.1029/2022GB007316>.
Key findings: The $\delta^{30}\text{Si}$ of dissolved silicic acid in the Laptev Sea indicates the main contribution of DSI from the Lena River during winter. Enhanced DSI utilization in the Laptev Sea will lead to a reduced diatom-dominated primary productivity in the Transpolar Drift
Contribution: Training and execution of silicon isotope measurements and manuscript writing.
11. Grasse, P., Haynert, K., **Doering, K.**, Geilert, S., Jones, J.L., Brzezinski, M.A., Frank, M., 2021. Controls on the Silicon Isotope Composition of Diatoms in the Peruvian Upwelling. *Frontiers Mar Sci* 8, 697400. <https://doi.org/10.3389/fmars.2021.697400>.
Key findings: The $\delta^{30}\text{Si}$ of dissolved silicic acid and biogenic silica and the diatom assemblage from the water column are compared to $\delta^{30}\text{Si}$ of diatoms recorded in the sediments, highlighting that diatom assemblages need to be considered for reconstructing past DSI utilisation due to differences in fractionation among taxa.
Contribution: data of silicon isotopes of diatoms, participation on cruise M90 for water sampling, interpretation, and manuscript writing
10. **Doering, K.**, Ehlert, C., Pahnke, K., Frank, M., Schneider, R., Grasse, P., 2021. Silicon Isotope Signatures of Radiolaria Reveal Taxon-Specific Differences in Isotope Fractionation. *Frontiers Mar Sci* 8, 666896. <https://doi.org/10.3389/fmars.2021.666896>.
Key findings: Measurements of radiolarian’s first taxon-specific stable silicon isotopes reveal that taxa and orders fractionate silicon differently. Thus, changes in taxonomy need to be considered for interpretations of past records.
Contribution: Principal investigator, planned and conducted the project, analysis of silicon isotopes of radiolaria, data interpretation and manuscript design and writing.
9. Bach, L. T., Paul, A. J., Boxhammer, T., von der Esch, E., Graco, M., Schulz, K. G., Achterberg, E., Aguayo, P., Arístegui, J., Ayón, P., Baños, I., Bernal, A., Boegeholz, A. S., Chavez, F., Chavez, G., Chen, S.-M., **Doering, K.**, Filella, A., Fischer, M., Grasse, P., Haunost, M., Hennke, J., Hernández-Hernández, N., Hopwood, M., Igarza, M., Kalter, V., Kittu, L., Kohnert, P., Ledesma, J., Lieberum, C., Lischka, S., Löscher,

C., Ludwig, A., Mendoza, U., Meyer, J., Meyer, J., Minutolo, F., Ortiz Cortes, J., Piiparinen, J., Sforza, C., Spilling, K., Sanchez, S., Spisla, C., Sswat, M., Zavala Moreira, M., and Riebesell, U. **2020**. Factors controlling plankton community production, export flux, and particulate matter stoichiometry in the coastal upwelling system off Peru, *Biogeosciences*, 17, 4831–4852, <https://doi.org/10.5194/bg-17-4831-2020>.

Key findings: Within a mesocosm experiment of Peru, the temporal development of organic matter, export and stoichiometry were investigated after injection of different subsurface waters. While most fluxes remained surprisingly constant, a community shift from diatoms to dinoflagellates was observed with the exhaustion of inorganic nitrate in the surface layer.

Contribution: Participation and conduction of the experiment, water sampling and manuscript writing

8. Geilert, S., Grasse, P., **Doering, K.**, Wallmann, K., Ehlert, C., Scholz, F., Frank, M., Schmidt, M., and Hensen, C., **2020**. Impact of ambient conditions on the Si isotope fractionation in marine pore fluids during early diagenesis, *Biogeosciences*, 17, 1745–1763, <https://doi.org/10.5194/bg-17-1745-2020>.

Key findings: The $\delta^{30}\text{Si}$ signatures of pore fluids from the Guaymas Basin, which is characterised by high silica accumulation, hydrothermal activity, oxic and anoxic conditions, were evaluated together with a reactive transport model. Results indicate a main control of silica dissolution and Si precipitation, but high variability and markedly different $\delta^{30}\text{Si}$ of pore fluids, especially in contrast to other anoxic regions (Peru).

