

CURRICULUM VITAE

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PERSONAL DATA

Date of Birth: 7 December 1970
Place of Birth: Hann. Münden / Germany
Nationality: German
Marital Status: Married, two children (born 2002 and 2007)

EDUCATION

- 2002** **Dr. rer. nat.** (Ph.D. equivalent); GEOMAR Research Center for Marine Sciences at the University of Kiel (Germany).
- Dissertation: Modeling of the paleoclimate and oceanography at the Cenomanian/Turonian boundary and their verification through geochemical and micropaleontological investigations.
 - Advisor: Prof. William W. Hay.
- 1998** **Diploma degree** (M.S. equivalent) in Geology/Palaeontology, Georg-August-University Göttingen, Germany. Minors: Applied Geology, Mineralogy.
- Thesis: Reconstruction of paleo-oceanographic conditions at the Cenomanian/Turonian boundary of the Western Interior Seaway, Foothills, Colorado Front Range.
 - Advisor: Prof. Walter Riegel.
- 1994** **Vordiplom** (B.S. equivalent) in Geology/Palaeontology, Georg-August-University Göttingen, Germany. Minors: Mineralogy, Experimental physics, Zoology.

ACADEMIC EMPLOYMENT

- 2008–...** Senior scientist at IFM-GEOMAR Leibniz-Institute of Marine Sciences at the University of Kiel (Germany), since 2012 at GEOMAR Helmholtz-Zentrum für Ozeanforschung Kiel. German Science Foundation DFG - Sonderforschungsbereich 754: Climate – Biogeochemistry Interactions in the Tropical Ocean.
- 2006–2008** Post-doctoral research at IFM-GEOMAR Leibniz-Institute of Marine Sciences at the University of Kiel (Germany). European Union Project HERMES (Hotspot Ecosystem Research on the Margins of European Seas).

- 2003-2006** Post-doctoral research at IFM-GEOMAR Leibniz-Institute of Marine Sciences at the University of Kiel (Germany). Project: Changes of the orbital (Milankovitch) parameters and their influence on paleoclimate, paleoceanology, and sedimentology during times of global warmth.
- 2002-2003** Post-doctoral research at the GEOMAR Research Center for Marine Sciences at the University of Kiel (Germany). Project: Ocean Drilling Program/ Deep Sea Drilling Project (SPP 527) - Global Carbonates.
- 2000-2002** Doctoral research. Title: Modelling of the paleoclimate and oceanography at the Cenomanian/Turonian boundary and their verification through geochemical and micropaleontological investigations. GEOMAR Research Center for Marine Sciences at the University of Kiel (Germany).
- 1998-2000** Scientific researcher at the GEOMAR Research Center for Marine Sciences at the University of Kiel (Germany). Project: Evolution of the Earth system during the late Paleozoic in the context of sedimentary geochemistry - Salinity in the Late Paleozoic.

PUBLICATIONS

Articles in Peer Reviewed Journals

- 2013** **Flögel**, S., Rüggeberg, A., Mienis, F., and Dullo, C. (2013) Geochemical and physical constraints for the occurrence of living cold-water corals. *Deep-Sea Research I*. doi: 10.1016/j.dsr2.2013.06.006.
- McAnena, A., **Flögel**, S., P. Hofmann, J.O. Herrle, A. Griesand, J. Pross, H.M. Talbot, J. Rethemeyer, K. Wallmann, and T. Wagner (2013) Atlantic ocean cooling and marine biotic crisis in the mid-Cretaceous. *Nature Geosciences*, doi: 10.1038/NGEO1850.
- J. Lorenzen, W. Kuhnt, A. Holbourn, S. **Flögel**, M. Moullade, and G. Tronchetti (2013) A new sediment core from the Bedoulian (Lower Aptian) stratotype at Roquefort-La Bédoule, SE France. *Cretaceous Research*, doi:10.1016/j.cretres.2012.03.019.
- Wagner, T., Hofmann, P., and **Flögel**, S. (2013) Marine black shale deposition and Hadley Cell dynamics: A conceptual framework for the Cretaceous Atlantic Ocean. *Marine Petroleum Geology*. <http://dx.doi.org/10.1016/j.marpetgeo.2013.02.005>.
- Bahr, A., Schönfeld, J., Hoffmann, J., Voigt, S., Aurahs, R., Kucera, M., **Flögel**, S., Jentzen, A., and Gerdes, A. (2013) Comparison of Ba/Ca and as freshwater proxies: A multi-species core-top study on planktonic foraminifera from the vicinity of the Orinoco River mouth, *Earth and Planetary Science Letters*, 383, 45-57, doi: 10.1016/j.epsl.2013.09.036.
- 2012** W.W. Hay and S. **Flögel** (2012) New Thoughts about the Cretaceous Climate and Oceans. *Earth Science Reviews*, <http://dx.doi.org/10.1016/j.earscirev.2012.09.008>.
- López Correa, M., Montagna, P., Joseph, N., Rüggeberg, A., Fietzke, J., **Flögel**, S., Dorschel, B., Goldstein, S.L., Wheeler, A., and Freiwald, A. (2012) Preboreal onset of cold-water coral growth beyond the Arctic Circle revealed by coupled radiocarbon and U-series dating and neodymium isotopes, *Quaternary Science Reviews*, doi:10.1016/j.quascirev.2011.12.005.

