Publications List

(*marks PhD students, **Master Students, ***Bachelor students supervised by Jacek Raddatz)

Submitted

*Schleinkofer, N, Wisshak, M and **Raddatz, J**. Effects of ethanol preservation on the geochemical signature of marine biogenic carbonates. Limnology & Oceanography: Methods

Published

35. Davies, A., Guo, W., Bernecker, M., Tagliavento, M., **Raddatz, J**., Gischer, E., Flögel, S. Fiebig J. (2022) Dual clumped isotope thermometry of coral carbonate. Geochemica et Cosmochimica Acta, 338, 66-78.

34. Raddatz J, Bahr A, Chiessi CM and Häggi C (2022) Editorial: Climate and ocean dynamics at the Brazilian margin – Past and present. Frontiers in Marine Science 9:1033387.

33. ***Endress, S, *Schleinkofer, N, Schmidt, A, Tracey, D, Frank, N and **Raddatz, J**. (2022) The cold-water coral Solenosmilia variabilis as a paleoceanographic archive for the reconstruction of intermediate water mass temperature variability on the Brazilian continental margin. Frontiers Marine Science 9:909407.

32. Arndt, I, Voigt, S, Petschick, R, Hou, A, **Raddatz,** J, Albuquerque, A.L.S. and Bahr. A (2022) Spatiotemporal Discharge Variability of the Doce River in SE Brazil During MIS 6 and 5. Frontiers in Earth Sciience 10:864381.

31. Raddatz, J. Liebetrau, V, Rüggeberg, A., Foubert, A., Nürnberg, D., **Musiol, J., Hissmann, K., Goepfert, T., Eisenhauer, T., Dullo, W.Chr. (2022) Living on the Edge: environmental variability of a shallow late Holocene cold-water coral mound. Coral Reefs *doi:* 10.1007/s00338-022-02249-4

30. Spahr, D, Bayarjargal, L., Vinograd, V., Etter, M., **Raddatz, J**. and Winkler, B. (2022) Incorporation of Europium into (Ba,Ca) $(CO_3)_2$. Solid State Chemistry, 307,122759.

29. *Schleinkofer, N., Evans, D., Wisshak, M., Büscher, J. V., Fiebig, J., Freiwald, A., **Härter, S., Marschall, H. R., Voigt, S., and **Raddatz, J**. (2021). Host influenced geochemical signature in the parasitic foraminifer *Hyrrokkin sarcophaga*. Biogeosciences, 18, 1–21, 2021.

28. Stainbank, S., Spezzaferri, S., Rüggeberg, A., **Raddatz, J**., De Leau, E.S., Yu, M.S., Zhang, M., and Kroon D. (2021). Monsoon and tropical climate forcing on the physicochemical and thermocline characteristics of the Maldives Inner Sea. Paleoceanography & Paleoclimatology, 36, e2020PA004105

27. Meier, K.J.F., Bahr, A., Chiessi, C.M., Albuquerque, A.L., **Raddatz, J**., and Friedrich, O. (2021). Role of the tropical Atlantic for the interhemispheric heat transport during the last deglaciation. Paleoceanography & Paleoclimtology, 36, e2020PA004107.

26. *Schleinkofer, N., **Raddatz, J**, Evans, D, Voigt, S., Gerdes, A., Flögel, S and Wisshak, M. (2021) Elemental to calcium ratios in the marine bivalve *Acesta excavata*: a new archive for high-resolution paleoceanographic reconstructions of intermediate water masses. *PLOS ONE 16(4): e0245605.*

25. Bahr, A., Doubrawa, M., Titschack, J., Austermann, G., Nürnberg, D., Albuquerque, A.L., Friedrich, O. and **Raddatz J.** (2020) Monsoonal forcing controlled cold water coral growth off south-eastern Brazil during the past 160 kyrs, Biogeosciences, 17, 5883–5908.

24. Bajnai, D., Guo, W, Löffler, N., Methner, K., Krsnik, E., Coplen, T, Gischler, E., Hansen, M., Henkel, D, Price, G., **Raddatz, J**., Scholz, D, Spötl, C., and Fiebig, J. (2020) Combined clumped isotope measurements resolves bias in carbonate formation temperatures. *Nature Communications, 11:4005.*

23. Hou, A., Bahr, A., **Raddatz, J**., Voigt, S., Greule, M., Albuquerque, A.,L., Chiessi, C.M., Friedrich, O. (2020) Insolation and greenhouse gas forcing of the South American Monsoon System across three glacial-interglacial cycles. *Geophysical Research Letters*, *46*, e2020GL087948.

