

Curriculum vitae

Dr. Bärbel Hönisch

Department of Earth and Environmental Sciences
Columbia University

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EDUCATION AND PROFESSIONAL EXPERIENCE

- 2019-present Tenured Professor, Dept. of Earth & Environmental Sciences, Columbia University, NY
- 2014-2019 Tenured Associate Professor, Dept. of Earth & Environmental Sciences, Columbia University, NY
- 2013-2014 Associate Professor, Dept. of Earth & Environmental Sciences, Columbia University, NY
- 2007-2013 Assistant Professor, Dept. of Earth & Environmental Sciences, Columbia University, NY
- 2005-2006 Research Scientist at the Center for Marine Environmental Studies (Marum), Bremen University; Adjunct Associate Research Scientist at the Lamont-Doherty Earth Observatory, Palisades, NY, and Visiting Scientist at SUNY Stony Brook, Stony Brook, NY.
- 2003-2005 Associate Research Scientist at the School of Earth and Environmental Sciences, Queens College, Flushing, NY; Adjunct Associate Research Scientist at the Lamont-Doherty Earth Observatory, Palisades, NY, and Visiting Scientist at SUNY Stony Brook, Stony Brook, NY.
- 2002-2003 Postdoctoral Research Scientist at the Lamont-Doherty Earth Observatory, Palisades, NY, and Visiting Scientist at SUNY Stony Brook, Stony Brook, NY.
- 2002 Dr. rer. nat. (Ph.D. in Natural Sciences). Thesis title: Stable isotope and trace element composition of foraminiferal calcite - from incorporation to dissolution, Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, Germany. Advisors: Dr. J. Bijma, Prof. D.A. Wolf-Gladrow.
- 1999 Diplom (masters) in Marine Biology (secondary subjects: Geology, Ecology). Thesis title: Occurrence and isotopic composition of otoliths from Walvis Ridge sediments, University of Bremen, Germany. Advisors: Prof. V. Smetacek, Prof. G. Wefer.
- 1995 Vordiplom (BA) in Biology, University of Bielefeld, Germany.

AWARDS AND RECOGNITIONS

2021	Provost Leadership Fellow, Columbia University
2018	Willi Dansgaard Award, AGU
2018	Marie Tharp Lecturer, GEOMAR
2016	Lenfest Distinguished Faculty Award (\$75,000 award)
2015	Lehigh University Foster Hewett Speaker
2013	LDEO Best Mentor Award (\$2,000 award)
2012	Women in Science and Engineering (WISE) Distinguished Lecturer, University of Southern California
2011-2012	Ocean Leadership Distinguished Lecturer

TEACHING AND MENTORING ACTIVITIES

Courses taught

- EESC W4937 Cenozoic Paleoceanography, Spring 2021
- EESC V1003 Climate and Society, annually, Spring 2017-2019
- EESC W4926 Chemical Oceanography, Spring 2007, 2009, 2011, 2013
- EESC V1030 Introduction to Oceanography, annually, Fall 2007-2021
<https://summer.sps.columbia.edu/news/oceanography-students-learn-broad-overview-what-happening-our-planet>
- EESC V4920 Paleoceanography, Fall 2009, Spring 2012, Spring 2014, Spring 2016
- EESC G9600 Seminar in Paleoclimatology (Mid-Pleistocene Transition), Spring 2014
- EESC G9802 Seminar in Geochemistry, Spring 2008
- Urbino Summer School in Paleoclimatology, lecturing on ocean acidification, ocean carbonate chemistry and paleo-CO₂, 2014, 2015, 2017-2019
- Short virtual course: Isotopes in Ocean, Earth, and Environmental Research, lecturing on Boron proxies, 2021
- Summer school: Experimental Methods in Culturing Planktic Foraminifers, Catalina Island, CA, July 23-August 3, 2007.

Supervised Students

- Olivia Gadson, REU summer intern, 2021
- Alexandra Rodman, senior thesis student, 2021-present
- Madelyn Woods, external PhD thesis committee member, University of Maine, 2020-present
- Ingrid Izaguirre, graduate student, mentor, Department of Earth and Environmental Sciences, 2019-present.
- Sabrina Lautin, lab assistant, 2018-2019, senior thesis student, 2019-2020.
- Lloyd Anderson, graduate student, mentor, Department of Earth and Environmental Sciences, 2017-present.
- Vanessa Soldana Fountain, work-study student, 2017

- Daniel Marone, lab assistant, Department of Earth and Environmental Sciences, Columbia University, 2016-2017.
- Hailey Riechelson, senior thesis adviser, Columbia University, 2016-2017
- Carina Fish, Bridge-to-PhD student, 2014-2016
- Mohamed Ezat, visiting graduate student, University of Tromsø, 2013-2017
- Laura Haynes, graduate student, mentor, Department of Earth and Environmental Sciences, 2013-2019.
- Caroline Baptist, Bridge-to-PhD student, 2012-2014
- Kyle Monahan, summer intern, undergraduate student at Rensselaer Polytechnic Institute, July-December 2011.
- Jesse Farmer, graduate student, mentor, Department of Earth and Environmental Sciences, Columbia University, 2011-2016.
- Sarah Hale, Master's student, mentor, Department of Earth and Environmental Sciences, Columbia University, 2009-2010.
- Katherine Allen, graduate student, mentor, Department of Earth and Environmental Sciences, Columbia University, 2007-2012.
- Don Penman, lab assistant, Department of Earth and Environmental Sciences, Columbia University, 2008-2009.
- Diya Chacko, Masters student, thesis advisor, Department of Earth and Environmental Sciences, Earth and Environmental Science Journalism program, Columbia University, 2009.
- Ashley Ellenson, work study student, School of Engineering and Applied Science, Columbia University, 2008-2009.
- Lida Teneva, graduate student, thesis committee, Department of Earth and Environmental Sciences, Columbia University, 2007-2008.
- Lucy Chen, summer assistant, undergraduate student at Columbia University, July-October 2007.
- Steven Wang, FOSTOR intern, Columbia University, June/July 2007.
- Jessica Leber, Masters student, thesis committee, Department of Earth and Environmental Sciences, Earth and Environmental Science Journalism program, Columbia University, 2007.
- Gemma Kirkwood, Masters student, thesis committee, Department of Earth and Environmental Sciences, Columbia University, 2006 – 2007.
- Lucy Liu, Highschool Summer Intern, Lamont-Doherty Earth Observatory, Palisades, NY, June/July 2005.

Postdocs

- Luca Telesca, Lamont-Doherty Earth Observatory, November 2020-present
- Ross Whiteford, Lamont-Doherty Earth Observatory, June 2019-June 2020
- Julia Gottschalk, Lamont-Doherty Earth Observatory, February 2018-August 2020
- Kelsey Dyez, Lamont-Doherty Earth Observatory, August 2014-May 2018
- Iris Möbius, Lamont-Doherty Earth Observatory, March 2015-March 2016
- Martin Ziegler, short-term research visitor, February-July 2010

- Markus Raitzsch, Lamont-Doherty Earth Observatory, March 2009-August 2010
- Greta Bartoli, short-term research visitor, September-December 2007
- Barbara Balestra, Lamont-Doherty Earth Observatory, June-August 2007

