

SHERILYN CLAIRE FRITZ

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EDUCATION

1985 Ph.D. (Ecology), University of Minnesota, Minneapolis, MN
1979 M.S. (Biology), Kent State University, Kent, Ohio
1974 B.A. (Biology), Macalester College, St. Paul, MN, cum Laude, with honors in Biology

PROFESSIONAL EXPERIENCE

2010- George Holmes University Professor, University of Nebraska - Lincoln
2012 Visiting Research Professor, Department of Geological Sciences, Stockholm University
2004-2010 Willa Cather Professor, University of Nebraska – Lincoln
2003 Visiting Professor, Department of Quaternary Geology, Lund University, Lund, Sweden
1999- Professor (2002-) & Associate Professor (1999-2002), Department of Earth and Atmospheric Sciences, School of Biological Sciences, University of Nebraska
1995-1998 Associate Professor (1998), Assistant Professor (1995-1998), Department of Earth & Environmental Sciences, Lehigh University
1985-1994 Research Associate, Limnological Research Center, University of Minnesota
1974-1977 Assistant Librarian, Chemistry Library, University of Minnesota

CURRENT RESEARCH PROJECTS

Paleoclimatology and paleohydrology of the NA Great Plains & Northern Rocky Mountains
Climate history and the evolution of biodiversity in tropical South America
Quaternary climate history of Southeast Asia

AWARDS, HONORS

Certificate of Reviewing Excellence, a top 25 reviewer in 2015, Journal of Paleolimnology
Hans Oeschger Medal 2014, European Geophysical Union; for outstanding achievements in climate change science (past, present, future)
Fellow (elected), American Association for the Advancement of Science (AAAS), 2014-
Certificate of Reviewing Excellence, Quaternary Research, Elsevier Press, 2013
The Bert Bolin Lecture on Climate Research, Stockholm University, May 2012. An annual lecture to commemorate the first Intergovernmental Panel on Climate Change (IPCC) chair
George Holmes University Professor, University of Nebraska 2010 –
Willa Cather Professor, University of Nebraska 2004-2010
Fellow, Robert Daugherty Water for Food Institute, University of Nebraska, 2014-
J.B. Coffman Faculty Excellence Award, EAS Department, University of Nebraska, 2000, 2001, 2004, 2014
The Nebraska Lecturer, University of Nebraska 2007. Faculty member chosen to showcase University scholarship in a lecture for the general public
Charles Bullard Fellowship in Ecology, Harvard University, 2006-2007
Fellow, Center for Great Plains Studies, University of Nebraska 2000-present

PROFESSIONAL ACTIVITIES & COMMITTEES

President Elect AMQUA (American Quaternary Association) 2014-2016; President 2016-2018
 PAGES (Past Global Changes - A Future Earth Core Project) Co-chair 2016-2018; Executive
 Committee 2014-2018; Scientific Steering Committee 2012-2018
 The Holocene, Associate Editor, 2000-2005; Editorial Board, 2005 -
 Journal of Paleolimnology, Editorial Board, 2000-
 Palaeogeography, Palaeoclimatology, Palaeoecology; Editorial Board, 2006-
 Diatom Monographs, Koeltz Scientific Publishers, Scientific Advisory Board, 2009-
 LacCore (NSF Lacustrine Core Repository), External Advisory Board, 2007-
 International Paleolimnology Association, Council of Advisors, 2008-
 European Geophysical Union (EGU), Climate Division, Medal Committee 2014-
 The UArctic Council, Delegate 2016-
 U.S. National Committee, International Union for Quaternary Research (under the auspices of
 the US National Research Council/National Academy of Sciences), 2000-2007; 2016-2018
 PAGES/IGBP. Salinization & Climate Impacts on Lakes, Project Co-director, 2003 -2012
 AAAS, Section on Geology and Geography, Nominating Committee, 2007-2010
 ASLO (American Society of Limnology and Oceanography): Nominating Committee 2008-
 2010; Program Co-Chair, 2005 Aquatic Sciences Meeting; Nominating Committee - G.E.
 Hutchinson Award, 1996-1998; Student Poster Award Judge, 1999
 International Union for Quaternary Research (INQUA), Councilor, Commission for
 Paleoeecology & Human Evolution, 2003- 2007
 American Quaternary Association, Council of Advisors, 2000-2004
 Center for Ecological Health Research (USEPA Research Center), University of California at
 Davis, Science Advisory Committee, 1996-2000
 Geology (Geological Society of America), Editorial Board, 1997-1999
 NOAA Paleoclimate Program, Advisory Board, Diatom Databases, 1995-2000
 IGBP-PAGES Course "Holocene Climate Reconstruction", Invited Instructor, London, 1998
 ASLO Working Group: Freshwater Ecosystems & Climate Change (Great Plains), 1994-1995
 International Society for Diatom Research, Chair, Nominating Committee, 1994