22. Stainbank, S., Spezzaferri, S., De Boever, E., Bouvier, A.S., Chilcott, C., de Leau, E.S., Kunkelova, T., Pichevin, L., **Raddatz, J**., Rüggeberg, A., Wright, J., Yu,S., Zhang, M., and Kroon, D. (2020) Diagenetic influences on foraminiferal geochemistry from a low latitude, shallow-water drift deposit. *Earth and Planetary Science Letters, 545, 116390.*

21. **Raddatz, J**. Titschack, J., Frank, N., Freiwald, A. Conforti, A., Osborne, A., Skonitzke, S. W, Stiller, W. Rüggeberg, A., Voigt, S. Albuquerque, ALS., Vertino, A., Schröder-Ritzrau, A. and Bahr. A. (2020) *Solenosmilia variabilis*-bearing cold-water mounds off Brazil. *Coral Reefs*. 39:69-83.

20. Frisch, K., Voigt, S., Verestek, V., Appel, E., Albert, R. Gerdes, A, Arndt, I., **Raddatz, J**., Voigt, T., Weber, Y and Batenburg S. (2019) Long-period astronomical forcing modified Westerlies strength in Central Asia in course of Miocene climate cooling. *Paleoclimatology & Paleoceanography*, *34*.

19. Raddatz, J., and Rüggeberg, A. (2019*)* Constraining past environmental boundary conditions of cold-water coral mounds with geochemical proxies in corals and foraminifera. *The Depositional Record*, doi: 10.1002/dep2.98. **(invited review paper) (***Special Issue on Carbonate Deposits**, finally published in June 2021**)*

18. Wisshak, M, Neumann, H., Rüggeberg, A., Büscher, J., Linke, P. and **Raddatz J**. (2019) Epibenthos dynamics and environmental fluctuations in two contrasting polar carbonate factories (Mosselbukta and Bjørnøy-Banken, Svalbard). *Frontiers in Marine Science*, 6:667.

17. **Schleinkofer, N., **Raddatz, J**., Freiwald, A., Evans, D., Rüggeberg, A., Beuck L., and Liebetrau V. (2019) Environmental versus biological controls on Na/Ca ratios in scleractinian cold-water corals. *Biogeosciences*, 16, 3565–3582.

16. Stainbank, S., Kroon, D., Rüggeberg, A. **Raddatz J**., De Leau, E.S., Zhang, M. and Spezzaferri S. (2019) Controls on planktonic foraminifera apparent calcification depths for the northern equatorial Indian Ocean. *PLOS ONE* 14(9): e0222299.

15. Skornitzke, S, **Raddatz, J**., Pahn, G., Bahr, A., Kauczor, H.U., and Stiller, W. (2019) An automated alignment correction algorithm for CT imaging: evaluation based on a CT image quality phantom and application to sediment cores from cold-water coral mounds. *European Radiology Experimental*, 3, 12.

14. Jurikova, H., Liebetrau, V., **Raddatz, J**., Fietzke, J., Trotter, J., Rocholl, A., Krause, S., McCulloch, M., Rüggeberg, A. and Eisenhauer, A**.** (2019) Boron isotope composition of the cold-water coral *Lophelia pertusa* along the Norwegian margin: Zooming into a potential pH-proxy by combining bulk and high-resolution approaches. Chemical Geology, 513, 143-152.

13. Bajnai, D., Fiebig, J., Tomašových, A., Milner, S.G., Rollion-Bard, C**., Raddatz, J**., Löffler, N., Primo-Ramos, C. and Brand, W. (2018) Assessing kinetic fractionation in brachiopod calcite using clumped isotopes*. Scientific Reports, 8, 533.*

12. Raddatz, J., Nürnberg, D., Tiedemann, R. and Rippert, N. (2017) Southeastern marginal West Pacific Warm Pool sea-surface and thermocline dynamics during the Pleistocene (2.5–0.5 Ma). *Palaeogeography, Palaeoclimatology, Palaeoecology* 471**,** 144–156.

11. Raddatz, J, Liebetrau, V., Trotter, J., Rüggeberg, A., Flögel, S., Eisenhauer, A., Dullo, W. Chr. Voigt, S., and McCulloch, M. (2016) Environmental constraints on Holocene cold-water coral reef growth off Norway: Insights from a multiproxy approach. *Paleoceanography*, 31.

10. Rippert, N, Nürnberg, D**., Raddatz, J.,** Maier, E., Hathorne E.C., Bijma, J., and Tiedemann R. (2016) Constraining foraminiferal calcification depths in the western Pacific warm pool, *Marine Micropaleontology*. 128, 14-27.