PROFESSIONAL SERVICE

- Proposal reviewer
American Chemical Society Petroleum Research Fund, European Research Council, European Science Foundation, U.S. National Science Foundation (NSF), German-Israeli Foundation for Scientific Research and Development, Swiss National Science Foundation, U.S.-Israel Binational Science Foundation, California Sea Grant College Program, Natural Environment Research Council (NERC), U.S. Science Support Program, Netherlands Organisation for Scientific Research
- Review panel member
NSF P2C2 2013, NSF AccelNet Bio/Geo 2020
- Manuscript Reviewer
Applied Geochemistry, Biogeosciences, Chemical Geology, Climate of the Past, Deep-Sea Research, Earth and Planetary Science Letters, Geochimica et Cosmochimica Acta, Geology, G-cubed, Geophysical Research Letters, Journal of Foraminiferal Research, Mass Spectrometry Reviews, Nature, Nature Communications, Nature Communications Earth & Environment, Nature Geoscience, Nature Scientific Reports, Paleoceanography/Paleoceanography and Paleoclimatology, Quaternary Science Reviews, Science, Science Advances, Trends in Ecology & Evolution
- e-Lecture Reviewer
Limnology and Oceanography, Nature Education, Nature Knowledge, ASLO
- Expert reviewer, Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC), IPCC Sixth Assessment Report (AR6); Working Group I, IPCC Fifth Assessment Report (AR5) Climate Change 2013: The Physical Science Basis
- Member of European Science Foundation College of Experts (2018-present)
- GEOMAR Scientific Advisory Board, 2018 – present
- Helmholtz Evaluation Panel, GEOMAR, October 2017
- Member of AGU Willi Dansgaard Award Committee, 2019-present
- Member of AGU Nanne Weber Early Career Award Committee, 2018
- External graduate student committee member
Madelyn Woods (University of Maine, 2020-present), Sandi Smart (University of Cape Town, 2019), Juan Pablo d’Olivo Cordero (ANU, 2012/2013); Tali Babila (Rutgers, 2013)
- Associate Editor: Paleoceanography, 2014 - 2016
- Member AGU Scheduling Committee, 2009-2012 and Secretary of the AGU Paleoceanography/Paleoclimatology focus group, 2011- 2012.
- Member of the ICP 2016 Organizing committee, 2015-2016.
- SCOR working group 138, “Modern planktic foraminifera and ocean changes”, Associate member, 2/2011-11/2018.
- Session convener, Organizing Committees

- Goldschmidt Conference 2018, Boston: 07I Ocean carbon storage in the ocean now and over time
- AGU Fall Meeting 2016, San Francisco: PP41/43: Unraveling Phanerozoic pCO₂ and Global Temperature, PP31/34: New Perspectives on Quaternary Climate: Forcing Mechanisms, the Mid-Pleistocene Transition, and Interglacial Climate
- AGU Fall Meeting 2015, San Francisco: PP31 Toward a Better Understanding of the Impact of Acidification, Warming, and Anoxia on Marine Carbonate Systems; PP43 Biogeochemical Cycles in the Past: Long-Term Commitments in the Future
- Goldschmidt Conference 2014, Sacramento: 09e Geological Constraints on Perturbations to the Global Carbon Cycle
- AGU Fall Meeting 2013, San Francisco: Reconstructing past carbon cycle perturbations: Novel Developments and Applications.
- AGU Fall Meeting 2012, San Francisco: Paleoceanography and Paleoclimatology General Contributions; Emiliani Lecture.
- Goldschmidt Conference 2012, Montreal: 13g-Insights into recent and Cenozoic carbon cycle perturbations using boron-based proxies; 10a-Proxy development for paleoclimate and paleocean chemistry; Co-organizer of a pre-conference Boron user meeting.
- AGU Fall Meeting 2011, San Francisco: Paleoceanography and Paleoclimatology General Contributions; Emiliani Lecture.
- AGU Fall Meeting 2010, San Francisco: Paleoceanography and Paleoclimatology General Contributions; Emiliani Lecture.
- Ocean Science Meeting 2010, Portland: PA02: Calcification and Ocean Acidification - From Laboratory to Geological Time Scales.
- AGU Fall Meeting 2009, San Francisco: PP31C: Paleoceanography and Paleoclimatology General Contributions.
- Co-organizer of an Ocean Acidification Workshop supported by the United States Advisory Committee for the Integrated Ocean Drilling Program, Meeting January 7-9, 2009, Rosenstiel School of Marine and Atmospheric Science, Miami, Florida.
- Goldschmidt Conference 2006, Melbourne: S11-02 Marine biogeochemical forcing of Earth's atmosphere on short and long time scales.
- Workshop organization:
 - February 2020, Introduction to Earth System Modeling, led by Prof. Andy Ridgwell from UC Riverside at LDEO, local host.
 - February 2019, paleo-CO₂ across the Cenozoic; Austin Wildflower Center, TX, expert vetting and revision of published paleo-CO₂ estimates from terrestrial and marine paleo-proxies, 19 participants
 - May 2018, paleo-CO₂ across the Cenozoic; Lake Arrowhead Conference Center, CA, forms part of an NSF-funded Research Coordination Network, 35 participants
 - March 2017, paleo-CO₂ across the Cenozoic; LDEO, NY; forms part of an NSF-funded Research Coordination Network, 60 participants, laid the foundation for a new and improved paleo-CO₂ database
 - August 2010, Paleocean Acidification, 55 participants; Catalina Island, CA; resulted in a review paper in Science (Hönisch et al. 2012)

- July 2009: Boron isotopes, 15 participants; LDEO, NY

PROFESSIONAL ORGANIZATION MEMBERSHIP

- American Geophysical Union
- The Geochemical Society
- European Geosciences Union, complimentary membership 2010

COLUMBIA UNIVERSITY COMMITTEES

- Member of the Faculty Liaison Network, 2019-present
- Member of the Faculty Discussion Group for Morningside North Campus & Nevis Master Planning, 2019-2020
- Academic Review Committee, 2017-2020

DEPARTMENT OF EARTH AND ENVIRONMENTAL SCIENCES COMMITTEES

- 3rd year review committee Jacqueline Austermann, 2021
- Faculty Mentor for Assistant Professor Róisín Commane, 2018-present
- Strategic Planning/Hiring Committee, 2017-present
- Curriculum committee, 2015-present
- Curriculum committee liaison to Climate Education sub-committee, 2020-present
- Diversity Committee, 2020-present
- Graduate Student Guide Revision, 2012-2015
- Atmospheric Sciences search, 2016-2017
- Undergraduate awards, 2011-2014, 2015-2016
- Biogeosciences Search, 2010-2011
- Faculty-student relations, 2008-2015
- Dept Gen Stud/Cont Ed Special Program Advisor, 2007-2008

LDEO COMMITTEES

- Lamont Vision Committee, 2020
- Steering committee, Climate and Life Initiative, 2020-present
- Steering committee, Center for Climate and Life, 2015-2020
- LDEO Climate Center Committee, 2016-2020
- Postdoc fellowship committee, 2010-2012
- search committees: LARP search: Carbon Cycle (2020, suspended), LARP search: Climate (2015-2016), Biological Oceanography DARS/DRS (2008), PDRS (PI: Hönisch, 2008), Cosmogenic Nuclide Science PDRS (PI: Schäfer, 2010)
- promotion committee: Park Williams (Lamont Associate Research Professor, Senior Staff, 2020)

OTHER PROFESSIONAL ACTIVITIES

Field work

- 2015 Culture experiments with living planktic foraminifers at the Department of Marine Sciences, Isla Magueyes Laboratories, Puerto Rico.
- 2013 Culture experiments with living planktic foraminifers at the Wrigley's Institute for Environmental Studies, Validating trace metal proxies under early Cenozoic seawater conditions, Santa Catalina Island, California.
- 2010 Culture experiments with living planktic foraminifers at the Department of Marine Sciences, Isla Magueyes Laboratories, Puerto Rico.
- 2008 Culture experiments with living planktic foraminifers at the Wrigley's Institute for Environmental Studies, Validating the B/Ca and Mg/Ca proxy, Santa Catalina Island, California.
- 2006 Culture experiments with living planktic foraminifers at the Department of Marine Sciences, Isla Magueyes Laboratories, Puerto Rico.
- 2004 Culture experiments with living planktic foraminifers at the Wrigley's Institute for Environmental Studies, Validating the $\delta^{11}\text{B}$ and U/Ca proxy, Santa Catalina Island, California.
- 2000 Foraminifer collection and culturing at Wrigley's Institute for Environmental Studies, Validating the $\delta^{11}\text{B}$ and U/Ca proxy, Santa Catalina Island, California.
- 1997 Sampling and analysis of benthic floral and faunal species composition, Strait of Magellan, Universidad de Magallanes, Punta Arenas, Chile.

Research cruise experience

- 2000 PELAGIA expeditions 153P, 154P and 157P to the South Atlantic and Indian Ocean: seawater carbonate chemistry and plankton tow collection. The task included supervision of a graduate student.
- 1998 METEOR expedition 41/1 to the South Atlantic: light attenuation measurements, dinoflagellate isolation and sediment sampling.
- 1997 VICTOR HENSEN expedition UV IV to the North Sea: water chemistry and UV-experiments with the sunshine simulator.
- 1996 VICTOR HENSEN expedition UV III to the North Sea: water chemistry sampling.