- 2011** **Flögel, S.**, Wallmann, K., Poulsen, C. J., Zhou, J., Oschlies, A., Voigt, S., and Kuhnt, W. (2011) Simulating the biogeochemical effects of volcanic CO₂ degassing on the oxygen-state of the deep ocean during the Cenomanian/Turonian Anoxic Event (OAE2). *Earth and Planetary Science Letters* 305, 371-384, doi:10.1016/j.epsl.2011.03.018.
- Flögel, S.**, Wallmann, K. and Kuhnt, W. (2011) Cool episodes in the Cretaceous – exploring the effects of physical forcing on Antarctic snow accumulation. *Earth and Planetary Science Letters* 307, 279-288.
- Flögel, S.** and Dullo W.C. (2011) High resolution water mass measurements around cold-water corals: a comparative test study between repeated Conductivity-Temperature-Depth (CTD) casts and continuous data acquisition of bottom waters from the West Florida Slope, Gulf of Mexico. *Annalen des Naturhistorischen Museums in Wien, Serie A* 113, 209-224.
- Schönfeld, J., Dullo, C. and **Flögel, S.** (2011) Surface and Intermediate Water hydrography, planktonic and benthic biota in the Caribbean Sea - Climate, Bio and Geosphere linkages (OPOKA). Cruise No. 78, Leg 1, February 22 – March 28, 2009, Colón (Panama) - Port of Spain (Trinidad and Tobago). *Meteor-Berichte* 11-6, 40 pp., Senatskommission für Ozeanographie der Deutschen Forschungsgemeinschaft, MARUM, Bremen.
- 2010** **Flögel, S.**, Parkin, G., Pollard, D., Dullo, W.-Chr., and Wagner, T. (2010) Simulating zonal scale shifts in the partitioning of surface and subsurface freshwater flow in response to increasing pCO₂. *Climate Dynamics*, doi:10.1007/s00382-010-0929-5.
- Flögel, S.**, Moullade, M., and Kuhnt, W. (2010) Drilling of Early Cretaceous Oceanic Anoxic Event 1a in Southern France. *Scientific Drilling*, No. 9, 20-22.
- Rüggeberg, A. **Flögel, S.**, Dullo, W.-C., Hissmann, K., and Freiwald, A. (2010) Water mass characteristics and sill dynamics in a subpolar cold-water coral reef setting at Stjærnsund, northern Norway. *Marine Geology*, doi:10.1016/j.margeo.2010.05.009.
- Hübscher, C., Dullo, W.Ch., **Flögel, S.**, Titschack, J., and Schönfeld, J. (2010) Contourite drift evolution and related coral growth in the eastern Gulf of Mexico and its gateways. *International Journal of Earth Sciences*. doi:10.1007/s00531-010-0558-6.
- 2009** Sommer, S. Linke P., Pfannkuche O., Schleicher T., Schneider v. Deimling J., Reitz A., Haeckel M., **Flögel S.**, and Hensen C. (2009): Sea bed methane emissions and the habitat of frenulate tubeworms on the Captain Arutyunov mud volcano (Gulf of Cadiz). *Marine Ecological Progress Series*. Vol. 382: 69–86, doi: 10.3354/meps07956.
- 2008** **Flögel, S.**, Beckmann, B., Hofmann, P., Bornemann, A., Westerhold, T., Norris, R. D., and Wagner, T. (2008): Evolution of tropical watersheds and continental hydrology during the Late Cretaceous greenhouse; impact on marine carbon burial and possible implications for the future. *Earth and Planetary Science Letters*, doi: 10.1016/j.epsl.2008.06.011.
- Dullo, C., **Flögel, S.**, and Rüggeberg, A. (2008): Cool water coral growth in relation to the hydrography of the Celtic and Nordic European Continental Margin. *Marine Ecological Progress Series*. doi: 10.3354/meps07623.

2006

Flögel, S. and Wagner, T. (2006): Insolation-control on the Late Cretaceous hydrological cycle and tropical African climate – global climate modelling linked to marine climate records. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 235, 288-304.

Hay, W. W., Migdisov, A., Balukhovsky, A. N., Wold, C. N., **Flögel**, S., and Söding, E. (2006): Evaporites and the salinity of the ocean during the Phanerozoic: Implications for climate, ocean circulation and life. *Palaeogeography, Palaeoclimatology, Palaeoecology*, vol. 240, 1-2, 3-46.

2005

Beckmann, B., **Flögel**, S., Hofmann, P., Schulz, M., and Wagner, T., (2005): Upper Cretaceous African climate development and implications for the marine carbon cycle. *Nature*, 437, 241-244, doi:10.1038/nature03976.

Flögel, S., Hay, W. W., DeConto, R. M., and Balukhovsky, A. N. (2005): Formation of sedimentary bedding couplets in the Western Interior Seaway of North America – Implications from Climate System Modeling. *Palaeogeography, Palaeoclimatology, Palaeoecology*, vol. 218, 1-2, 125-143.

Hay, W. W., **Flögel**, S. and Söding, E. (2005): Is the initiation of glaciation on Antarctica related to a change in the structure of the ocean? *Global and Planetary Change*, 45, 1-3, 23-33.

2004

Voigt, S., **Flögel**, S., and Gale, A. (2004): Midlatitude shelf seas in the Cenomanian-Turonian greenhouse world: Temperature evolution and North Atlantic circulation. *Paleoceanography*, vol. 19, PA4020, 1-17.

2003

Mutterlose, J., Brumsack, H., **Flögel**, S., Hay, W. W., Klein, C., Langrock, U., Lipinski, M., Ricken, W., Söding, E., Stein, R. and Swientek, O. (2003): The Greenland-Norwegian Seaway: a key area for understanding Late Jurassic to early Cretaceous paleoenvironments. *Paleoceanography*, vol. 18, no. 1, 1010.

Articles in Edited Volumes/Books**2011**

Dullo, W. C., **Flögel**, S. und Rüggeberg, A. (2011) Korallen - verborgene Ästhetik an den Kontinentalrändern und den Tiefen der Meere 25 Jahre FS METEOR : Ein Forschungsschiff und seine Geschichte(n). Hauschild, Bremen, pp. 103-107.