9. Rüggeberg, A., Flögel, S., Dullo, W.Chr., **Raddatz, J**., and Liebetrau V. (2016) Paleoseawater density reconstruction and its implication for cold-water coral carbonate mounds in the northeast Atlantic through time. *Paleoceanography*, 31.

8. Nürnberg, D., Böschen, T., Doering, K., Mollier-Vogel, **Raddatz, J** and Schneider, R. (2015) Seasurface and subsurface circulation dynamics off equatorial Peru during the last 17kyrs. *Paleoceanography*, 30, 984–999.

7. Raddatz, J., Rüggeberg, A. Floegel, S., Hathorne, E., Liebetrau, V., Eisenhauer, A. and Dullo, W.Chr. (2014) The influence of seawater pH on U/Ca ratios in the scleractinian cold-water corals *Lophelia pertusa. Biogeosciences*, 11, 1863-1871.

6. Vollstaedt, H, Eisenhauer, A., Wallmann, K., Böhm, F., Fietzke, J., Liebetrau, V., Krabbenhöft, A., Farkas,J, Tomasovych, A., **Raddatz, J**., and Veizer, J. (2014) The Phanerozoic δ88/86Sr record of seawater: New implications for the Ocean Chemistry of the past. *Geochimica et Cosmochimica Act*a, 128, 249-265.

5. Raddatz, J., Rüggeberg, A., Liebetrau, V., Foubert, A., Hathorne, E. C., Fietzke, J., Eisenhauer, A. and Dullo, W.Chr. (2014) Environmental boundary conditions of cold-water coral mound growth over the last 3 Million years in the Porcupine Seabight, Northeast Atlantic*. Deep-Sea Research Part II-Topical Studies in Oceanography*, 99, 227-236.

4. Hathorne E. C., Gagnon A., Felis T., Adkins J., Asami R., Boer W., Caillon N., Case D., Cobb K. M., Douville E., Demenocal P., Eisenhauer A., Garbe-Schönberg D., Geibert W., Goldstein S., Hughen K., Inoue M., Kawahata H., Kölling M., Cornec F. L., Linsley B. K., McGregor H. V., Montagna P., Nurhati I. S., Quinn T. M., **Raddatz J**., Rebaubier H., Robinson L., Sadekov A., Sherrell R., Sinclair D., Tudhope A. W., Wei G., Wong H., Wu H. C. und You C.-F. (2013) Inter-laboratory study for coral Sr/Ca and other element/Ca ratio measurements*. Geochemistry, Geophysics, Geosystems*, 14 (9), 3730-3750.

3. Raddatz, J., Liebetrau, V., Rüggeberg, A., Hathorne, E., Krabbenhöft, A., Eisenhauer, A., Böhm, F., Vollstaedt, H., Fietzke, J., López Correa, M., Freiwald, A. and Dullo, W. Chr. (2013) Stable Sr-isotope, Sr/Ca, Mg/Ca, Li/Ca and Mg/Li ratios in the scleractinian cold-water coral *Lophelia pertusa. Chemical Geology*, 352. 143-152.

2. Raddatz, J., López Correa, M., Rüggeberg, A., Dullo, W.Chr. and Hansteen, T. (2011) Bioluminescence in deep-sea isidid gorgonians from the Cape Verde archipelago*. Coral Reefs*, 30 (3), 579.

1. Raddatz, J., Rüggeberg, A., Margreth, S. Dullo, W.Chr. and the IODP Expedition 307 Scientific Party (2011) Paleoenvironmental reconstruction of Challenger Mound initiation in the Porcupine Seabight, NE Atlantic*.* Marine Geology, 282, 79-90. **(Editor's Choice – open access).**

Other Publications (selected)

Blaser, P. & **Raddatz, J**. Undisturbed measurements of oxygen in deep-sea sediments with oxygen sensitive foil (2018). *PreSens, Application Note*. 1-5.

Augustin, N., Schmidt, M., Devey, C. W., Al-Aidaroos, A. M., Kürten, B., Eisenhauer, A., Brückmann, W.,Dengler, M., van der Zwan, F. M., Feldens, P., Kwasnitschka, T., Bantan, R. A., Basaham, A., Metz, D.,Hagemann, J., Al-Dhouyan, I. O., Al-Farawati, R., Al-Haj, A., Al-Nomani, S., Al-Nuwairah, M., Al-Mehana, W., Al-Sofyani, A., Al-Yousef, S., Al-Barakati, A., Audritz, S., Bauersachs, T., Bruss, G., Elgarafi, A. E., El-Sherbini, M., Haredy, R., Hissmann, K., Jamal, M., Khomayis, H. S., Kotob, A., Laurila, T., Linke, P., McGinnis, D., Orif, I. M., Pena-Garcia, D., **Raddatz, J**., Sas, A., Sawall, Y., Schauer, J., Sommer, S., Winder, M. and Walther, S. (2014) The Jeddah Transect Project: Extensive mapping of the Red Sea Rift, *InterRidge News*, 22, 68-73.