PROFESSIONAL SOCIETIES

American Association for the Advancement of Science, American Geophysical Union, American
 Society of Limnology & Oceanography, American Quaternary Association, Geological Society
 of America, International Paleolimnology Association, International Society of Diatom Research

EXTERNAL GRANTS AND CONTRACTS

2016-2018 NASA. Mapping Linkages between Geophysical and Biological Diversity Across
 Space and Time in the Andes, Amazon, and Chocó of Peru, Ecuador, and
 Colombia. \$60,170.
 2015-2019 National Science Foundation (Integrated Earth Systems). The Response of Continental
 Hydrothermal Systems to Tectonic, Magmatic, and Climatic Forcing. R. Sohn, K. Ding,
S.C. Fritz, R. Harris, C. Linder, K. Lutrell, W. Seyfried, C. Whitlock. \$2,990,000 (UNL
 Award \$160,000)
 2014-2015 International Continental Drilling Program (ICDP). Trans-Amazon Drilling Project:
 History of the Neotropical Rain Forest. Funding for Workshop. P. Baker, **S.C. Fritz**, C.
 Silva, C. Rigsby, E. Schefuss, R. Trinidade. \$62,000
 2013-2018 National Science Foundation (Frontiers in Earth System Dynamics). The Role of
 Mountains, Landscapes, and Climate in the Distribution and Generation of Biodiversity in

- the Amazon/Andean Forest. P. Baker, **S. Fritz**, C. Dick, B. Horton, D. Battisti. \$4,430,000 (UNL Award \$379,000)
- 2013-2016 National Science Foundation (Sedimentary Geology and Paleobiology). Morphology and Molecules: Diatom Diversification, Extinction, and Dispersal in an Ancient Tropical Lake System. **S.C. Fritz**, T. Spanbauer, P. Baker. \$185,000
- 2013-2015 National Geographic Society. Holocene Culture and Climate in the Southern Lake Titicaca Basin: clarifying lake levels and subsistence in the prehistoric Formative times. C. Hastorf, M. Bruno, **S.C. Fritz**. \$19,630
- 2012-2013 Organization for Tropical Studies (OTS), Emerging Frontiers in Tropical Science Working Group: Geogenomics – Linking Geology and Genomics to Understand the Evolutionary History of Tropical Forests in the Americas. Full funding for Workshop at Las Cruces, Costa Rica for 8 scientists. P. Baker, **S.C. Fritz**, and C. Dick, PIs
- 2012 National Evolutionary Synthesis Center (NESCent). The Role of Mountains, Climate, and Landscape in Generating Amazon/Andean Biodiversity. Full funding for workshop at NESCent Headquarters, NC for 30 people. P. Baker, **S.C. Fritz**, and C. Dick, PIs
- 2012-2014 Swedish Research Council. Asian Monsoon variability and its impact on terrestrial ecosystems in Thailand during the past 50,000 years. B. Wolfarth, **S.C. Fritz**, P. Reimer, R. Smittenberg, L. Lowemark. 2,573,000 SEK (~\$392,000 US)
- 2010-2011 Yellowstone Park Association (Canon Foundation). The last 2000 years of ecohydrology in Yellowstone National Park. Subcontract on grant to C. Whitlock. (UNL Award \$12,500)
- 2009-2015 NSF (IGERT). Resilience and adaptive governance in stressed watersheds. C. Allen, **S. Fritz**, A. Samal, A. Tomkins, D. Tyre. Total UNL Award = \$3,166,173
- 2009-2010 National Geographic Society. Catastrophic regime shifts in Amazon floodplain lakes. P. Baker, **S. Fritz**, J. Terborgh, L. Davenport, H. Ortega. \$22,000
- 2009-2011 Swedish Research Council. Asian Monsoon variability and its impact on terrestrial ecosystems in Thailand during the past 25,000 years. B. Wolfarth, **S.C. Fritz**, P. Reimer, J. Routh, L. Lowemark. 1,800,000 SEK (~\$260,000 US)
- 2008-2012 NSF (Paleoclimate and Sedimentary Geology). Controls on ecosystem development during periods of rapid environmental change. C. Whitlock and **S.C. Fritz**. Total Award = \$445,000; UNL Award = \$185,000
- 2008-2010 Swedish Research Council. Ecosystem thresholds in lakes in response to climate change. D. Conley, D. Hammarlund, J. Carstensen, **S.C. Fritz**. 2,000,000 SEK (US\$315,000)
- 2006-2011 NSF (ESH). Holocene drought in the North American interior. **S.C. Fritz**, P.A Baker, Y. Huang, and E. Grimm. Total Award = \$530,910, UNL Award = \$173,319
- 2006-2009 NSF (Hydrology). Mechanisms producing variation in lake salinity in dune environments: Nebraska Sand Hills. V. Zlotnik, **S.C. Fritz**, J. Swinehart, J. Lane, M. Person, T. Halihan. Total Award = \$322,000; UNL portion = \$219,958
- 2007-2008 National Geographic Society. The South American Summer Monsoon and Amazon precipitation variation since the Last Glacial Maximum. **S.C. Fritz** & P. Baker, \$21,255
- 2006-2007 National Park Service. Holocene climate variability of Yellowstone's Northern Range. C. Whitlock and **S.C. Fritz**. Total Award = \$51,175, UNL Award \$23,000
- 2005-2008 USEPA. Solving complex water issues in Nebraska: modeling the Western Platte River Valley. K. Hoagland and **S.C. Fritz**. \$522,200
- 2005-2006 Lithochimiea, Inc. The recent trophic history of Tenkiller Lake, Tulsa, OK. \$12,750
- 2004-2005 USGS. Hydrogeological controls on salinity patterns in Sand Hill lakes, NE. V. Zlotnik, **S.C. Fritz**, D. Loope, J. Swinehart. \$19,975