Contribution: Data analyses of silicon isotope compositions of diatoms, manuscript writing.

7. Zhang, Z., Cao, Z., Grasse, P., Dai, M., Gao, L., Kuhnert, H., Gledhill, M., Chiessi, C.M., **Doering, K.**, Frank, M., **2020**. *Dissolved silicon isotope dynamics in large river estuaries*, *Geochimica et Cosmochimica Acta*, 273, 367-382, <https://doi.org/10.1016/j.gca.2020.01.028>.

Key findings: Silicon isotope compositions of dissolved silicic acid from three of the world's largest rivers reflect conservative water mass mixing, increased signatures due to enhanced utilization, and seasonal variability due to changes in water residence time. These dynamic processes need to be considered when constraining the oceanic Si cycle.

Contribution: Training, silicon isotope measurements and machine set-up support, manuscript writing.

6. **Doering, K.**, Ehlert, C., Martinez, P., Frank, M., Schneider, R., **2019**. Latitudinal variations of $\delta^{30}\text{Si}$ and $\delta^{15}\text{N}$ signatures along the Peruvian shelf: quantifying the effects of nutrient utilisation versus denitrification over the past 600 years. *Biogeosciences (BG)*, 16 (10). pp. 2163-2180. [doi:10.5194/bg-16-2163-2019](https://doi.org/10.5194/bg-16-2163-2019).

Key findings: A novel approach of combined nitrogen and silicon isotope compositions extracted from sediment records supports its application to trace and disentangle changes in source water signatures, utilisation of nutrients and the uptake ratio of nutrients by phytoplankton in the past.

Contribution: Principal investigator, conducted isotope analyses and writing of the manuscript.

5. **Doering, K.**, Erdem, Z., Ehlert, C., Fleury, S., Frank, M., Schneider, R., **2016**. Changes in diatom productivity and upwelling intensity off Peru since the Last Glacial Maximum: Response to basin-scale atmospheric and oceanic forcing. *Paleoceanography* 31, 1453–1473. [doi:10.1002/2016PA002936](https://doi.org/10.1002/2016PA002936).

Key findings: The combination of silicon isotope compositions of diatoms, biogenic opal and organic carbon from four sediment records of Peru records intensification and movement of the upwelling to its modern position over the Holocene from a more Northern Position during the deglaciation. In a novel approach, the silicon isotope compositions of different diatom species have been applied to reconstruct the change in upwelling intensity.

Contribution: Principal investigator, conducted isotope analyses and writing of the manuscript.

4. Ehlert C., **Doering K.**, Wallmann K., Scholz F., Sommer S., Grasse P., Geilert S. and M. Frank, **2016**: Stable silicon isotope signatures of marine pore waters - biogenic opal dissolution versus authigenic clay mineral formation. *Geochimica et Cosmochimica Acta* 191, 102-117. <https://doi.org/10.1016/j.gca.2016.07.022>.

Key findings: Dissolved silicon isotope composition of pore waters has been investigated for the first time of short sediment cores from the Peruvian margin. Together with a numerical transport-reaction model, the data indicates that about 24% of dissolved biogenic opal is re-precipitated in the sediments in the form of authigenic aluminosilicate phases.

Contribution: Data analyses of $\delta^{30}\text{Si}$ of diatoms, manuscript writing.

3. Doering, K., Ehlert, C., Grasse, P., Crosta, X., Fleury, S., Frank, M., Schneider, R., **2016**. Differences between mono-generic and mixed diatom silicon isotope compositions trace present and past nutrient utilisation off Peru. *Geochimica et Cosmochimica Acta* 177, 30–47. [doi:10.1016/j.gca.2015.12.029](https://doi.org/10.1016/j.gca.2015.12.029).

Key findings: Differences in $\delta^{30}\text{Si}$ of small mixed and a large single diatom species reflect different stages of succession during upwelling and can be used together to reconstruct the intensity of upwelling from sediment records off Peru.

Contribution: Principal investigator conducted isotope analyses and writing of the manuscript.

2. Nürnberg, D., Bösch, T., Doering, K., Mollier-Vogel, E., Raddatz, J. und Schneider, R., **2015**. *Sea surface and subsurface circulation dynamics off equatorial Peru during the last ~17 kyr*. *Paleoceanography*, 30 (7). pp. 984-999. [Doi:10.1002/2014PA002706](https://doi.org/10.1002/2014PA002706).