Klages, M. and Thiede, J. (2011): The expedition of the research vessel "Polarstern" to the Arctic in 2007 (ARK-XXII/1a-c) / Ed. by Michael Klages & Jörn Thiede with contributions of the participants / J. Thiede (editor), Berichte zur Polar- und Meeresforschung (Reports on Polar and Marine Research), Bremerhaven, Alfred Wegener Institute for Polar and Marine Research, 627, 243 p., ISSN: 1866-3192.

2010

Schönfeld, J., Dullo, W.-CHR. and **Flögel**, S. (2010): Ölaustritte - Schädigung der Tiefsee. -- In: Söding, E., Balzereit, F. & Schäfer, K. (Eds.): Die Ölkatastrophe im Golf von Mexiko - was bleibt?, pp. 32-33; Exzellenzcluster "Ozean der Zukunft", Christian - Albrechts - Uni-

versität zu Kiel, [http:// www.ozean-der-zukunft.de/fileadmin/ user_upload/pdf/FO_GOM_Kommentare_v1.pdf](http://www.ozean-der-zukunft.de/fileadmin/user_upload/pdf/FO_GOM_Kommentare_v1.pdf).

- 2004** Pfannkuche, O., Bannert, B., Beck, T., Beuck, L., Dullo, W. C., **Flögel**, S., Freiwald, A., Gass, S., Gektidis, M., Heger, A., Jamieson, A., Kavanagh, F., King, N., Kuhanec, B., Linke, P., Martin, B., Neulinger, S., Noe, S., Queisser, W., Rüggeberg, A., Ruseler, S., Schiemer, I., Schmidt, S., Schönfeld, J., Taviani, M., Türk, M., Vertino, A. und Wigham, B. (2004) Geo-Biological Investigations on Azooxanthellate Cold-Water Coral Reefs on the Carbonate Mounds Along the Celtic Continental Slope Meteor-Berichte, 06-2
- 2001** Hay, W. W., Wold, C. N., **Floegel**, S., Soeding, E. (2001): Evolution of sediment fluxes and ocean salinity. In: *Geologic and Simulation: Sedimentary Systems*, Merriam, D. F. and Davis, J. C., eds., Kluwer Academic/Plenum Publishers, New York, U. S. A., 153-167.

Articles in Conference Proceedings

- 2001** **Floegel**, S., DeConto, R. M., and Hay, W. W. (2001): Influence of precessional insolation cycles on the Late Cretaceous climate system: A case study for the Western Interior Seaway. EUG XI, Journal of Conference Abstracts, 6 (1), p. 202, Cambridge Publications, Cambridge, U. K.
- Hay, W. W., DeConto, R. M., **Floegel**, S., Soeding, E. (2001): Low atmospheric pressure at the poles during times of warm equable climate. Geophysical Research Abstracts, 3, 9199.
- Hay, W. W., DeConto, R. M., **Floegel**, S., Soeding, E. (2001): Absence of Subtropical and Polar Fronts in much of the Late Mesozoic and Paleogene, EUG XI, Journal of Conference Abstracts, 6 (1), p. 202, Cambridge Publications, Cambridge, U. K..
- 2000** **Floegel**, S., Wold, C. N., and Hay, W. W. (2000): Evolution of sediments and ocean salinity. 31st International Geological Congress. Rio de Janeiro, Brazil. August 6-17-2000. Abstracts volume, CD-ROM, 4 p.
- 1999** **Floegel**, S., Hay, W. W., Migdisov, A. A., and Balukhovsky, A. N. (1999): The Ronov database on volumes and masses of sedimentary rocks. EOS 80b (46): 173:1999.

Ph. D. thesis

- 2002** **Flögel**, S. (2002): On the influence of precessional Milankovitch cycles on the Late Cretaceous climate system: Comparison of GCM-results, geochemical, and sedimentary proxies for the Western Interior Seaway of North America. Universitätsbibliothek der Christian-Albrechts-Universität Kiel, Doctoral Thesis, University of Kiel, Germany, 236 pp., Electronic dissertation: http://e-diss.uni-kiel.de/diss_552/

Non-Reviewed contributions

- 2004** Balukhovsky, A., **Floegel**, S., Hay, W. W., and Migdisov, A. (2004): Paleogeographic maps for the Phanerozoic. Earth Reference Data and Models – EarthRef Digital Archive (ERDA). <http://earthref.org/cgi-bin/erda.cgi?n=221> ... <http://earthref.org/cgi-bin/erda.cgi?n=234>

INVITED PRESENTATIONS

2006

AAPG 2006 International Conference and Exhibition in Perth/Australia: **Flögel**, S.: Hydrological Fluxes During Past and Future Greenhouse Climates.

CHRONOS Workshop in Vienna/Austria: **Flögel**, S., Hay, W. W., Soeding, E.: The Ocean Drilling Stratigraphic Network (ODSN) and the RONOv Database (RONOV) - Concepts and Status.

2005

University of Newcastle upon Tyne /U.K.; Seminar: **Flögel**, S.: Learning from the past, lessons for the future – planet Earth in a changing climate.

2002

Platte River Associates, Inc. in Boulder/U.S.A.: **Flögel**, S.: Paleoclimate modelling and the formation of source rocks.

CONFERENCE AND WORKSHOP PRESENTATIONS

2013

EMSO Meeting in Rome/Italy: S. **Flögel**, O. Pfannkuche, P. Linke, J. Karstensen, and C. Dullo: A new stand-alone modular ocean laboratory – MoLab: 100 days in an arctic cold-water coral reef.

Cretaceous Symposium in Ankara/Turkey: W.W. Hay, R.M. DeConto, S. **Flögel**: Cretaceous continental hydrology – different from today.

IODP Meeting in Freiberg/Germany: P. Hofmann, A. McAnena, T. Wagner, A. Griesand, J. O. Herrle, J. Pross, H. M. Talbot, S. **Flögel**: African drift, million-year cooling and marine biotic crises in the Cretaceous greenhouse.