- 2003-2006 NSF (Ecosystems). The role of dissolved organic material in regulating primary production in prairie saline lakes. J. Saros, **S.C. Fritz**, & C. Osburn. Total Award = \$250,000; UNL portion = \$30,000
- 2003-2007 NSF (Biocomplexity). Spatiotemporal coupling of ecological and geological dynamics in the Nebraska Sandhills. D. Wedin, D. Loope, G. Henebry, **S.C. Fritz** & 11 additional UNL faculty. \$1,800,000
- 2003-2005 National Park Service. Climatic and hydrologic variability of Yellowstone's Northern Range during the past millennium. C. Whitlock, **S.C. Fritz**, L. Stevens, L. Graumlich, & J. Rosenbaum. Total Award = \$50,000, UNL portion = \$20,000
- 2002-2004 NSF (ESH). Understanding the record of rapid and gradual climate change in large lakes. Subcontract on grant to M. Hendrix & J. Moore. Fritz Award = \$16,000
- 2002-2004 NSF (Ecology). Climate and ecological controls on the Holocene range expansion of western hemlock and western red cedar in the interior Pacific. Subcontract on grant to F. Hu & D. Gavin. Fritz award = \$25,000
- 2001-2002 NSF (DBI). Multi-user and multi-disciplinary ion and element analyzers. J. Knops, **S. Fritz**, T. Joern, D. Wedin, & A. Zera. Total Award = \$63,618
- 2001-2004 Department of Education (GAANN). Multidisciplinary graduate student training in environmental biology. T. Joern, PI + multiple UNL co-PIs. Fritz was a member of the grant steering committee. DOE Award = \$432,855 + \$158,856 UNL match
- 2000-2003 USEPA. A lake classification system for agriculturally dominated landscapes. J. Holz, A. Gittleson, J. Merchant, **S.C. Fritz**, K. Hoagland, I. Boardi, & D. Rundquist. Total UNL Award = \$1,224,706
- 2000-2005 NSF (Earth Systems History). Lake Titicaca Drilling Project. P. Baker, **S.C. Fritz**, & G. Seltzer. Total Award \$1,550,000 (includes drilling costs); Fritz portion = \$324,967
- 2000-2001 International Continental Drilling Program. Lake Titicaca Drilling Project. P. Baker, **S.C. Fritz**, & G. Seltzer. Total Award = \$275,000
- 2000-2004 NSF (Earth Systems History/Polar Programs). Modern & Holocene limnological gradients at the western edge of the Greenland Ice Sheet. sole PI. \$438,790
- 2000-2002 NSF (Paleoclimatology). Lake records of vegetational and climatic history of SW Siberia. Subcontract on grant to H.E. Wright, Jr. Fritz Award = \$57,465
- 2000-2001 NSF (Biocomplexity). Spatiotemporal coupling of ecological and geological dynamics in the Nebraska Sandhills. D.A. Wedin, T.J. Arkebauer, **S.C. Fritz**, G.M. Henebry, & D. Loope. Incubation Grant. Total Award = \$100,000
- 1999-2002 NSF (Earth Systems History). Early- versus late-Holocene drought variation in the Northern Rocky Mountains. L.R. Stevens, **S.C. Fritz**, & C. Whitlock. Total Award = \$410,052; UNL portion = \$266,147
- 1999-2001 NSF (Earth Systems History). A Quaternary paleoclimatic record from tropical South America: drilling the Salar de Uyuni. P. Baker, **S.C. Fritz**, G. Seltzer, & T. Lowenstein. Total Award \$760,400; Fritz portion = \$78,500
- 1999-2000 Science Museum of Minnesota. The trophic history of the Marine-Carnelian watershed. sole PI. \$30,000 (no indirect)
- 1999-2001 State of Minnesota. Atmospheric & non-point pollution trends in Minnesota lakes. E.B. Swain, D.R. Engstrom, **S.C. Fritz**, & D. Swackhammer. Total Award \$325,000 (no indirect); Fritz portion = \$61,240
- 1997-2000 NSF (Paleoclimatology). A Quaternary paleoclimatic record from tropical South America: Lake Titicaca. P. Baker, G. Seltzer, **S.C. Fritz**, & R. Dunbar. Total Award \$621,168; Fritz portion = \$109,500