Research Diving

certified AAUS research diver since 2000

SCHOLARSHIPS AND EXTERNAL FUNDING

- NSF FRES 20-xxxxx "Collaborative Proposal: *CO₂PIP* — A community project to advance and standardize approaches to paleo-CO₂ reconstruction and build the next-generation Phanerozoic record", PIs: I. Montanez (UC Davis), G. Bowen (U. Utah), D. Royer (Wesleyan), D. Breecker (U. Texas, Austin), K. Huntington (U. Washington), B. Hönisch, S. Feiner, L. Chilton (LDEO and Columbia University), \$455,144 to LDEO, 08/01/2021-07/31/2025.
- NSF OCE 20-xxxxx "Experimental refinement of the boron isotope proxy in planktic foraminifera – temperature, asymbiotic sensitivity, and seawater elemental composition", B. Hönisch (PI), \$658,363, 06/01/2021-05/31/2024.

LDEO Climate Center grant "Reconstructing ocean carbon storage changes from the Eocene to the Oligocene, 38-28 Ma", B. Hönisch (PI) and Ingrid Izaguirre (co-PI, GRA), \$11,000, 1/1/2021-12/31/2022.

Helmholtz Distinguished Professorship, "Warmer Climates and their Environmental Consequences – an Eocene-Oligocene Perspective on Future Earth", EUR 600,000/year, awarded 11/2019, declined.

Heising-Simons Foundation, "paleopCO₂ – A Scientifically Rigorous and Accessible CO₂ 'Keeling Curve' for Geologic Time", B. Hönisch (PI), V. Ferrini (co-PI), \$315,738, 1/1/2019-12/31/2021, 3-year award.

USGS Technical Liaison, "Boron isotope measurements on Arctic ocean benthic foraminifers", B. Hönisch, \$13,860; 9/1/2018-8/31/2019.

NSF OCE 16-57974, "Collaborative Research: Taking the reliability of Cenozoic boron isotope pH and pCO₂ reconstructions to the next level", B. Hönisch (PI), A. Ridgwell (co-PI), \$390,558, 3-year award

NSF OCE 16-57848: "Collaborative Research: An Eocene perspective on future recovery rates of climate and ocean chemistry", R. Zeebe (PI), J. Zachos (co-PI), B. Hönisch (co-PI), \$85,421, 3-year award

Center for Climate and Life: "Carbon Uptake & Ocean Acidification", B. Hönisch (PI), Peter deMenocal (co-PI), 7/1/2016-6/30/2018, \$257,820

LDEO Climate Center grant "Workshop on Improving Reconstructions of Cenozoic pCO₂ Change", B. Hönisch (PI), K. Dyez, P. Polissar, \$ 10,000, 2016-2017.

LDEO Climate Center grant "*Deep Pacific Carbonate Chemistry Across the Mid-Pleistocene Transition*", Laura Haynes (PI) and Bärbel Hönisch (co-PI), \$ 10,000, 2016-2019.

NSF OCE 16-36079 RCN: Improving reconstructions of Cenozoic pCO₂ and temperature change," Bärbel Hönisch (PI), Pratigya J. Polissar (co-PI), \$202,828, 10/1/2016-9/30/2020.

LDEO Climate Center grant "Mapping the distributions of boron isotopes within planktic foraminifera", Katherine Allen (PI) and Bärbel Hönisch (co-PI), \$ 8,416, 2015-2019.

CU Research Faculty Support Program "Upgrade of Sediment and Microscope Laboratory at LDEO", B. Hönisch (PI), S. Hemming (co-PI), J. McManus (co-PI), \$3,527.

Max Kade CU15-0199 "Paleo-pH reconstruction across the Middle Eocene Climatic Optimum (MECO) using boron isotopes ($\delta^{11}\text{B}$) in planktonic foraminifera from Walvis Ridge (ODP Site 1263) and the Kerguelen", Iris Möbius and Bärbel Hönisch, \$55,200, 4/1/2015-3/30/2016.

NSF OCE 14-36079, "Thermohaline circulation and deep ocean carbonate chemistry across the mid-Pleistocene transition", L. Pena (PI), B. Hönisch (co-PI), M. Raymo, S. Goldstein, \$696,199, 9/1/2014-8/31/2017

LDEO Climate Center grant "Isotopic characterization of Dead Sea water sources for paleoclimate reconstruction", Y. Kiro, S. Goldstein, B. Hönisch (co-PI), \$8,000; 2014-2015.

- USGS Technical Liaison, "Boron isotope measurements on Arctic ocean benthic foraminifers", B. Hönisch (PI) & J. Farmer (co-PI), \$13,770; 9/9/2013-9/30/2014.
- NSF OCE-12-32987, "Testing geochemical proxy relationships under variable paleo-seawater chemical compositions", B. Hönisch (PI), \$418,862; 9/1/2012-8/31/2016.
- NSF OCE-12-20554, "Ocean Acidification: Collaborative Research: Establishing The Magnitude Of Sea-Surface Acidification During the Paleocene-Eocene Thermal Maximum", B. Hönisch (PI), \$111,935; 9/1/2012-8/31/2016.
- LDEO Climate Center grant "What is the Source of Tropical Marine Foraminifera in the Hudson River?", D. Abbott (PI), B. Hönisch (co-PI), \$8,000; 2012-2013.
- LDEO Climate Center grant "Experimental Evaluation of the pH-Dependence of Boron-Adsorption onto Clay Minerals and Implications for the secular evolution of seawater $\delta^{11}\text{B}$ and [B]", J. Ruprecht (PI), B. Hönisch (co-PI), \$8,000, 2011-2016.
- LDEO Climate Center grant "Using Boron Isotopes in Benthic Foraminifers to Evaluate Intermediate Water PCO_2 Changes in the Western Pacific Ocean over the past 30,000 Years", L. Lo (PI), B. Hönisch (co-PI), \$7,800, 2011-2012.
- ARC-DP110103158, "Calcification and shell chemistry response of Southern Ocean planktic foraminifers to ocean acidification and changing climates", S.M. Eggins, W. Howard, B. Hönisch, H.J. Spero, G. Dunbar, 2010-2014, A\$360,000
- NSF OCE-10-41133, "Ocean Acidification - Category 1: Calibration and application of the boron isotope seawater-pH indicator in deep-water corals", B. Hönisch (PI), \$439,526; 9/15/2010-8/31/2016.
- LDEO Climate Center grant "Calibrating past changes in coccolithophore calcification", Marie Tharp research support for Debora Iglesias-Rodriguez, B. Hönisch (PI), \$6,850; 2010-2011.
- PAGES workshop support, "Workshop on Paleo-ocean Acidification and Carbon Cycle Perturbation Events", B. Hönisch (PI), \$5,000; 6/1/2010-9/31/2010.
- NSF OCE-10-32374, "Workshop on Paleo-ocean Acidification and Carbon Cycle Perturbation Events", B. Hönisch (PI), \$33,376, 6/1/2010-5/31/2013.
- LDEO Climate Center grant "Ground-truthing the B/Ca proxy in tropical planktic foraminifer shells: Investigating the effects of pH, temperature, salinity and carbonate ion". K. Allen (PI), B. Hönisch (co-PI), \$8,000; 2010-2011.
- Royal Society of England International travel grant to M. Siddall (PI) and B. Hönisch (co-PI) for Hönisch to visit Bristol University for 1 month. Purpose: Cenozoic sea level estimates and boron isotope method comparison, GBP 600.-; 2009-2010.