IODP Meeting in Freiberg/Germany: T. Wagner, P. Hofmann, S. **Flögel**: Hadley Cell dynamics and Cretaceous black shale sedimentation in the low latitude Atlantic Ocean: Validation against DSDP/ODP core data.

IMOG Meeting in Tenerife/Spain: T. Wagner, A. McAnena, J. O. Herrle, J. Pross, H. M. Talbot, P. Hofmann, K. Wallmann, S. **Flögel**: African drift, million-year cooling and marine biotic crises in the Cretaceous greenhouse.

Goldschmidt Conference in Florence/Italy: S.W. Poulton, S. Henkel, C. März, H. Urquhart, S. **Flögel**, Sabine Kasten, J.S. Sinninghe Damsté, and T. Wagner: Controls on redox-nutrient cycling in the Cretaceous greenhouse ocean: Insights from S isotope systematics.

Swiss Global Change Day in Bern: A. Rüggeberg, S. Flögel and W._C- Dullo: Cold-water coral reef health in a changing world.

CIESM Congress in Marseille/France: S. Flögel, A. Rüggeberg, and W._C- Dullo: Geochemical and physical constraints for the occurrence of living cold-water corals.

GV Jahrestagung in Tübingen/Germany: W.-C. Dullo, A. Rüggeberg, S. Flögel, J. Raddatz, V. Liebetrau: Relationship between seawater density and cold-water coral carbonate mounds in the northeast Atlantic through time.

2012

29th IAS Meeting of Sedimentology in Scladming/Austria: A. Rüggeberg, S. **Flögel**, W.-C. Dullo, J. Raddatz, V. Liebetrau: The Seawater Density Code: a key to decipher cold-water coral carbonate mound development

29th IAS Meeting of Sedimentology in Scladming/Austria: H. Hamaekers, A. Foubert, A. De Cleyn, E. Vassilieva, W. De Muynck, N. Boon, A. Rüggeberg, S. **Flögel**, R. Swennen: Diagenetic effects of a shallow sulphate-methane transition zone in cold-water carbonate mounds.

XIII Latin American Congress on Organic Geochemistry (ALAGO), Bolivia: T. Wagner, P. Hofmann and S. **Flögel**: Impact of Hadley Cell dynamics on Cretaceous black shale sedimentation in the low latitude Atlantic Ocean: Validation against DSDP/ODP core data

5th ISDSC (International Symposium on Deep-Sea Corals) in Amsterdam/The Netherlands: H. Hamaekers, A. Foubert, A. De Cleyn, E. Vassilieva, A. Rüggeberg, S. **Flögel**, and R. Swennen : Comparative geochemical study of two cold-water coral systems in the Bay of Biscay: Pajès Escarpment (off-shore Gijón, Spain) versus St. Nazaire Canyon (off-shore La Rochelle, France).

EGU Annual Meeting in Vienna/Austria: J. Blöhdorn, W. Park, M. Latif, S. **Flögel**
Mid-Cretaceous Ocean Circulation in the Kiel Climate Model

AGU Annual Meeting in San Francisco: S. **Flögel**

2011

AGU Annual Meeting in San Francisco: S. **Flögel**, K. Wallmann and W. Kuhnt: Biogeochemical effects of volcanic degassing on the oxygen-state of the oceans during the Cenomanian/Turonian Anoxic Event 2.

EGU Annual Meeting in Vienna/Austria: Dullo, C., **Flögel**, S., and Rüggeberg, A.: Ocean Chemistry reflected in Cold Water Coral Reef Occurrences.

Symposium: Climate and Ocean Dynamics of the Cretaceous Greenhouse World in Utrecht/The Netherlands:

S. **Flögel** and T. Wagner: Evolution of tropical watersheds and continental hydrology during the Late Cretaceous greenhouse; impact on marine carbon burial and possible implications for the future.

J. Lorenzen, W. Kuhnt, A. Holbourn, S. **Flögel**, M. Moullade, G.

Tronchetti - The early Aptian Anoxic Event (OAE1a): High-resolution records from a new sediment core retrieved at Roquefort-La Bédoule (South France).

2010

18th International Sedimentological Congress "Sedimentology at the Foot of the Andes", 26.09.-01.10.2010, Mendoza, Argentina: **Flögel**, S., Rüggeberg, A., Mienis, F., Dullo, W. C., 2010. Cold-water corals and the hydrochemistry of ambient bottom water masses – new insights from the E-Atlantic and the Mediterranean Sea.

ICP 10 in San Diego, U.S.A.: **Flögel**, S., Wallmann, K., Poulsen, C., Zhou, J., Oschlies, A., Voigt, S., and Kuhnt, W.: Simulating the biogeochemical effects of volcanic CO₂ degassing

on the oxygen-state of the deep ocean during the Cenomanian/Turonian Anoxic Event (OAE2).

Strati2000 Conference in Paris: **Floegel**, S., Holbourn, A., Kuhnt, W., Lorenzen, J., Moulade, M., and Tronchetti, G.: High resolution stratigraphy and paleoclimate records of OAE1a at Roquefort-La Bédoule.

GV Annual Meeting in Darmstadt: Rüggeberg, A. **Flögel**, S., Dullo, W.-C., Hissmann, K., and Freiwald, A.: Water mass characteristics and sill dynamics in a subpolar cold-water coral reef setting at Stjernsund, northern Norway.

EGU Annual Meeting in Vienna/Austria: **Flögel**, S., Wallmann, K., and Kuhnt, W.: Cool episodes in the Late Cretaceous - exploring the effects of physical forcing on Antarctic snow accumulation.

Wallmann, K. **Floegel**, S., Poulsen, C., Voigt, S., and Kuhnt, W.: Simulating the onset and spread of anoxic conditions during Cretaceous OAE2

Floegel, S., Rüggeberg, A., Mienis, F., Dullo, W.-C.: Cold-water corals and hydrochemistry - is there a unifying link?