- 1997-1999 NSF (Ecological & Evolutionary Physiology). The role of ionic concentration and composition in determining diatom species distribution in saline lakes. sole PI. \$95,000
- 1997-1998 International Continental Drilling Program. Drilling for scientific purposes in the tropical-subtropical Andes: Lake Titicaca, Bolivia/Peru. Workshop funding. P. Baker, **S.C. Fritz**, G. Seltzer. Total Award = \$25,000
- 1996-1998 NSF (Earth Systems History). Reconstruction of drought patterns in North America's arid interior. sole PI. \$125,000
- 1996-1997 NSF (Paleoclimatology). Lake Titicaca: Toward a detailed record of Late Quaternary climate in subtropical South America. P. Baker, G. Seltzer, **S.C. Fritz**, & R. Dunbar. Total Award = \$105,000
- 1995-1996 NSF (Climate Dynamics). High-resolution paleoclimatic record of a closed-basin lake. **S.C. Fritz** & K.R. Laird. Total Award = \$40,000
- 1994-1995 NSF (Climate Dynamics). SGER: Paleoclimatic research in Lake Titicaca. P. Baker, G. Seltzer, **S. Fritz**, & R. Dunbar. Total Award \$15,000
- 1993-1995 NOAA (Paleoclimatology). High-resolution climate reconstruction from saline-lake sediments in the northern Great Plains. **S.C. Fritz**, D.R. Engstrom, & E. Ito. Total Award = \$150,000
- 1991-1994 NSF (Climate Dynamics). Climate history from the paleosalinity of lakes in the northern Great Plains. D.R. Engstrom & **S.C. Fritz**. Total Award \$275,000
- 1991-1994 NSF (Systematics). A multidisciplinary study of the evolution of the diatom *Stephanodiscus yellowstonensis*. Subcontract on grant to E.C. Theriot. \$30,000
- 1991-1993 Minnesota Department of Natural Resources. Trophic response of lakes to aeration. sole PI. \$10,000
- 1990-1991 Michigan Department of Natural Resources. The recent paleolimnology of the Elk River Watershed. **S.C. Fritz**, D.R. Engstrom, J.C. Kingston, & J.P. Smol. Total Award = \$45,000
- 1990-1991 Glen Lake, Michigan Lake Association. Historical trends in water-quality in Glen Lake Michigan. sole PI. \$10,000
- 1990-1992 National Environmental Research Council (NERC), U.K. Diatom/water-chemistry transfer-functions for paleoclimate reconstruction. R.W. Battarbee, **S.C. Fritz**, S. Juggins, & A. Street-Perrot. Total Award = £30,000
- 1986-1988 National Park Service Research Center, University of Wyoming. Erosion rates and recent paleolimnology of lakes in Yellowstone National Park. H.E. Wright, C.W. Barnosky, D.R. Engstrom, & **S.C. Fritz**. Total Award = \$50,000
- 1981-1982 NSF (Ecology) Doctoral Dissertation Research Grant. Lake evolution and human habitation in southeastern England. Total Award = \$2000

MEETING SESSIONS AND WORKSHOPS CONVENED

- International Continental Drilling Program (ICDP) Workshop: "Trans-Amazon Drilling Project: History of the Neotropical Rain Forest", March 2015, Manaus, Brazil. Co-organizer
- Association for the Sciences of Limnology and Oceanography (ASLO), February 2015, Granada, Spain. "Recent Ecological Change in Ancient Lakes", session co-chair
- American Geophysical Union, December 2014, San Francisco. "A Living Planet – Biotic Responses to Past Changes in Earth's Climate and Geology", session co-chair
- Association for Tropical Biology and Conservation/Organization for Tropical Studies Meeting, June 2013, San Jose, Costa Rica. "Geogenomics – Linking Geology and Genomics to Understand the Evolutionary History of Tropical Forests in the Americas". Session co-chair