- NSF OCE-09-03014 "Collaborative Research: Reconstructing deep-sea acidification during the Paleocene-Eocene Thermal Maximum", B. Hönisch (PI), \$68,185; 7/1/2009-6/30/2011.
- LDEO Climate Center grant "Corals as recorders of ocean acidity: Seasonal variation and ocean acidification from the Industrial Revolution to the present". D. Chacko (PI), B. Hönisch (co-PI), B. Linsley (co-PI), \$8,000; 2009-2010.
- LDEO Climate Center grant "Evaluating the potential of boron isotopic composition of brachiopod calcite as a proxy for Phanerozoic seawater pH and secular variation in $\delta^{11}\text{B}_{\text{seawater}}$ ". B. Hönisch (PI), N.G. Hemming (co-PI), S. Hemming (co-PI), T. Rasbury (co-PI), D. Penman (co-PI), \$8,000.-; 2009-2010.
- NSF OCE-0751764: "Validation of the B/Ca proxy for surface seawater pH and application to measure anthropogenic ocean acidification". B. Hönisch (PI), \$337,724.-, 3/5/2008-2/28/2014.
- NSF OCE-0623621 "Reconstructing the role of CO₂ in climate change throughout the Cenozoic Step 1: The mid-Pleistocene transition". B. Hönisch (PI), N.G. Hemming (co-PI), W.S. Broecker (co-PI), \$196,581.-; 9/1/2006-8/30/2010.
- Helmholtz Young Investigator Group "*p*AGE: paleo Acidity and CO₂-reconstructions from marine GGeochemical archives". B. Hönisch (PI), €1,832,595.-; 2006-2011. Declined in favor of faculty position at Columbia University.
- DFG Ho 3285/1-1 "Validating the boron isotope/paleo-pH proxy in benthic foraminifera". B. Hönisch (PI), €154,190.-; 1/1/2005-12/31/2006.
- LDEO Climate Center grant (funded by the Vetlesen Foundation) for foraminifera culturing on Santa Catalina Island, California, USA. B. Hönisch (PI) and N. G. Hemming (co-PI), \$8,000.-; 2004.
- Socfac grant for $\delta^{11}\text{B}$ analysis and method comparison at Southampton Oceanography Centre. B. Hönisch (PI); 2002.
- DAAD graduate student travel award for foraminifera culturing at Santa Catalina Island, California, USA. B. Hönisch (PI); 2000.
- DAAD undergraduate student travel award for practical training at the Instituto de la Patagonia, Universidad da Magallanes, Punta Arenas, Chile. B. Hönisch (PI). DM 1,500.-; 1997.

PUBLICATIONS: [HTTPS://PUBLONS.COM.RESEARCHER/2662298/BAERBEL-HOENISCH,](https://publons.com/researcher/2662298/baerbel-hoenisch)
[HTTPS://SCHOLAR.GOOGLE.COM/CITATIONS?USER=XQGHNWAAAAJ&HL=EN](https://scholar.google.com/citations?user=XQGHNWAAAAJ&hl=en)

* indicates my students

§ indicates my postdocs

- in preparation-

Spero, H.J., D. Lea, J. Bijma, A. Russell and **B. Hönisch**, "Deconvolving $\delta^{13}\text{C}_{\text{DIC}}$ and $[\text{CO}_3^{2-}]$ from Planktic Foraminifera Carbon Isotope Records (carbonate ion effect)

§Dyez, K.A., **B. Hönisch**, P.B. deMenocal, "Ocean warming has larger impact on foraminiferal species abundance than ocean acidification over the last deglacial transition", in prep.

- §Möbius, I., **B. Hönisch**, O. Friedrich, "Surface ocean acidification and atmospheric carbon dioxide during the Middle-Eocene-Climate-Optimum", in prep.
- *Haynes, L., **B. Hönisch**, K. Holland, Y. Rosenthal, S.M. Eggins, "Influence of pH and Dissolved Inorganic Carbon on Planktic Foraminiferal Mg/Ca in low Mg/Ca_{sw}", in prep. a
- *Haynes, L.L., **B. Hönisch**, *J. Farmer, V.J. Clement, H.L. Ford, M. Raymo, S.L. Goldstein, L.D. Pena, M. Yehudai, T. Bickert, D. Lea, "The Deep Ocean Carbon System Across the Mid-Pleistocene", in prep. b
- Harper, D.T., **B. Hönisch**, R.E. Zeebe, J.C. Zachos et al., "Long-term Trends and Orbital Variability in Climate, the Carbon Cycle and Marine Chemistry During the Late Paleocene and Early Eocene", in prep.

- submitted -

- Hönisch, B.**, *C. Fish, S. Phelps, *L.L. Haynes, §K. Dyez, K. Holland, S.M. Eggins, J. Fehrenbacher, and J.I. Goes, "Symbiont photosynthesis and its effect on boron proxies in planktic foraminifera", in revision at Paleoceanography and Paleoclimatology

- accepted for publication -

-2021-

- Zhou, X., Y. Rosenthal, *L. Haynes, S. Woodard, K.A. Allen, W. Si, D. Evans, S. Sosdian, C.H. Lear, **B. Hönisch**, and J. Erez, "Foraminiferal Na/Ca ratios: a new proxy of secular variations in seawater calcium concentration", *Geochimica et Cosmochimica Acta* 305, p. 306-322, doi: 10.1016/j.gca.2021.04.012
- Gutjahr, M., L. Bordier, E. Douville, J. Farmer, G. Foster, E. Hathorne, **B. Hönisch**, D. Lemarchand, P. Louvat, M. McCulloch, J. Noireaux, N. Pallavicini, J. Rae, I. Rodushkin, P. Roux, J. Stewart, F. Thil, C.-F. You, "Sub-permil interlaboratory consistency for solution-based boron isotope analyses on marine carbonates", *Geostandards and Geoanalytical Research*, Vol. 45., No. 1, p. 59-75, doi: 10.1111/ggr.12364

-2020-

- Tierney, J. E., C. J. Poulsen, I. P. Montañez, T. Bhattacharya, R. Feng, H. L. Ford, **B. Hönisch**, G. N. Inglis, S. V. Petersen, N. Sagoo, C. R. Tabor, K. Thirumalai, J. Zhu, N. J. Burls, G. L. Foster, Y. Goddérís, B. T. Huber, L. C. Ivany, S. Kirtland Turner, D. J. Lunt, J. C. McElwain, B. J. W. Mills, B. L. Otto-Bliesner, A. Ridgwell and Y. G. Zhang (2020). "Past climates inform our future." *Science* 370 (6517): eaay3701.
- Haynes, L.L. & **B. Hönisch**, "The Seawater Carbon Inventory at the Paleocene-Eocene Thermal Maximum", *Proceedings of the National Academy of Sciences*, 202003197.
- Holland, K., O. Branson, *L.L. Haynes, **B. Hönisch**, K. Allen, A.D.R. Russell, J. Fehrenbacher, H.J. Spero, S.M. Eggins (2020), "Constraining multiple controls on planktic foraminiferal Mg/Ca", *Geochimica et Cosmochimica Acta* 273, 116-136, <https://doi.org/10.1016/j.gca.2020.01.015>.

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- Holland, K., S. Eggins, H.J. Spero, **B. Hönisch**, K.A. Allen, L.L. Haynes, A.D. Russell, "How confident can we be in foraminifer shell Mg/Ca thermometry?", Goldschmidt Conference, Paris, 2017.
- Farmer, J.R., J. Uchikawa, O. Branson, D. Penman, **B. Hönisch**, R. Zeebe, J. Zachos, "Paired B/Ca and $\delta^{11}\text{B}$ measurements on inorganic calcite: Constraints on boron incorporation and implications for boron proxies: Goldschmidt Conference, Paris, 2017.
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- Dyez, K.[§], **B. Hönisch**, "Early Pleistocene $p\text{CO}_2$ revisited: Boron-based records of carbon dioxide from Atlantic ODP site 999", AGU, San Francisco, 2016.
- Babila, T.L., D.E. Penman, **B. Hönisch**, D.C. Kelly, T.J. Bralower, Y. Rosenthal, J.C. Zachos, "Capturing the global signature of surface ocean acidification during the PETM", AGU, San Francisco, 2016.
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- Kim, J., M. Jaume-Seguí, M. Yehudai, S.L. Goldstein, L.D. Pena, M.E. Raymo, H.L. Ford, L. Haynes*, J.R. Farmer*, **B. Hönisch**, "Reconstruction of the North Atlantic end-member of the thermohaline circulation across the Mid-Pleistocene Transition", AGU, San Francisco, 2016.
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- Ford, H. L., *L. Haynes, **B. Hönlisch** and M. E. Raymo, "*Did the mid Pliocene warmth bring the Northern Hemisphere Chill?*", AGU, San Francisco, 2015.
- Uchikawa, J., D. Penman, *J. Farmer, **B. Hönlisch**, J. Zachos, R. Zeebe, "Toward better understanding of B/Ca and $\delta^{11}\text{B}$ proxies: An experimental approach", AGU, San Francisco, 2015.
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- *Haynes, L.L., **B. Hönisch**, S. Eggins, K. Holland, Y. Rosenthal, "Calibration of the B/Ca proxy in cultured *O. universa* tests under Paleogene seawater conditions", AGU, San Francisco, 2014.
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- *Farmer, J., **B. Hönisch**, L. Robinson, "Transfer of Bomb Radiocarbon to the Intermediate Ocean: Reconstructions from North Atlantic Bamboo Corals", Radiocarbon in the Environment Conference, Belfast, 2014.
- Hönisch, B.** "Challenges and opportunities to decipher the geological record of ocean acidification", invited, Gordon Conference on Ocean Global Change Biology, New Hampshire, 2014.
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- Harper D.T., D.E. Penman, **B. Hönisch**, J.C. Zachos, "Long- and short-term trends in seawater B/Ca and pH across the Paleocene-Eocene boundary", AGU, San Francisco, 2013.