Key findings: Sea surface temperature proxies capture the evolving seasonal difference in the Gulf of Guayaquil, with more prominent Cold Coastal Water and coastal upwelling of Peru since 4000 years ago and a growing influence of Equatorial subsurface waters since 10.000 years ago.

Contribution: Data analyses (from Diploma thesis), manuscript writing.

1. Xiong, Z., Li, T., Algeo, T., Doering, K., Frank, M., Brzezinski, M. A., Chang, F., Opfergelt, S., Crosta, X., Jiang, F., Wan, S. und Zhai, B., **2015**: The silicon isotope composition of *Ethmodiscus rex* - laminated diatom mats from the tropical West Pacific: Implications for silicate cycling during the Last Glacial Maximum. *Paleoceanography*, 30 (7). pp. 803-823. <https://doi.org/10.1002/2015PA002793>.

Key findings: The cause of massive blooms of *E. rex* during the Last Glacial Maximum was investigated based on $\delta^{30}\text{Si}$ and a binary mixing model (upwelled silicate vs. eolian silicate), revealing that *E. rex* did not always use a buoyancy strategy to obtain nutrients from the deep nutrient pool.

Contribution: Data analyses, manuscript writing.

MANUSCRIPTS IN PREPARATION

1. Grasse, P., Doering, K., Paul, A., Sanchez Ramirez, S., Bernales, A., Graco, M, von der Etsch, E., Bach, L., Riebesell, U. (will be submitted to *Biogeosciences*) Evolution of silicon isotopes during a mesocosm experiment in the Peruvian Upwelling: Implications for the Fractionation Factor for Silicoflagellates.
2. Doering, K., Kienast, S. S., Geilert, S. A. White A., Ehlert, C., Pahnke, K., Kienast, M., Frank, M., Schneider R. (will be submitted to *Limnology and Oceanography*) Records of the nutrient cycling in the Labrador Sea: A multi-proxy application of stable silicon and nitrogen analysis of surface sediments.
3. Doering K., Laukert G., Povazhny V., Hölemann J., Kusse-Tiuz N., Kassens H. and M. Frank (will be submitted to *Global Biogeochemical Cycles: Silicon Cycling in the Siberian Arctic constrained by silicon isotope compositions of seawater and sediments*).

INVITED TALKS

- 2022:** Colloquium presentation 'Tools to decipher the past Silica Cycle – Silicon isotope compositions of diatoms, radiolaria and sponges' virtual oral presentation at the [Geowissenschaftliches Kolloquium Wintersemester 2022/2023](https://www.uni-frankfurt.de/2022-2023/Geowissenschaftliches_Kolloquium_Wintersemester_2022/2023), Goethe University, Frankfurt, Germany.
- 2022:** Keynote 'The Si isotope signature of radiolarians - drivers of their shell signatures and inter -species difference' within the session 'Deciphering past climates and biogeochemical cycles with geochemical proxy archives' at the GeoMin Köln 2022.
- 2020:** Seminar presentation 'The Marine Silicon Cycle: Can we reconstruct past silica concentrations' and its utilisation', within an Online-Seminar series in Geochemistry of the Research Group for Marine Geochemistry at the University of Oldenburg, Oldenburg, Germany.
- 2019:** Seminar presentation 'Biogeochemical proxies off Peru: past changes in upwelling, productivity and nutrient cycling' within the Department of Geology at Lund University. Lund, Sweden.

CONFERENCE ACTIVITIES (selection, last 5 years)

- 2023:** Doering K., Z. Zhang, Y. Dai, W. Dummann, R. A. Pickering, K. Bryka, T. Störling, C. Schröder-Adams, S. Richoz, M. Frank, J. Herrle, D. Harwood and D. Conley: 'The Silica Cycle on a continental Shelf during the Upper Cretaceous: Reconstructions of Silicon Isotopes of Sponges, Radiolaria and Diatoms'. Contribution: Talk. Goldschmidt Conference 2023, 9-14 July, Lyon, France, **2023**.

Dai Y., Z. Zhang, S. Richoz, **K. Doering**, F. M. Stamm, J. Yu, Z. Xu Sr., M. Frank and D. Conley: '*Coupled marine silica and carbon cycle changes after the Palaeocene Eocene Thermal Maximum*'. Contribution: Poster. Goldschmidt Conference 2023, 9-14 July, Lyon, France, **2023**.