- Organization of Tropical Studies (OTS), Emerging Frontiers in Tropical Science Working Group, March 2013, Las Cruces, Costa Rica “Geogenomics – Linking Geology and Genomics to Understand the Evolutionary History of Tropical Forests in the Americas”.
Workshop co-organizer
- PAGES Open Science Meeting, February 2013, Goa, India “Biodiversity and Refugia – Lessons Learned from the Past”. Session co-chair
- National Evolutionary Synthesis Center (NESCent) Workshop, November 2012, “The Role of Mountains, Climate, and Landscape in Generating Amazon/Andean Biodiversity”.
Workshop co-organizer
- International Paleolimnology Association 2012, Glasgow, Scotland. “Understanding low-latitude climate change”, Session co-chair
- INQUA 2011, Bern, Switzerland. “Late Quaternary climate trends: expression and causation”.
Session co-convener.
- PAGES/LIMPACS Workshop “Climate Impacts and Salinization of Lakes”, Nanjing, China, April 2007. Co-convener and guest editor of special issue of Quaternary International, vol. 212 (1), January 2010
- “Teaching Climate Change: Lessons from the Past”, Bozeman, Montana, August 2006. NAGT On the Cutting Edge Workshop; co-convener
- ASLO Aquatic Sciences Meeting, 2005, Salt Lake City, UT, Meeting Co-chair
- ASLO Aquatic Sciences Meeting, 2005, Salt Lake City, UT, “Siliceous records of marine and lacustrine systems”. Session chair
- PAGES Workshop “Salinization and Climate Impacts on Saline Lakes”, Mildura, Australia, October 2004, Meeting co-chair
- 3rd International Limnogeology Conference, Tucson Arizona, March 2003. “Lakes in Arid Climates”, Session co-chair
- ASLO 2003, Salt Lake City, UT. “Lacustrine Hydrology – Past and Present”. Session chair
- ASLO 2002, Victoria, BC “Climate-Lake Interactions”, Session chair
- NSF-Sponsored Workshop “Drilling in the Tropical Andes”, Lake Titicaca, March 1995,
Workshop Co-Organizer

INVITED WORKSHOPS

- ICDP Training Course on Planning, Management and Realization of Continental Scientific Drilling Projects, October 2015, Windischenbach, Germany
- USGS Powell Center, Fort Collins, CO. Workshop on North America 2K Paleoclimate Synthesis, June 2014, October 2015
- IODP Workshop “Deep Drilling of the Amazon Continental Margin”, March 2014, Buzios, Brazil
- NSF Workshop on Scientific Drilling and the Evolution of the Earth System, Norman, OK, May 2013
- SynTraCE-21, “Data-Model Comparisons of the Last 21K”, Brown University, November 2012
- Royal Swedish Academy of Sciences. “Natural and man-made climate change: a symposium in honour of Bert Bolin”, May 2012, Stockholm
- ICDP Workshop: “Scientific Drilling of Lake Chalco, Basin of Mexico”, March 2012, Mexico City
- ICDP Workshop: “Climate Evolution in Central Asia during the Past Few Million Years: A case study from Issyk-Kul.” June 2011, Bishkek, Kyrgyzstan
- NSF Workshop on the NEOTOMA Database Consortium, September 2010, Madison, WI
- PAGES International Workshop on Floodplain Lakes, September 2010. Fayetteville, AK

IODP-ICDP Workshop: “Acquiring High to Ultra-high Resolution Geological Records of Past Climate Change by Scientific Drilling”. October 2008, Potsdam, Germany
 Chapman Conference on Lakes and Climate Change, Lake Tahoe, September 2008. Working group co-chair
 Swedish Research Council, “Regime Shifts in Aquatic Ecosystems”, Lund, Sweden, May 2008
 USEPA Workshop “Climate Change Effects on Biological Indicators”, Washington, DC, February 2008. Invited plenary speaker
 USGS/NCAR Workshop “Paleoclimatic Variability & Its Role in Understanding Climate Change”, Boulder, CO, July 2004
 CLIVAR/PAGES/IPCC Workshop “A Multi-Millennia Perspective on Drought and Implications for the Future”, Tucson, AZ, November 2003
 NSF-ASLO Workshop “Emerging Research Issues for Limnology”, Boulder, CO, December 2002
 NSF-Sponsored Workshop “Late Quaternary Paleoclimate of the Central Andes”, Tucson, AZ, January 2001
 PAGES/NSF-Workshop “High-resolution Climate Variability of the Holocene”, Avignon, France, October 2000
 NOAA-NASA Workshop “Central North American Drought and Associated Land Cover Change”, Boulder, CO, June 1999
 PEP1 Workshop, “Paleoclimate of the Americas: Interhemispheric Comparisons”, Merida, Venezuela, March 1998
 NSF Earth Systems History Program: Workshop and Planning Meeting (PEPI), Albuquerque, January 1995
 NOAA Workshop on Diatom Taxonomy & Paleolimnological Databases, San Francisco, December 1994
 NOAA Workshop on Paleolimnological Databases for Climate Reconstruction, Philadelphia, April 1993