2009

AGU Annual Meeting in San Francisco: W. Kuhnt, S. **Flögel**, A. Holbourn, M. Moullade, J. Lorenzen: Global climate cooling at the onset of the early Aptian Oceanic Anoxic Event (OAE1a)

Workshop "Seabed Acoustics" in Rostock/Germany: C. Hübscher, C. Dullo, S. **Flögel**, J. Titschack: Bottom current control on deposition pattern and coral growth in the eastern Gulf of Mexico

EGU Annual Meeting in Vienna/Austria: **Floegel**, S., Mienis, F., Rüggeberg, A., and Dullo, C.: The chemical characteristics of bottom-water and its influence on cold-water corals.

Floegel, S., Rüggeberg, A., and Dullo, C.: Physical controls on cold-water coral growth.

Dullo, C., Rüggeberg, A., and **Floegel**, S.: European Cold-Water Corals: Hydrography and Geochemistry. What is the message?

Rüggeberg, A., Liebetrau, V., Raddatz, J., **Flögel**, S., Dullo, W.-Chr., and IODP Exp. 307 Scientific Party: Environmental control on cold-water carbonate mounds development

ODP Annual Meeting in Potsdam/Germany: Hofmann, P., Beckmann, B., **Flögel**, S., and Wagner, T.: Effects of orbital-scale ITCZ fluctuations on the mid Cretaceous tropical Atlantic region.

2008

4th International Deepsea Coral Symposium 2008 in Wellington/New Zealand: **Floegel**, S., Rüggeberg, A., Mienis, F., and Dullo, C.: Cold-water corals and the hydrochemistry of ambient bottom water masses – results from the NE-Atlantic and the Mediterranean.

Floegel, S., Rüggeberg, A., and Dullo, C.: Cold-water corals growth in relation to the hydrography of the Celtic and Nordic European continental margin.

HERMES Annual Meeting in Carvoeiro/Portugal: **Flögel**, S., Dullo, C., Pfannkuche, O., Schönfeld, J., Freiwald, A., and Rüggeberg, A.: Cold-water coral growth in relation to the hydrography of the Celtic and Nordic European Continental Margin.

Rüggeberg, A., Freiwald, A., Dullo, C., and **Flögel**, S.: Water mass characteristics and sill dynamics in a polar cold-water coral reef setting at Stjærnsund, northern Norway.

Schönfeld, J., Dullo, W.-Chr., Pfannkuche, O., Rüggeberg, A., and **Flögel**, S.: Benthic foraminifera from Coral Mounds in the Porcupine Seabight.

EGU Annual Meeting in Vienna/Austria: **Floegel**, S., Dullo, C., Parkin, G., Pollard, D., Hay, W. W., Wagner, T.: Continental hydrology and its linkages to the marine realm and organic rich sediments – from the Late Cretaceous greenhouse to the Future.

Dullo, C., **Flögel**, S., and Rüggeberg, A.: Cold-water corals and the ambient oceanography.

Wagner, T.; Beckmann, B.; **Floegel**, S.; Hofmann, P.
Consequences of regional variations in Mid-Cretaceous hydrologic cycling on tropical Atlantic ocean redox and marine sedimentation.

Liebetrau, V.; Rüggeberg, A.; Fietzke, J.; Eisenhauer, A. ; **Flögel**, S.
Stable strontium ($\delta^{88}/^{86}\text{Sr}$) and U-Th isotope record of cold-water corals from the Gulf of Cadiz – potential proxy for the reconstruction of intermediate water temperatures and Mediterranean outflow intensity.

2007

AGU Annual Meeting in San Francisco: **Flögel** S., Wagner, T., and Dullo, C.: Validation and use of General Circulation Models (GCMs) for past and future hydrological studies.

Liebetrau V., Rüggeberg A., Fietzke J., Eisenhauer A., **Flögel** S., Linke P., Schönfeld J.: Stable Strontium ($\delta^{88}/^{86}\text{Sr}$) and U-Th isotope systematics of cold-water corals: A combined proxy for Holocene changes of the Mediterranean outflow.

IGCP 555 Conference in Daqing/China: Hay, W.W. and **Floegel**, S.: Differences between modern and Cretaceous Oceans.

Kuhnt, W., **Flögel**, S., Holbourn, A., and Wallmann, K.: Onset and Spread of Cretaceous Anoxia.

Geologische Vereinigung Annual Meeting in Bremen/Germany: Liebetrau V., Rüggeberg A., Fietzke J., Eisenhauer A., **Flögel** S., Linke P., Schönfeld J.: Combined application of Stable Strontium ($\delta^{88}/^{86}\text{Sr}$) and U-Th isotope systematics on cold-water corals from the Gulf of Cadiz: A new proxy for Holocene changes of the Mediterranean outflow.

Beckmann, B., März, C., **Flögel**, S., Wagner, T., Hofmann, P.: Geochemical record of ocean oxygenation and related organic carbon burial in the Late Cretaceous western tropical Atlantic at Demerara Rise.

Goldschmidt Conference in Cologne/Germany: Liebetrau, V., Rüggeberg, A., Fietzke, J., Eisenhauer, A., **Flögel**, S., Linke, P., and Schönfeld, J.: Stable Strontium ($\delta^{88}/^{86}\text{Sr}$) and U-

The systematics of cold-water corals as new proxy for Holocene changes of the Mediterranean outflow.

EGU Annual Meeting in Vienna/Austria: Wagner, T., Beckmann, B., **Flögel**, S., Hofmann, P.: Consequences of regional variations in Mid-Cretaceous hydrologic cycling on tropical Atlantic ocean redox and marine sedimentation.