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- *Farmer, J.R., **B. Hönisch**, L. Robinson, "Radiocarbon age reversals in modern deep-sea bamboo corals from the North Atlantic", AGU, San Francisco, 2013.
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- Hönisch, B.**, *K.A. Allen, ^SO. Hyams, D. Penman, ^SM. Raitzsch, ^SJ. Ruprecht, E. Thomas, J. Zachos, "Ocean acidification during the Cenozoic", invited, Geochemistry of the Earth's surface meeting, Boulder, Colorado, June 3-7, 2011.
- Penman, D., J. Zachos, **B. Hönisch**, S.M. Eggins, R.E. Zeebe, "Boron proxy evidence for surface ocean acidification & higher pCO₂ during the PETM", Climate and Biota of the Early Paleogene, Salzburg, June 5-8, 2011.
- Hönisch, B.**, ^SO. Hyams, ^SM. Raitzsch, E. Thomas, J.C. Zachos, R.E. Zeebe "Reconstructing deep-sea acidification during the early Cenozoic", invited, AGU, San Francisco, 2010.
- Zachos, J.C., L.D. Anderson, R.E. Brown, **B. Hönisch**, C. Kelly, D. Penman, E. Thomas, R.E. Zeebe, "Ocean Acidification during the Paleocene-Eocene Thermal Maximum: Constraints from Multiple Proxies", AGU, San Francisco, 2010.
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- Vetter, L., H.J. Spero, C.I. Mora, S.M. Eggins, R. Kozdon, J.W. Valley, **B. Hönisch**, "Intrashell isotopic and trace element variation at the micron-scale in cultured planktonic foraminifera", AGU, San Francisco, 2010.
- Hönisch, B.**, ^SO. Hyams, E. Thomas, "Reconstructing deep-sea acidification during the PETM", ICP10, San Diego, 2010.
- Robinson, L.F., **B. Hönisch**, D.H. Case, M. Auro, B.E. Rosenheim, *S. Hale, "New geochemical proxies for temperature and pH in deep-sea corals", ICP10, San Diego, 2010.
- Eggins, S.M., H.J. Spero, A.D. Russell, L. Vetter, **B. Hönisch**, *K.A. Allen, "Probing the basis for the Mg/Ca sensitivity and trace metal proxies in planktic foraminifers", ICP10, San Diego, 2010.
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- *Allen, K.A., **B. Hönisch**, S.M. Eggins, Y. Rosenthal, J. Yu, H.J. Spero, J.N. Richey, "B/Ca in planktic foraminifers: Comparison of culture and sediment core material", ICP10, San Diego, Best Student Poster Award, 2010.
- Vetter, L., H.J. Spero, C.I. Mora, S.M. Eggins, R. Kozdon, J.W. Valley, **B. Hönisch**,

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- Spero, H.J., S.M. Eggins, L. Vetter, A.D. Russell, **B. Hönisch**, “Experimental Perspectives on Planktonic Foraminifera Intrashell Mg/Ca Variability”, ICP10, San Diego, 2010.
- Grelaud, M., G. Marino, P. Ziveri, **B. Hönisch**, E. Rohling, “Impacts of the last interglacial sapropel S5 on the eastern Mediterranean marine carbonate system and calcifying organisms”, ICP10, San Diego, 2010.
- Hönisch, B.**, “Comparison of surface ocean carbonate chemistry proxies”, Workshop on Palaeo-CO₂, Bristol, 7-8 July 2010.
- Robinson, L.F., **B. Hönisch**, M.E. Auro, “Boron isotopes in Southern Ocean deep corals”, Goldschmidt Conference, Knoxville, 2010.
- Hönisch, B.**, Cenozoic variations in atmospheric CO₂ and ocean carbonate chemistry, EGU, Vienna, 2010, invited.
- Moyer, R.P., K.P. Helmle, **B. Hönisch**, *D. Chacko, B. Linsley, “Historical records of coral geochemistry and growth and their relationship to anthropogenic ocean acidification”, Ocean Sciences Meeting, Portland, 2010.
- Eggins, S., **B. Hönisch**, S. Doo, L. Vetter, *K. Allen, H. Spero, A. Russell, “Reduced temperature sensitivity of foraminiferal Mg/Ca seawater thermometry in ancient oceans”, Ocean Sciences Meeting, Portland, 2010.
- *Allen, K., **B. Hönisch**, “Comparing planktic foraminiferal B/Ca and boron isotopes as paleo-CO₂ proxies”, Ocean Sciences Meeting, Portland, 2010.
- *Allen, K., **B. Hönisch**, J. Yu, S. Eggins, H. Spero, H. Elderfield, “Validating the B/Ca proxy for seawater carbonate chemistry – evidence from culture experiments, AGU, San Francisco, 2009.
- Raitzsch, M. & **B. Hönisch**, “Cenozoic evolution of the boron isotopic composition of seawater”, AGU, San Francisco, 2009.
- Hönisch, B.** & J. Bijma, “Partial shell dissolution and geochemical proxies in planktic foraminifers”, AGU, San Francisco, 2009.
- Bartoli, G., **B. Hönisch**, R.E. Zeebe, “Pliocene atmospheric CO₂ changes”, AGU, San Francisco, 2009, invited.
- Hönisch, B.**, G. Bartoli, R.E. Zeebe, N. G. Hemming, D. Archer, M. Siddall, J.F. McManus, “Boron isotope perspective on the CO₂ history beyond ice cores”, invited presentation at PAGES Past Interglacials Meeting, Mytilene, 2009.
- Hönisch, B.**, G. Bartoli, R.E. Zeebe, N. G. Hemming, D. Archer, M. Siddall, J.F. McManus, “Boron isotope perspective on the CO₂ history beyond ice cores”, invited presentation at PAGES Open Science Meeting, Corvallis, 2009.
- Hönisch, B.**, “Estimating past carbonate chemistry from Marine archives”, Thematic Working Group on Ocean Acidification and Ocean Carbon Cycle, Meeting January 7-9, 2009, Rosenstiel School of Marine and Atmospheric Science, Miami, Florida.
- *Allen, K., **B. Hönisch**, S. Eggins, H. Spero, Effects of pH and Temperature on Calcification of the Planktic Foraminifer *O. universa*: Insights from Culture Experiments, AGU, San Francisco, 2008.
- Bartoli, G., **B. Hönisch**, R.E. Zeebe, Atmospheric CO₂ Changes During the Pliocene Epoch Revealed by Foraminiferal Boron Isotope Ratio, AGU, San Francisco, 2008.