LECTURES & PAPERS PRESENTED (since 2005)

2016 Indiana State University, February 2016. “The Cenozoic evolution of geophysical and biotic diversity in the tropical Andes and Amazon” (invited seminar)
 2015 CEREGE, Aix-en-Provence, France, July 2015. “Insights on diatoms, hydrology, and climate: the contributions of Françoise Gasse” (invited lecture)
 2015 Department of Quaternary Geology, Lund University, Sweden, June 2015. “Landscape evolution in the wake of retreating glaciers” (invited lecture)
 2015 Paleobiology Program, University of Washington, April 2015. “Quaternary climate variation in tropical South America and the evolution of tropical biodiversity” (invited seminar)
 2015 Institute for Pyrenean Ecology, Zaragoza, Spain, February 2015. “Variation in the South American Summer Monsoon on decadal to evolutionary time scales”. (invited seminar)
 2015 PAGES South American Paleoscience Symposium, January 2015, Las Cruces, Chile. “Quaternary variation in the South American Summer Monsoon and its biotic impacts” (invited talk)
 2014 LOTRED Climate and Human Impact in South and Central America, July 2014, Medellin, Colombia. “Diatom diversification, dispersal, and extinction in an ancient tropical lake”
 2014 European Geophysical Union, Vienna, Austria, April 2014. “Through layers of mud and time”, The Hans Oeschger Medal Lecture
 2014 University College London, The Richard Battarbee Annual Lecture, May 2014. “From

- microscopic to macroscopic – Insights on climate and environment from diatoms” (invited)
- 2014 40th Annual Great Plains Symposium, Lincoln, NE, April 2014. “Great Plains droughts and megadroughts in prehistory” (invited plenary lecture)
- 2014 IODP Workshop on Deep Drilling of the Amazon Continental Margin, Buzios, Brazil, March 2014. “The history of the composition and diversity of the Amazon tropical forest” (invited talk)
- 2013 Association for Tropical Biology and Conservation/Organization for Tropical Studies Meeting, June 2013, San Jose, Costa Rica. “Climate and refugia: new insights on Quaternary climate variation in tropical South America”
- 2013 Indiana State University (Earth and Environmental Sciences). “Quaternary climate variation and its implications for the evolution of biodiversity” (invited seminar)
- 2012 SynTraCE-21 Workshop, Providence, RI. “Patterns and controls of moisture variation in tropical South America during the past 21 ka” (invited talk)
- 2012 Stockholm University. “Through the looking glass: perspectives on climate from the last ~11,500 years” (invited lecture)
- 2012 Royal Swedish Academy of Sciences, Stockholm. “The climate of the Holocene and its landscape and biotic impacts” (invited lecture)
- 2012 University of Wyoming, Laramie (Geology). “Quaternary hydrology and climate in tropical South America – implications for neotropical biodiversity” (invited seminar)
- 2012 North Dakota Grass and Beef Producers Annual Meeting, Streeter, ND. “Through layers of mud and time: an environmental history of the Great Plains since the end of the last ice age” (invited talk)
- 2010 University of Maine, Orono (Climate Change Center). “Landscape evolution in the wake of retreating glaciers” (invited lecture)
- 2010 AGU Meeting of the Americas, Foz do Iguassu, Brasil. “Patterns and controls of moisture variation in tropical South America during the Holocene and late-glacial periods as inferred from lacustrine records” (invited speaker)
- 2010 Southern Connections Congress, Bariloche, Argentina. “Toward an integrated understanding of patterns and processes of climate variation in tropical South America at orbital to multi-decadal scales” (invited speaker)
- 2009 North Dakota State University (Biology and Conservation). “The climate history of tropical South America and its biological consequences” (invited lecture)
- 2008 Stockholm University (Quaternary Geology), “Late Quaternary climate variability in tropical South America” (invited lecture)
- 2008 Braunschweig University (Geology), “Late Quaternary climate variability in the tropical Andes” (invited lecture)
- 2008 Lund University (Quaternary Geology), “Paleolimnological perspectives on abrupt shifts in lacustrine ecosystems” (invited talk)
- 2008 USEPA Workshop - Climate Impacts on Biological Indicators, Washington, D.C. “Long-term perspectives on climate impacts on aquatic ecosystems” (invited plenary lecture)
- 2007 Kansas State University (Geology). “Late Quaternary climate variability in the tropical Andes” (invited seminar)
- 2007 North Carolina State University (Earth and Atmospheric Sciences). “Late Quaternary climate variability in the tropical Andes” (invited seminar)
- 2007 University of Adelaide, Australia (Geography). “Quaternary limnologic and climatic variability in the southern tropical Andes” (invited seminar)