Liebetrau, V., Rüggeberg, A., Fietzke, J., Eisenhauer, A., and **Flögel**, S.: Stable strontium ($\delta^{88/86}\text{Sr}$) and U-Th isotope record of cold-water corals from the Gulf of Cadiz – potential proxy for the reconstruction of intermediate water temperatures and Mediterranean outflow intensity.

Magellan Workshop in Murten/Switzerland: Dullo, W.-C., Rüggeberg, A., and **Flögel**, S.: Watermasses of the NE-Atlantic.

HERMES Annual Meeting in Carvoeiro/Portugal: **Flögel**, S., Pfannkuche, O., and the ship-board scientific party: Preliminary results of the Maria S. Merian cruise 1-3; Gulf of Cadiz.

Ramdani, M., **Flögel**, S.: Zooplankton, phytoplankton and benthic communities associated to the cold water corals in the Bay of Cadiz.

2006

AGU Fall Meeting in San Francisco/U.S.A.: Wagner, T., Beckmann, B., **Flögel**, S., Hofmann, P., Schouten, S., Sinninghe Damsté, J., and Wallmann, K.: Timescales and Mechanisms of Rapid Redox Change in the Mid-Cretaceous Ocean

Geologische Vereinigung Annual Meeting in Potsdam/Germany: **Flögel**, S., Dullo, W.-Chr., and Hay, W.W.: Elevated levels of CO₂ – severe implications for Earth's fluvial system, nutrient and carbon turnover.

AAPG 2006 International Conference and Exhibition in Perth/Australia: **Flögel**, S.: Hydrological Fluxes During Past and Future Greenhouse Climates. (Invited)

RAPID Meeting in Birmingham / U.K.: Wagner, T., **Flögel**, S., Hofmann, P., and Wallmann, K.: Mechanisms and feedbacks of rapid climate change during past periods of extreme warmth: the message from millennial-scale marine records and climate simulation.

Minisymposium on cold water corals in the Porcupine Seabight in Kiel/Germany: S. **Flögel**, A. Rüggeberg, W.-C. Dullo, O. Pfannkuche: The 'HERMES' project – results and strategies.

2005

EGS 30th General Assembly in Vienna/Austria: Hay, W. W., **Flögel**, S., and DeConto, R.: Organic Carbon and red-bed deposition – alternations in the state of the ocean.

CHRONOS Workshop in Vienna/Austria: **Flögel**, S., Hay, W. W., Soeding, E.: The Ocean Drilling Stratigraphic Network (ODSN) and the RONO Database (RONOV) - Concepts and Status (Invited).

PAGES Second Open Science Meeting in Beijing/China: **Flögel**, S. and Hay, W. W.: Sedimentation and the Hydrological Cycle during times of Global Warmth.

Earth System Processes 2 in Calgary/Canada: Wagner, T., **Flögel**, S., Hofmann, P., and Sinninghe Damsté, J. S.: Mid-Cretaceous Climate and Anoxia in the Ocean-Dynamics and Effects of Land-Ocean Interaction During Periods of Extreme Warmth.

University of Newcastle upon Tyne /U.K.; Seminar: **Flögel**, S.: Learning from the past, lessons for the future – planet Earth in a changing climate (Invited).

AGU Fall Meeting in San Francisco/U.S.A.: **Floegel**, S., Hay, W. W., Migdisov, A., Balukhovsky, A. N., Wold, C. N., and Soeding, E.: Evaporites and the Salinity of the Ocean During the Phanerozoic: Implications for Climate, Ocean Circulation, and Life.

2004

EGS 29th General Assembly in Nice/France: Voigt, S., **Flögel**, S. and Gale, A.: Mid-latitude shelf seas in the Cenomanian-Turonian greenhouse world: temperature evolution and North Atlantic circulation.

32nd International Geological Congress in Firenze/Italia: Hay, W. W. and **Floegel**, S.: Paleooceanographic significance of red deep-sea sediments in the Cretaceous.

Hay, W. W. and **Floegel**, S.: Organic carbon deposition in eddy-filled Cretaceous oceans.

ICP VIII Meeting in Biarritz/France: **Floegel**, S., DeConto, R. M. and Hay, W. W.: The Hydrological Cycle during times of global warmth – Implications for paleoceanography and the sedimentary record.

GSA Annual Meeting in Denver/U.S.A.: Hay, W. W., **Floegel**, S., and Wold, C. N.: Possible Range of Ocean Salinities in the Phanerozoic.

Floegel, S., DeConto, R. M. and Hay, W. W.: The Hydrological Cycle on a Greenhouse Earth and its implications – Different from Today.

2003

EGS 28th General Assembly in Nice/France: **Floegel**, S. and Hay, W. W. and DeConto, R. M.: The Late Cretaceous hydrological cycle – very different from today.

GSA Annual Meeting in Seattle/U.S.A.: **Floegel**, S. and Hay, W. W.: Rivers, Groundwater and Sediment Transport on a Greenhouse Earth – new Ideas from the Late Cretaceous.

AGU Fall Meeting in San Francisco/U.S.A.: Hofmann, P., Wagner, T., Beckmann, B., and **Floegel**, S.: African climate variability and organic carbon accumulation in the Coniacian-Santonian eastern tropical Atlantic: Insights how insolation-cycles in the Cretaceous were transformed to marine black shales.

2002

EGS 27th General Assembly in Nice/France: **Floegel**, S. DeConto, R. M., Soeding, E., and Hay, W. W.: Impact of precession of the equinoxes on the sediment record - Western Interior Seaway of North America.

Soeding, E., **Floegel**, S. DeConto, R. M., Hay, W. W., and Fisher, C.: Late Cretaceous runoff into the Arctic Ocean and Western Interior Seaway of North America.

Workshop on Cretaceous Climate and Ocean Dynamics in Florissant/U.S.A.: **Floegel**, S., Hay, W. W., DeConto, R. M., Soeding, E.: On the Impact of Milankovitch forcing on the sedimentary record of the Western Interior Seaway.