- Benthien, A., B. Balestra, **B. Hönisch**, G. Mollenhauer, Reconstruction of surface water pCO₂ in the eastern equatorial Atlantic based on alkenone and boron isotopes, AGU, San Francisco, 2008.
- *Penman, D., E.T. Rasbury, N.G. Hemming, **B. Hönisch**, P. Abejar, S. Butts, Heavy boron isotopic composition of Pennsylvanian brachiopod calcite: implications for pH, CO₂ and secular variation of seawater d¹¹B, AGU, San Francisco, 2008.
- Spero, H.J., S.M. Eggins, L. Vetter, A.D. Russell, **B. Hönisch**, Experimental Perspective on Cause and Impact of Planktonic Foraminifera Intrashell Mg/Ca variability on Paleoceanographic Applications, AGU, San Francisco, 2008.
- Fabry, V.J., K. Allen, S.M. Eggins, **B. Hönisch**, F. Lombard, H. Spero, Impacts of ocean acidification on zooplankton, The Second Symposium on The Ocean in a High-CO₂ World, Monaco, 2008.
- Hemming, N.G., **B. Hönisch**, C. Bouman, In-run Corrections for Instrumental Fractionation of Boron Isotopes by NTIMS: Filament Material and Loading Matrix Controls, Goldschmidt Conference, Vancouver, 2008.
- Köhler, P., **B. Hönisch**, R. Bintanja, H. Fischer, The Carbon Cycle during the Mid Pleistocene Transition: The Southern Ocean Decoupling Hypothesis, EGU, Vienna, 2008.
- Köhler, P., **B. Hönisch**, R. Bintanja, H. Fischer, The Carbon Cycle during the Mid Pleistocene Transition: The Southern Ocean Decoupling Hypothesis, Climate change: from the geologic past to the uncertain future: A tribute to André Berger - 26 to 29 May 2008 - Louvain-la-Neuve University - Belgium, 2008.
- Hönisch, B.**, Barbara Balestra, Torsten Bickert, N. Gary Hemming, Mark Siddall, "Quaternary records of marine carbonate chemistry and atmospheric CO₂", invited presentation at the International Conference on Paleoceanography 9, Shanghai.
- M. Siddall, **B. Hönisch**, C. Lear, D. McGee, H. Pälike, P. Parekh, E.J. Rohling, W. Thompson, G. Winckler, "Long-term consistencies in the benthic oxygen-isotope record between ocean basins", invited presentation at the International Conference on Paleoceanography 9, Shanghai.
- Hönisch, B.**, "Empirical systematics of the boron isotope proxy and application to the mid-Pleistocene transition", invited presentation at the Gordon Conference on Chemical Oceanography, Tilton, New Hampshire, 2007.
- Hönisch, B.**, N.G. Hemming, Overview and Brief History of the Boron Isotope Proxy for Past Seawater pH, invited presentation at the AGU Spring Meeting, Acapulco, Mexico, 2007.
- Köhler, P., **B. Hönisch**, H. Fischer, The Carbon Cycle during the Mid Pleistocene Transition, poster at EGU, Vienna, 2007.
- Hönisch, B.**, N.G. Hemming, Quantitative PCO₂ reconstructions across the mid-Pleistocene transition based on boron isotopes in planktic foraminifers, invited presentation at the Goldschmidt Conference, Melbourne, 2006.
- Hönisch, B.**, N.G. Hemming and T. Bickert, Paleo-Validation of the Boron Isotope Proxy in Benthic and Planktic Foraminifers, oral presentation at the Ocean Sciences Meeting, Honolulu, Hawaii, 2006.

- Hönisch, B.**, N.G. Hemming, "Challenges of and for the boron isotope proxy for past seawater-pH", invited presentation at NSF workshop, San Francisco, USA, 2005.
- Hönisch, B.**, T. Bickert, and N.G. Hemming, Boron Isotopes in Benthic Foraminifers – Monospecific Coretop Calibration and Paleo-Reconstruction Through Two Glacial Cycles, oral presentation at AGU Fall Meeting, San Francisco, USA, 2005.
- Russell, A.D., **B. Hönisch**, H.J. Spero, D.W. Lea, "The influence of light on U, Sr, and Mg incorporation into planktic foraminifera, and other culture results", poster at AGU Fall Meeting, San Francisco, USA, 2005.
- Yu, J., H. Elderfield and **B. Hönisch**, B/Ca in foraminiferal calcium carbonate and its potential as a paleo-pH proxy, poster at AGU Fall Meeting, San Francisco, USA, 2005.
- Hemming, N.G. and **B. Hönisch**, A critical review and recent advances in the boron isotope paleo-pH proxy, invited talk at Goldschmidt Conference, Moscow, Idaho, USA, 2005.
- Russell, A.D., **B. Hönisch**, H. Spero, and D. Lea, Influence of Environmental Factors over the Incorporation of U, Cd, and Minor Metals into Foraminiferal Calcite: Results of Summer 2004 Culture Experiments, poster presented at AGU, San Francisco, USA, 2004.
- Hönisch, B.**, N.G. Hemming, A 140,000-year record of surface seawater pH in the eastern equatorial Atlantic, poster presented at ICP VIII, Biarritz, France, 2004.
- Hönisch, B.**, N.G. Hemming, Ground-truthing the boron isotope paleo-pH proxy in planktonic foraminifera shells: Partial dissolution and shell size effects, poster presented at AGU, San Francisco, USA, 2003.
- Gussone, N., A. Eisenhauer, **B. Hönisch**, M. Dietzel, J. Bijma, A. Heuser, B. Bock, F. Böhm, H. J. Spero, D. W. Lea, and T. F. Nägler, Temperature control on Ca isotope fractionation in carbonates and its application in marine geochemistry, poster presented at Earth Sciences into the 3. Millenium: Methods, Materials, Mechanisms, Bochum, Germany, 2003.
- Hönisch, B.**, N.G. Hemming, A.G. Grottoli, A. Amat, G.N. Hanson, J. Bijma, The effect of light, respiration and pCO₂ on δ¹¹B in coral skeletons: results from culture and field experiments, oral presentation given at EGS-AGU Joint Assembly, Nice, France, 2003.
- Hönisch, B.**, J. Bijma, N. Gussone, H. J. Spero, D. W. Lea, D. Nürnberg, and A. Eisenhauer, Post- depositional effects on stable isotopes and trace metals in foraminiferal calcite - evidence from dissolution experiments, poster presented at EGS, Nice, France, 2002.
- Bijma, J., **B. Hönisch**, R. E. Zeebe, A. Sanyal, H. J. Spero, D. W. Lea, A. Amat, D. Ruiz-Pino, A. Juillet-Leclerc, Y. Suzuki, and A. Eisenhauer, Towards a mechanistic understanding of boron isotope ratios in biogenic carbonates as recorders of seawater pH, poster presented at AGU Fall Meeting, San Francisco, USA, 2001.
- Russell, A. D., **B. Hönisch**, H. Spero, D. W. Lea, D. Pak, and M. Schmidt, Effects of changes in carbonate ion concentration in the incorporation of uranium into foraminiferal calcite, poster, AGU, San Francisco, USA, 2001.

Zondervan, I., B. Rost, R. Zeebe, **B. Hönisch** and U. Riebesell, Rising atmospheric CO₂ slows down marine planktonic calcification, SOLAS meeting, Damp, Germany, 2000.

OTHER INVITED TALKS

April 2021, "Evolution of atmospheric CO₂ over the Cenozoic", Northwestern University, USA.

March 2021, "Evolution of atmospheric CO₂ over the Cenozoic", University College London, Geography Department Seminar, UK.

February 2021, "Evolution of atmospheric CO₂ over the Cenozoic", University of Washington, Chemical Oceanography Seminar, USA.

May 2020, "Environmental consequences of rising atmospheric CO₂ – Lessons from the Past", Eco Festival, Kingsborough Community College, New York, USA.

September 2019, "Cenozoic paleo-CO₂ and ocean carbon storage", Climate and Environmental Physics seminar of the Physics Institute, University of Bern, Switzerland.

July 2019, "Reconstructing paleo-marine carbonate chemistry and atmospheric CO₂", Alfred-Wegener Institute, Germany

May 2018, "Reconstructing carbonate chemistry in Earth history", UC Santa Cruz, USA.

March 2018, "Reconstructing marine carbonate chemistry in Earth history", Marie Tharp Lecture Series, GEOMAR, Germany.

October 2017, "Reconstructing past climate change from chemical signals stored in ocean sediments", Brooklyn High School of the Arts, Brooklyn, USA.

March 2017, "Reconstructing past climate change from chemical signals stored in ocean sediments", American Museum of Natural History, Educators evening, New York, USA.

May 2016, "The challenge of deciphering information from the paleo record", 4th International Symposium on the Ocean in a high CO₂ world, PLENARY TALK, Hobart, Tasmania

April 2016, "New proxies for past CO₂ levels", Brown University, USA

October 2015, "Reconstructing Ocean Acidification in Earth History", D. Foster Hewett Symposium on Ocean Acidification, Lehigh University, USA

September 2014, "Challenges and opportunities to decipher the geological record of ocean acidification", Penn State, USA

September 2014, "Introduction to Ocean Acidification", 2nd CliMates International Summit, Columbia University

June 2014, "Opportunities and Challenges of deciphering the geological record of ocean acidification", Gordon Conference on Ocean Global Change Biology, New Hampshire, USA

March 2014, "Ocean acidification and climate change", LDEO Public Lecture Series, watch the video here: <http://www.ldeo.columbia.edu/video/ocean-acidification-and-climate-change>

September 2013, "The geological record of ocean acidification", NASA GISS.

May 2013, "The geological record of ocean acidification", Massachusetts Institute of Technology.