- 2007 International Quaternary Association Congress, Cairns, Australia. “Late Quaternary hydrologic variability in the southern tropical Andes and its relationship to the adjoining Amazon Basin and major climate drivers” (invited session keynote talk)
- 2007 PAGES/LIMPACS Workshop on Climate/Human Impacts on Lakes, Nanjing, China. “Late-Holocene eolian activity and drought in the Nebraska Sand Hills, USA”
- 2007 University of Edinburgh (Geosciences), “Climate variability in the tropical Andes during the last 400,000 years” (invited lecture)
- 2007 CEREGE, Aix-en-Provence, France, “Climate variability in the tropical Andes during the last 400,000 years” (invited lecture)
- 2006 American Geophysical Union, San Francisco. “Holocene multi-Decadal to millennial-scale hydrologic variability on the South American Altiplano” (invited talk)
- 2006 Queens University, Kingston, ON (Biological Sciences). “Limnological and climatic variability in the southern tropical Andes during the last 400,000 years” (invited seminar)
- 2006 University of Wisconsin – Madison (Center for Climatic Research) “Holocene hydrologic variability in the North American interior” (invited seminar)
- 2006 Brown University, Providence, RI (Geological Sciences) “Holocene hydrologic variability in the North American interior” (invited seminar)
- 2006 Harvard Forest, Petersham, MA “Deciphering long-term hydrologic variability from lake sediments” (invited seminar)
- 2006 10th International Paleolimnology Conference, Duluth, MN “Deciphering hydrologic variability from lacustrine deposits” (invited plenary lecture)
- 2006 Groundwater Foundation Conference “Nebraska’s Water Future”, Kearney, NE. “A long-term perspective on drought in the Great Plains” (invited talk)
- 2006 Creighton University (Environmental Sciences). “Climate history of the tropical Andes over the last 400,000 years” (invited lecture)
- 2006 European Geosciences Union, Vienna. “Multi-decadal to millennial scale variation in the South American summer monsoon during the Holocene”
- 2006 Louisiana State University (Geology). “Glaciation and hydrologic variation in the tropical Andes during the last 400,000 years” (invited seminar)
- 2006 Institute of Ecosystem Studies. “Lakes in the North American interior across gradients of space and time” (invited lecture)

MAJOR UNIVERSITY SERVICE

- UNL Faculty of Life Sciences Executive Committee (2009-2014); Arts and Sciences Life Science Task Force (2015-)
- Department of Geosciences Executive Committee (2002-present); Graduate Committee (2014-present)
- UNL Search Committee, Dean of Arts and Sciences (2013-2014); Senior Vice Chancellor for Academic Affairs (2014-2015); Executive Vice Chancellor 2016
- UNL IGERT Graduate Training Course in Resilience, Coordinating Committee (2009-2015)
- University of Nebraska Water for Food Institute, Advisory Committee (2009-2015), Executive Director Search Committee (2010-2011)
- UNL Distinguished Professorships Committee (2009-2014)
- UNL Water Initiative Co-Director (2003-2011): Planning and coordination of campus-wide activities related to water and of university interactions with national and regional water-resource agencies and groups; oversight of budget.
- UNL NSF ADVANCE Award (to promote women in STEM fields), Internal Advisory Board (2009-2013)

GRADUATE STUDENTS AND POST-DOCTORAL ADVISEES*Post-doctoral Associates:*

- Cumming, Brian F. (1993-1994) Distribution and Taxonomy of Diatoms in Closed-Basin Lakes of Western Canada. (NSERC Postdoctoral Fellow) (Professor, Queens U)
- Bennett, Danuta (2002- 2005). Using paleolimnology to evaluate a lake classification system developed from contemporary data sets in an agricultural landscape (Research Assoc. UCSB)
- Ekdahl, Erik (2004-2006). High-resolution records of Quaternary climate in the Lake Titicaca drainage basin (Research Scientist, California State Water Board, Sacramento, CA)
- Hobbs, William (2008-2009). Holocene paleohydrology of central North America (Ecologist, Washington State Department of Ecology)
- Shinneman, Avery (2008-2009). Shallow lakes in central North America as paleoenvironmental recorders (Instructor, University of Washington-Bothell)