Wagner, T., Beckmann B., **Floegel**, S., Hofmann P., Sinninghe Damsté, J.: Coniacian-Santonian (OAE3) black shale formation and African climate variability: a reference section from the eastern tropical Atlantic at orbital time scales (ODP Site 959, off Ivory Coast/Ghana).

Platte River Associates, Inc. in Boulder/U.S.A.: **Floegel**, S.: Paleoclimate modelling and the formation of source rocks (Invited).

Organic Carbons Conference in London, U. K., The Geological Society: P. Hofmann, T. Wagner, B. Beckmann and S. **Floegel**: A millennial- to centennial-scale record of African climate variability and organic carbon accumulation in the Coniacian-Santonian eastern tropical Atlantic (Ocean Drilling Program Site 959, off Ivory Coast and Ghana).

2001

ODP Conference in Karlsruhe/Germany: Hay, W. W., DeConto, R. M., **Floegel**, S., Soeding, E.: ODSN data explained by low atmospheric pressure at the poles during times of warm equable climate.

EGS 26th General Assembly in Nice/France: **Floegel**, S. et al.: A climate model/geochemical model on the influence of precessional insolation cycles on the Late Cretaceous climate system.

SPP Berichtskolloquium in Neustadt a. d. Weinstrasse/Germany: Hay, W. W., **Floegel**, S., Wold, C. N.: Implications of higher ocean salinity during the Late Paleozoic.

EUG XI in Straßbourg/France: **Floegel**, S. et al.: A climate model/geochemical model on the influence of precessional insolation cycles on the Late Cretaceous climate system.

Hay, W. W., Wold, C. N., **Floegel**, S.: The effects of declining ocean salinity on climate during the Phanerozoic.

Hay, W. W., **Floegel**, S., Migdisov, A. A. and Balukhovsky, A. N The RONO Database on Volumes and Masses of Sedimentary Rocks.

ICP VII Meeting in Sapporo/Japan: **Floegel**, S., DeConto, R. M. and Hay, W. W.: On the influence of precessional Milankovitch cycles on the Late Cretaceous climate system: Comparison of GCM-results, geochemical and sedimentary proxies for the Western Interior Seaway of North America.

2000

31st International Geological Congress in Rio de Janeiro/Brasil: **Floegel**, S. and Hay, W. W.: Modeling evolution of Phanerozoic sedimentary rocks and ocean salinity.

Floegel, S., Wold, C. N., and Hay, W. W.: Evolution of sediments and ocean salinity.

1999

ODP Conference in Bremerhaven/Germany: Hay, W. W., **Floegel**, S., Wold, C. N.: The history of ocean water and salt during the Phanerozoic.

SPP Berichtskolloquium in Erlangen/Germany: Hay, W. W., **Floegel**, S., Wold, C. N.: Rekonstruktion der Salinität des Ozeans und des CO₂-Gehaltes der Atmosphäre.

Goldschmidt Conference in Boston/U.S.A.: Hay, W. W., **Floegel**, S., Wold, C. N.: A history of ocean salinity during the Phanerozoic, based on sedimentary cycling.

GSA Annual Meeting in Denver/U.S.A.: **Floegel**, S., Hay, W. W.: Is atmospheric carbon dioxide the major factor forcing Phanerozoic climate?

AGU Fall Meeting in San Francisco/U.S.A.: **Floegel**, S., Hay, W. W., Migdisov, A. A., Balukhovsky, A. N.: The Ronov database on volumes and masses of sedimentary rocks.

RESEARCH CRUISES**2011**

RV POSEIDON; POS434; Bergen – Tromsø, June 2012 – Co-Chief Scientist

Long-term observation of a cold-water coral reef
 RV POSEIDON; POS438; Tromsø – Tromsø, September 2012 – Co-Chief Scientist
 Long-term observation of a cold-water coral reef

- 2011** RV METEOR; M84/5; Vigo – Brest, May - June 2011 – Chief Scientist
 oceanographic investigations of cold-water coral reefs, coring and sedimentology
 RV ALKOR; AL384; Kiel – Kiel, November 2011 – Testing of MoLab components
- 2009** RV METEOR; M78/1; Colon – Trinidad, February - April 2009
 oceanographic investigations of cold-water coral reefs, coring and sedimentology
- 2007** RV POLARSTERN; ARK XXII/1a; Bremerhaven – Tromsø, May – June 2007
 oceanographic investigations of cold-water coral reefs, manned submersible support
- 2006** RV MARIA S. MERIAN; MSM 1/3; Kiel – Cadiz – Lisbon; April – May 2006
 oceanographic investigations of cold-water coral reefs and mud-volcanoes, towed video systems and ArcGis analysis
- 2005** RV POSEIDON; P325; Bremerhaven – Tromsø, July – August 2005
 oceanographic investigations of cold-water coral reefs, coring and sedimentology, multibeam surveying (incl. data editing and visualization)
- 2004** RV METEOR; M61-1; Lisbon – Cork, April - May 2004
 oceanographic investigations of cold-water coral mounds
- 2004** RV MARION DUFRESNE; MD136; VIGO, CABAMAY; La Réunion – Mayotte; January
 coring and sedimentology

RELATED PROFESSIONAL EXPERIENCE

- 2005** Participant: Multibeam postprocessing Workshop / Kiel; L-3 Communications ELAC Nautik GmbH
- 2005** Participant : CHRONOS Palaeogeography Workshop / Vienna; C. Cervato and D. Müller
- 2004** Participant: Workshop “Geochemistry in oil and gas exploration“; Dr. J. Rückheim (Gaz de France) and Dr. T. Schwarzkopf (RWE)
- 1998-2000** Scientific researcher: at the GEOMAR Research Center for Marine Sciences at the University of Kiel, Germany. Project: Evolution of the Earth system during the late Paleozoic in the context of sedimentary geochemistry - Salinity in the Late Paleozoic“.
- 1992-1998** Scientific researcher: Wille Geotechnics GmbH, Göttingen, Germany