February 2013, "The geological record of ocean acidification", USC Women in Science and Engineering (WiSE) Distinguished Lecturer, University of Southern California, USA.

January 2013, "The geological record of carbon dioxide in the atmosphere and ocean acidification", Packer Collegiate Institute, K-12 School in Brooklyn NY.

2011/2012, "Estimating Cenozoic atmospheric CO₂ from ocean carbonate chemistry", Ocean Leadership Distinguished Lecturer: Case Western University, San Diego State University, University of South Florida, Rice University, University of Houston, Binghamton University, University of New England, USA.

March 2011, "Paleocean acidification inferred from marine carbonates", Rutgers University, USA.

February 2011, "Proxy calibration and reconstructions of ocean carbonate chemistry over the past 55 million years", Dalhousie University, Halifax, Canada.

October 2010, "Proxy calibration and reconstructions of Cenozoic ocean carbonate chemistry", Smith Lecture Series, University of Michigan, USA.

May 2010, "Cenozoic variations in atmospheric CO₂ and ocean carbonate chemistry", Cambridge University, UK.

November 2009, "Comparing boron isotopes and B/Ca ratios for reconstructing paleo-pCO₂ - Who is K_D?", Boston University, USA.

September 2009, "Plio-Pleistocene estimates of CO₂ from boron isotopes in planktonic foraminifers", Princeton, USA.

June 2009 "Boron isotope perspective on the CO₂ history beyond ice cores", Canberra, RSES, ANU, Australia.

December 2008, Motivating high school students to spread the word about anthropogenic climate change, NYCiSchool, New York.

November 2008, "Estimating atmospheric CO₂ from marine archives: The mid-Pleistocene Transition", Texas A&M, College Station.

November 2007 "The boron isotope proxy for past seawater-pH", Georgia Institute of Technology.

April 2007 "Pleistocene records of marine carbonate chemistry and atmospheric CO₂", Crafoord Prize-Winner Ceremony, Lund, Sweden.

April 2007 "Pleistocene records of marine carbonate chemistry", Rutgers University.

March 2007 "Alaska and the Polar Regions", Metuchen Elementary School, New Jersey.

January 2006 "Reconstructing carbonate chemistry from marine geochemical archives", Massachusetts Institute of Technology.

May 2005 "Reconstructing aqueous PCO₂ and seawater pH: The boron isotope/paleo pH proxy", International University Bremen.

April 2005 "Reconstructing aqueous PCO₂ and seawater pH – Boron isotopes in ancient foraminifera shells record marine carbonate chemistry", Alfred Wegener Institute.

- March 2005 “Reconstructing aqueous PCO₂ and seawater pH – Boron isotopes in ancient foraminifera shells record marine carbonate chemistry”, Yale University.
- March 2005 “Reconstructing aqueous PCO₂ and seawater pH – Boron isotopes in ancient foraminifera shells record marine carbonate chemistry”, Rutgers University.
- January 2004 “Validating the boron isotope proxy: What have we learned and which questions remain to be solved?”, Woods Hole Oceanographic Institution.

PRESS COVERAGE

- December 17, 2020, Geology Bites - [Bärbel Hönisch on Reconstructing Climate in the Distant Past](#)
- December 1, 2020, GIZMODO - [These Stunning Miniature Sea Creatures Keep the Oceans in Balance](#)
- November 5, 2020, State of the Planet blog - <https://blogs.ei.columbia.edu/2020/11/05/data-past-key-predicting-future-climate-scientists-say/>
- September 14, 2020, IFLScience!, QNewsHub, Phys.Org, EurekAlert - https://www.eurekalert.org/pub_releases/2020-09/eiac-avo090920.php
- October 12, 2019, Chemical and Engineering News - <https://cen.acs.org/physical-chemistry/geochemistry/Asteroid-impact-acidified-prehistoric-ocean/97/i42>
- April 12, 2019, Great Lakes Ledger - <https://greatlakesledger.com/2019/04/10/atlantic-ocean-current-slowdown-froze-the-earth-in-the-past-would-that-happen-again-in-the-future/>
- April 9, 2019, Curiosmos – [A Million Years Ago, Ocean Current Systems Sent the World Into a Deep Freeze](#)
- April 8, 2019, Earth.com – [Slowdown of Atlantic Circulation System Could Have Major Impact on Climate](#)
- April 8, 2019, Science Daily - <https://www.sciencedaily.com/releases/2019/04/190408114020.htm>
- April 8, 2019, Daily Mail (UK) – [The Real ‘Day After Tomorrow’](#)
- April 8, 2019, Alpha Galileo – [When Earth’s Climate Changed Radically a Million Years Ago](#)
- April 8, 2019, EuropaPress (Spain) – [CO₂ in the Depths of the Ocean Triggered More Intense Glaciations](#)
- April 2019: https://blogs.ei.columbia.edu/?p=75883&shareadraft=baba75883_5c9cdbff60d6a
- February 2019: <https://archive.storycorps.org/interviews/ilyse-vernun-barbel-hoensich-and-agu-narratives/>
- August 2018: <http://climateandlife.columbia.edu/2018/08/13/getting-warmer-understanding-threats-to-ocean-health/>
- November 12, 2017, Frankfurter Allgemeine Sonntagszeitung: *Sauer ist gar nicht lustig*
- April 9, 2017: <http://e-nvironmentalist.com/my-teeth-are-sore-ocean-acidification/>
- April 2016, WSL PURE launch, video embedded in press release, <http://www.ldeo.columbia.edu/news-events/world-surf-league-teams-columbia-support-ocean-science>

March 2016, Christian Science Monitor, <http://www.csmonitor.com/Science/2016/0321/Our-carbon-emissions-top-even-those-of-56-million-years-ago-scientists-say?cmpid=push013>

February 2016, Christian Science Monitor, <http://www.csmonitor.com/Science/2016/0224/Coral-reef-growth-is-declining.-Is-there-hope>

December 9, 2015, State of the Planet blog, <http://blogs.ei.columbia.edu/2015/12/09/what-is-ocean-acidification-why-does-it-matter/>

August 2014, Columbia Magazine, <http://magazine.columbia.edu/explorations/summer-2014/underwater-another-carbon-problem>

June 6, 2014, The Daily Catch, <http://theterramarproject.org/thedailycatch/?p=17632>

June 6, 2014, A.M. Costa Rica's Fourth News Page, <http://www.amcostarica.com/060614.htm#32>

June 3, 2014, The Weather Network, <http://www.theweathernetwork.com/insider-insights/articles/study-shows-modern-ocean-acidification-is-fast-outpacing-changes-in-the-past/28813/>

June 3, 2014, Nature World News, <http://www.natureworldnews.com/articles/7379/20140603/ocean-acidification-rate-10-times-faster-than-ancient-upheaval.htm>

June 3, 2014: Motherboard @ Vice, <http://motherboard.vice.com/read/earths-oceans-are-on-track-to-be-100-percent-more-acidic>

July 25, 2013: PolitiFact Rhode Island, <http://www.politifact.com/rhode-island/statements/2013/jul/22/al-gore/al-gore-says-ocean-acidity-levels-havent-been-high/>

July 23, 2013: NSF science highlights, <http://go.usa.gov/jKNC>

June 5, 2013: North Carolina Coastal Federation blog, <http://www.nccoast.org/Article.aspx?k=bb5dd4e6-18f6-463f-aa41-f4645785349f>

June 5, 2013: J Farmer's Almanac, <http://thefarmersalmanac.blogspot.com/2013/06/why-should-we-care-about-co2-part-1.html>

October 29, 2012: The Age we made, BBC, <http://www.bbc.co.uk/programmes/p0104hcj>

October 4, 2012: The Oceans Are Acidifying, WAMC public radio – Audio essay <http://wamc.org/post/dr-b-rbel-h-nisch-columbia-university-ocean-acidification>

April 13, 2012: *Electric Politics* interview by George Kenney, http://www.electricpolitics.com/podcast/2012/04/ocean_acidification.html

April 3, 2012: Ocean acidification: high as never before, <https://www.cmcc.it/blog-en/ocean-acidification-moves-faster-and-faster>, Centro Euro-Mediterraneo per I Cambiamenti Climatici

March 23, 2012: Making the Ocean hostile to life, The Week.