Störling T., L. Friberg, L. Cassarino, Rebecca A. Pickering, **K. Doering**, F.M. Stamm, K. R. Hendry, S. Richoz and D. Conley: '*Effects of the K-Pg Boundary Event on the Ocean Silicon Cycle: What sponge spicule and radiolarian silicon isotopes can show us*'. Contribution: Poster. Goldschmidt Conference 2023, 9-14 July, Lyon, France, **2023**.

2022: **Doering K.**, J. Weiser, N. Lehmann, S.S. Kienast, M. Kienast, D. Hebbeln, M. Frank and R. Schneider: '*Comparison of modern and Holocene nutrient cycling in the Labrador Sea: A multiproxy application of nitrogen and silicon isotopes*'. Contribution: Poster. 14th International Conference on Paleoceanography (ICP14), Bergen, Norway.

Grasse P. and **K. Doering**: '*Taxon specific fractionation in silicifiers: 'What we know and what we don't know!'*'. Contribution: Talk. Isotopes in Biogenic Silica (IBiS2022), 14-16 June, Lund, Sweden, 2022.

Doering K., Laukert G., Kienast S. S., Kienast M., Kassens H. and M. Frank: '*Differing silicon isotope compositions of sponge spicules from Arctic and North Atlantic shelf sediments*'. Contribution: Talk. Isotopes in Biogenic Silica (IBiS2022), 14-16 June, Lund, Sweden, **2022**.

2021: Laukert G., Grasse P., Novikhin A., Povazhny V., **Doering K.**, Hölemann J., Janout M., Bauch D., Kassens H. and M. Frank: '*Nutrient inputs, utilisation and cycling in the Laptev Sea constrained by macronutrient concentrations and stable silicon isotopes*'. Contribution: Talk. Goldschmidt virtual, **2021**.

2020: Erdem Z., **Doering K.**, Schneider R., Sinninghe Damsté J. S. and S. Schouten: '*Upwelling history from northern Peruvian margin over the last 25 thousand years: A multi-proxy approach*' contribution: Poster. AGU fall meeting, **2020**.

Glock, N., Sarnthein, M., **Doering K.**, Mollenhauer, G., and Salvatelli, R.: Deglacial 14C reservoir ages of surface waters at the northern boundary of Peruvian coastal upwelling, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-4727, <https://doi.org/10.5194/egusphere-egu2020-4727>, **2020**.

Kienast, M., Davin, S., **Doering K.**, Hebbeln, D., Kienast, S., Lehmann, N., Schneider, R., Sherwood, O., and Weiser, J.: Isotopic evidence for changes in the origin and cycling of nitrogen in the Labrador Sea during the last 8,000 years, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-12134, <https://doi.org/10.5194/egusphere-egu2020-12134>, **2020**.

2019: Kienast M., Davin S., **Doering K.**, D. Hebbeln, S. S. Kienast, M. F. Lehmann, N. Lehmann, R.R. Schneider, O. Sherwood, J. Weiser: 'Gauging Arctic and Northwest Atlantic nitrogen cycling from Labrador Sea nitrogen isotopes' Contribution: Poster. 13th International Conference on Paleoceanography (ICP13), Sydney, Australia, **2019**.

Doering K., Kienast M, Kienast S S, Frank M, Schneider R: '*Linking changes in siliceous primary productivity in the Labrador Sea to ocean-atmosphere climate dynamics during the Holocene*' Contribution: Poster. 13th International Conference on Paleoceanography (ICP13), Sydney, Australia, **2019**.

Doering K., Grasse P. and M. Frank: '*Silicon isotope signatures of radiolarian and their potential to track changes in past seawater nutrient concentrations*' Contribution: Poster, Goldschmidt Conference, Barcelona, Spain, **2019**.

Laukert G., Grasse P., **Doering K.**, Novikhin A., Povazhny V., Frank M. and H. Kassens: '*Spatial and temporal variability in supply, transport and utilisation of silicate in the Laptev Sea based on dissolved stable silicon isotopes*' Arctic Science Summit Week (ASSW), Arkhangelsk, Russia **2019**.