EXTERNAL FUNDING AND GRANTS

- 2012** DFG-Project – WACOM West-Atlantic Cold-water Coral Ecosystems – Hydrography and cold-water coral geochemistry in the Gulf of Mexico and adjacent waters; **193,000 €** (co-proponent)
- 2011** DFG Project – OPOKA Surface and Intermediate water hydrography in the Caribbean Sea; **16,000 €** (co-proponent)

- 2010** BMBF Project 03F0624I – MoLab – A modular and multidisciplinary seafloor observatory **3,200,000 €** (co-proponent)
- 2008** DFG Project - Unraveling the Onset and Spread of Cretaceous Anoxia within SFB 754; **160,000 €** (co-proponent)
- 2007** EU-Project “HERMES” Hotspot Ecosystem Research on the Margins of European Seas; **130,000 €** (co-proponent)
- Kiel University; Excellence Cluster “The Future Ocean”; Daily to seasonal variability of hydrographic properties at the benthic interface at cold-water coral reefs; **27,000 €** (co-proponent)
- DFG-Project NU 60/17-1: LOOP Current variability – its relation to meridional overturning circulation and the impact of Mississippi discharge 2891/5-2: Milankovitch Cycles II; **103,738 €** (co-proponent)
- 2006** DFG-Project HA 2891/5-2: Milankovitch Cycles II; **54,000 €**
- 2005** DFG-Project HA 2891/5-1: Milankovitch Cycles I; **89,000 €**
- 2003** DFG-Project HA 2891/6-1: Global Carbonates; **68,000 €**
- 2002** DFG-Project HA 2891/3-2: Modelling the paleoclimate and -oceanography at the Cenomanian/Turonian boundary; **72,000 €**
- 2000** DFG-Project HA 2891/3-1: Modelling the paleoclimate and -oceanography at the Cenomanian/Turonian boundary; **75,000 €**
- 1999** DFG-Project HA 2891/2-3: The ODSN Database; **40,000 €**
- 1998** DFG-Project HA 2891/1-2: Evolution of the system Earth during the Paleozoic – Reconstructing salinity using mass balances; **40,000 €**

SUPERVISING AT THE UNIVERSITY OF KIEL, GERMANY

PhD thesis Silke Glogowski

Janne Lorenzen: Unraveling the Onset and Spread of Oceanic Anoxic Event 1a (expected date: 12/2012).

Master thesis

Veronica Rohde: Investigations on the influence of eccentricity cycles on Southern Hemisphere ice sheets and tropical river discharge (05/2008).

Tina Schleicher: Use of ArcGis applications to map marine methane seepage (03/2008).

Jonas von Reumont: Paleooceanographic investigations off NW-Africa; desertification, oceanography, and cold-water corals (10/2008).

TEACHING EXPERIENCE AT THE UNIVERSITY OF KIEL, GERMANY

Fall 2007- 2012

Global climate modeling – from the geological past to the future (Graduate)

Fall 2007 International Study Programme Biological Oceanography (BIO-OCEAN); aspects of oceanography and its relation to climate change (Undergraduate)

Spring 2006 Earth history - Event stratigraphy (Undergraduate)

Fall 2006 Introduction to paleoclimate modeling (Graduate)

Fall 2006 Exercises in paleoclimate modeling (Graduate)

Fall 2005 International Study Programme Biological Oceanography (BIO-OCEAN); aspects of oceanography and its relation to climate change (Graduate)

Spring 2006 Earth history - General stratigraphy (Undergraduate)

Fall 2005 Introduction to paleoclimate modeling (Graduate)

Fall 2005 Exercises in paleoclimate modeling (Graduate)

FOREIGN SOJOURNS

2004 3 months stay at the University of Massachusetts at Amherst, numeric climate simulations

2001 10 months stay at the University of Massachusetts at Amherst, numeric climate simulations

2000 6 months field work in Mexico (Nuevo Leon), Canada (Alberta), U.S.A. (Texas, New Mexico, Colorado, Montana, Wyoming)

1997 Field trip Iceland

1996-1997 14 months field trip and laboratory work (Diploma degree, incl. mapping) in Colorado and New Mexico (University of Colorado, Boulder), 3 months laboratory work at Indiana University, Bloomington

1996 Field trip Island of Elba

1995 2 months field trip to the Andean mountains: Chile, Bolivia, Peru

1993-1997 Multiple field trips (115 days) in Germany and Europe

RESEARCH INTERESTS

Global hydrological cycle, Climate modelling, Paleo climates, Greenhouse scenarios, (Past and Future) Climate change, Oceanography, Cold-water corals.

MEMBERSHIPS

since **2008** SFB 754: Climate - Biogeochemistry Interactions in the Tropical Ocean
since **2007** UNESCO IGCP 555: Rapid Environmental/Climate Change in the Cretaceous Greenhouse World
since **2006** Cluster of Excellence - The Future Ocean: <http://www.uni-kiel.de/future-ocean/>
since **2005** CHRONOS Science Working Group, Paleogeography
since **2002** AGU American Geophysical Union
since **1999** GSA Geological Society of America
since **1994** DGG German Geological Society, Section: Hydrogeology

REVIEWER

Institutional reviewer:

DFG (German Science Foundation) research panel on paleo climates

Journal reviewer:

G3 (Geochemistry, Geophysics, Geosystems)

Palaeo3 (Palaeogeography, Palaeoclimatology, Palaeoecology)

LANGUAGES

German (native speaker)

English (near-native fluency)

French (fluent)

REFERENCES

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Amherst, MA 01003-9297

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