March 2012: [Ocean Acidification: Another Problem With CO₂](#), Japan Times

March 2012: [Changing the Chemistry of Earth's Oceans](#), New York Times Editorial

March 2012: Celebrating women in science by Kelly Strzepek, <http://oncirculation.com/2012/03/08/celebrating-women-in-science/>

March 2012: Oceaanzuring: geheimen uit het verleden ontrafelen,
<http://www.kennislink.nl/publicaties/oceaanzuring-geheimen-uit-het-verleden-ontrafelen>

March 2012: [Carbon Emissions May Pave Way for Mass Extinctions in Oceans](#), Mongabay.com

March 2012: [Ocean Acidification Fastest in 300 Million Years](#), Press TV

March 2012: [Study: Climate Change Threatens Life in Oceans](#), TU Print Edition

March 2012: [Concern Over Acidifying Oceans](#), UK Press Association

March 2012: [Oceans Acidifying Faster Today Than in Past 300 Million Years](#), Earth & Sky

March 2012: [Ocean Acidifying Faster Than Any Time in 300 Million Years, Study Says](#), E360

March 2012: [Study: Oceans Acidifying Fastest in 300 Million Years](#), CBS News

March 2012: [Study: Human activity affecting oceans](#), UPI

March 2012: [Study: Human activity affecting oceans](#), UPI

March 2012: [Oceans acidifying at an accelerated rate due to emissions](#), The State Column

March 2012: [Manmade CO2 Pushes World's Oceans Into Acidic Unknown Territory](#), ClimateWire

March 2012: [Oceans Turning Acidic Faster Than Past 300 Million Years](#), LiveScience

March 2012: Xinhua News Channell (TV),
<http://www.youtube.com/watch?v=H3E8Fv8KyoM>

March 2012: Major Study: Oceans Acidifying at "Unprecedented" Rate, KGED
<http://blogs.kqed.org/climatewatch/2012/03/02/major-study-oceans-acidifying-at-unprecedented-rate/>

March 2012: Unprecedented Ocean Acidification Underway, Mother Jones
<http://motherjones.com/blue-marble/2012/03/ocean-acidification-unprecedented>

March 2012: Study: Oceans Acidifying Faster Than They Have in Past 300 Million Years, On Earth Blog, <http://www.onearth.org/blog/oceans-acidifying-faster-than-300-million-years>

March 2012: [Ocean Acidification Rate Unprecedented](#), Xinhua

March 2012: Learning about the future from the past, University of Bristol,
<http://bristol.ac.uk/news/2012/8275.html>

March 2012: BEST ACID OCEAN ANALOG STILL TOO ALKALINE, Discovery News
<http://news.discovery.com/earth/-acidic-oceans-from-earths-past-120301.html>

March 2012: Ocean acidification rate may be unprecedented, study says, e! Science News
<http://esciencenews.com/articles/2012/03/01/ocean.acidification.rate.may.be.unprecedented.study.says>

March 2012: Study: Human activity affecting oceans, Dalje
<http://dalje.com/en-world/study--human-activity-affecting-oceans/421094>

March 2012: Oceans acidifying at 'unparalleled' rate, Telegraph,
<http://www.telegraph.co.uk/earth/environment/climatechange/9115699/Oceans-acidifying-at-unparalleled-rate.html>

March 2012: Oceans Acidifying Fastest in 300 Million Years Due to Emissions, Bloomberg
<http://www.bloomberg.com/news/2012-03-01/oceans-acidifying-fastest-in-300-million-years-due-to-emissions.html>

March 2012: Oceans' acidic shift may be fastest in 300 million years, Reuters
http://www.moneycontrol.com/news/wire-news/oceans-acidic-shift-may-be-fastest300-million-years_675710.html

March 2012: Ocean acidification may be worst in 300 million years: study, Bangkok Post
<http://www.bangkokpost.com/news/world/282497/ocean-acidification-may-be-worst-in-300-million-years-study>

March 2012: Oceans acidifying at unprecedented speed, New Scientist,
<http://www.newscientist.com/article/dn21534-oceans-acidifying-at-unprecedented-speed.html>

March 2012: Ocean acidification on track to be among the worst of the last 300 million years, Ars Technica, http://arstechnica.com/science/news/2012/03/ocean-acidification-could-become-worst-in-at-least-300-million-years.ars?clicked=related_right

March 2012: Pace of Ocean Acidification Has No Parallel in 300 Million Years, Paper Says, NY Times, <http://green.blogs.nytimes.com/2012/03/02/pace-of-ocean-acidification-has-no-parallel-in-300-million-years-paper-finds/?ref=science>

March 2012: Rising carbon emissions could wipeout marine species with oceans acidifying at fastest rate, Daily Mail Reporter,
<http://www.dailymail.co.uk/sciencetech/article-2108844/Rising-carbon-emissions-wipeout-marine-species.html>

March 2012: Ocean acidification may be worst in 300 million years: study, AFP
http://www.google.com/hostednews/afp/article/ALeqM5i_Z1zrB_r470qEJTpTvNGCLIZOew?docId=CNG.972672bf2c229393667b758b16f9bd6a.491

March 2012: Fossil Fuel emissions taking oceans into "unknown territory" going back at least 300 million years, <http://blog.timesunion.com/green/fossil-fuel-emissions-taking-oceans-into-unknown-territory-going-back-at-least-300-million-years/3768/>

March 2012: A CO2 Warning Etched in Stone and Sediment, Andrew Revkin, Dot Earth Blog
<http://dotearth.blogs.nytimes.com/2012/03/01/a-co2-warning-etched-in-stone-and-sedimen/?src=tp>

March 2012: [Fossil Fuel Emissions Taking Oceans into Unknown Territory](#), Albany Times Union

March 2012: [Humans Acidifying Oceans at Unprecedented Rate](#), Earth magazine

March 2012: [Ocean Acidification Worst of Last 300 Million Years](#), TG Daily

March 2012: [Oceans Gaining Acid Faster Than Last 300 Million Years](#), The Register

March 2012: NSF Press Release 12-041 Oceans Acidifying Faster Today Than in Past 300 Million Years - Few parallels for today's rapid ocean changes in geologic record http://www.nsf.gov/news/news_summ.jsp?cntn_id=123324

June 2011: Warming, overfishing, Plastic Pollution Destroying Ocean Life: Scientists, Solve Climate News
<http://www.reuters.com/article/2011/06/29/idUS237599325020110629>

October 2010: Concern Over Ocean Acidification Ramps Up Research Dollars, Solve Climate News

<http://solveclimateneeds.com/news/20101029/concern-over-ocean-acidification-ramps-research-dollars>

October 2010: NSF Awards Grants to Study Effects of Ocean Acidification, NSF news
[http://www.nsf.gov/news/news_summ.jsp?cntn_id=117823&WT.mc_id=USNSF_51](http://www.nsf.gov/news/news_summ.jsp?cntn_id=117823&WT.mc_id=USNSF_51&WT.mc_ev=click)

January 2009: Top 100 Stories of 2009, Discover Magazine
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Fall 2009: "CO₂ shell game", Columbia Magazine:

<http://www.columbia.edu/cu/alumni/Magazine/Fall2009/science.html#science3>

June 19, 2009: Interview with the Colombian National Public Radio

June 18, 2009: CO₂ Levels Highest in Two Million Years, National Geographic News:
<http://news.nationalgeographic.com/news/2009/06/090618-co2-highest-carbon-dioxide.html>

June 18, 2009: Carbon dioxide Not to Blame in Ice Age Mystery, Science News:

http://www.sciencenews.org/view/generic/id/44821/title/Carbon_dioxide_not_to_blame_in_ice_age_mystery

June 18, 2009: 2.1 million Year High Measured for CO₂ in Atmosphere, Bloomberg:

<http://www.chron.com/disp/story.mpl/front/6486567.html>

June 18, 2009: Stable Ancient Atmosphere Underscores Current Greenhouse Spike, Scientific American.com:
<http://www.scientificamerican.com/blog/60-second-science/post.cfm?id=stable-ancient-atmosphere-underscor-2009-06-18>

June 18, 2009: Plankton afslører rekordhøjt CO₂-niveau, Videnskab DK:

http://videnskab.dk/content/dk/naturvidenskab/plankton_afslorer_rekordhojt_co2-niveau

2006: Exploring Time, A co-production of Twin Cities Public Television, Red Hill Studios and NHK, for The Science Channel, shows Hönisch culturing planktic foraminifers in Puerto Rico: <http://exploringtime.org/?page=segment5>