Talks at Conferences/Summer Schools/Colloquium (selected)

Raddatz, J., Beisel, E., Butzin, M., Schröder-Ritzrau, S., Betzler, C Frank, N. (2022) Radiocarbon depleted intermediate water masses during the LGM in the equatorial Indian Ocean, GeoMin2022, Cologne 11-15.09.2022

Raddatz, J. (2022**):** Scleractinian cold-water corals as geochemical archives in paleoceaography, Heidelberg University, Institute of Environmental Physics, 21.07. (**Invited**)

Raddatz, J. (2022**):** Scleractinian cold-water corals as geochemical archives in paleoceanography, German Geological Association, Sedimentology/SEPM-CES, 12.05. (**Invited**)

Raddatz, J. (2020). Cold-water corals through space and time, Geoscience Colloquium, Senckenberg Natural History Collection Dresden, 10.03. **(Invited)**

Raddatz, J. (2020). Cold-water carbonates as paleoceanographic archives**,** Geoscience Colloquium Leibniz University Hannover, 27.01. **(Invited)**

Raddatz, J. (2018). Marine carbonates as geochemical archives to understand past ocean changes, Senckenberg at the Sea Colloquium, Wilhelmshaven, 21.11. 8. **(Invited)**

Raddatz, J. (2017)**.** The coral mound archive, ECORD Summer School, Current-Controlled Sea Floor Archives: Coral Mounds and Contourites, 21.-1.09., MARUM, Bremen. **(Invited-Lecture)**

Raddatz. J. (2015). New geochemical proxies to unravel the paleo-environmental signal in carbonate mounds 1st International Carbonate Mound Conference, 1-5*.11.*, Monte Verita, Switzerland. (**Invited-Keynote**)

Raddatz J., Liebetrau, V., Trotter, J., Flögel, S., Rüggeberg, A., Eisenhauer, A., Dullo, W.Chr. Voigt, S. McCulloch, M. (2015). The Holocene cold-water coral reef phenomena off Norway: insights from a multiproxy approach, GeoBerlin, 04.-07.10, Berlin, Germany.

Raddatz, J., Rüggeberg, A., Liebetrau, V., Flögel, S. and Dullo, W. Chr. (2014). Environmental boundary conditions of cold-water coral mound growth over the last 3 Myr, COCARDE, 10.-13.06, University of Copenhagen, Denmark. (**Invited**)

Raddatz, J., Liebetrau, V., Eisenhauer, A., Rüggeberg, A., Hathorne, E., Nürnberg, D. and Dullo, W.Chr. (2011*).* Temperature reconstructions on carbonate mounds (IODP Site 1317) using elemental ratios (Mg/Ca, Mg/Li, Sr/Ca) as well as non-traditional isotope techniques ($\delta^{88/86}$Sr), EGU General Assembly 2011, 05.04, Vienna, Austria.

Raddatz, J., Rüggeberg, A., Liebetrau, V., Margreth, S., Eisenhauer, A. and Dullo, W. C. and IODP Expedition 307 Scientific Party (2010). Carbonate mounds as high-resolution archives to decipher short-term variability of paleoenvironment in the late Pliocene, GeoDarmstadt 2010: Geowissenschaften sichern Zukunft. Jahrestagung der Deutschen Gesellschaft für Geowissenschaften (DGG) und der Geologischen Vereinigung (GV), sowie 8th European Coal Conference, 10.10.-13.10., Darmstadt.

Raddatz, J., Rüggeberg, A., Liebetrau, V., Margreth, S., Eisenhauer, A. and Dullo, W.Chr. (2009). Paleoenvironmental reconstruction of deep-water carbonate mound initiation in the Porcupine Seabight, NE Atlantic, AGU Fall Meeting, American Geophysical Union, 14.12.

Public Outreach (selected)

Raddatz, J. Kaltwasserkorallen durch Raum und Zeit**,** Night of Science, Goethe University Frankfurt, 08.06.2018

Raddatz, J. Geheimnisvolle Schätze der Tiefsee: Kaltwasserkorallen, Festvortrag, Akademische Feier, Fachbereich Geowissenschaften, Goethe University Frankfurt, 07.02.2020