Graduate Students – Degree Completed:

- Laird, Kathleen (1992 – 1996). Ph.D. “A High Resolution Paleoclimatic Record of a Closed-Basin Lake in the Northern Great Plains” (Research Professor, Queens U)
- Olson, Olaf G. (1994 – 1998). Ph.D. “Mechanisms Controlling Long-Term Changes in Periphytic Diatom Community Structure”
- Saros, Jasmine E. (1995 – 1999). Ph.D. “The Role of Ionic Concentration and Composition in Determining Diatom Distributions in Saline Lakes” (Professor, U Maine)
- Ramstack, Joy (1997 – 1999). M.S. “Pollution Trends in Minnesota Lakes: The Use of Fossil Diatoms as Paleoindicators of Human Impact” (Research Scientist, Science Museum MN)
- Campbell, Joshua (1999-2001). M.S. “Diatom Distribution and Response to Climate in Lakes of the Northern Rocky Mountains” (Assistant Professor, Highpoint U, NC)
- Jovanelly, Tamie (1999-2001). M.S. “Groundwater-Surfacewater-Climate Interactions of Two Lakes in Southeastern North Dakota” (Associate Professor, Berry College, GA)
- Tapia, Pedro (1998 - 2003). Ph.D. “Late-Quaternary Diatom Stratigraphy, Paleoenvironments, and Climate Variability in Lakes Titicaca and Junin (Peru and Bolivia)” (Scientist, Peruvian Ministry of Culture)
- Jacobs, Kimberly (2002-2004), M.S. “Lacustrine Evidence for Moisture Changes during Marine Isotope Stage 3 in the Nebraska Sand Hills”
- Stone, Jeffery (2000 - 2005) Ph.D. “Diatom Records of Early- versus Late-Holocene Drought Variability in the Northern Rocky Mountains” (Assistant Professor, Indiana State U)
- Westover, Karlyn (2000-2006), Ph.D. “Diatom-Inferred Records of Paleolimnological and Holocene Paleoclimate Variability From the Altai Mountains (Siberia) and Columbia Mountains (British Columbia)” (Research Scientist, Indiana State U)
- Aebly, Frank (2001 - 2006), Ph.D. “Geomorphic Records of Holocene Lake-Level History in West Greenland” (Hydrologist, US Forest Service, Mendocino, CA)
- Schneider, Jens (2005-2009), Ph.D. “Linking Eolian and Lacustrine Records of Late Holocene Climate in the Nebraska Sand Hills” (Geologist, BHP Billiton, Houston)
- Bracht, Brandi (2005-2009), Ph.D. “Evaluating Lake Response to Environmental and Climate Change using Lake Core Records and Modeling” (Senior Hydrologist, NE Department of Natural Resources)
- Lu, Yanbin (2010 - 2014), Ph.D. “Watershed and Aquatic Ecosystem Evolution during the Late Glacial and Early Holocene in the Greater Yellowstone Region” (Micropaleontologist, PaleoData Inc, New Orleans)

- Spanbauer, Trisha (2010 - 2015), PhD. “Sizes, Shifts, and Structures: A Statistical Exploration of Changes in Diatom Morphologies and Communities” (NRC Research Associate, USEPA, Cincinnati)
- Chraibi, Victoria (2012-2016), PhD. “A Paleolimnological Analysis of the Hierarchy of Environmental Controls on the Resilience of Aquatic Communities in Yellowstone National Park, USA” (Assistant Professor, Tarleton State University, Texas)
- Whiting, Evan (2014-2016), M.S. “Constraining Neogene Temperature and Precipitation Histories in the Central Great Plains using the Fossil Record of *Alligator*” (PhD Candidate, University of Minnesota)
- Weide, D. Marie (2012-2016), PhD. “Environmental variability on the Bolivian Altiplano during the middle and late Holocene inferred from paleoenvironmental records from the southern basin of Lake Titicaca and Andean ice cores”

Current Graduate Students and Postdocs:

- Jones, Amanda (2015-), M.S. “Neogene paleoenvironments in the Lauca Basin of Chile”
- Brown, Sabrina (2016-), PhD. “Hydrothermal impacts on aquatic ecosystems in Yellowstone National Park”
- Melina, Feitl (2016-), PhD.
- Benito, Xavier (2016-), Postdoc. “Diatom biogeography in tropical South America”

TEACHING EXPERIENCE

- Undergraduate: Biogeography; Plant Ecology; Introduction to Environmental Science; Climate, Geosphere, & Biosphere; The Politics of Water
- Graduate: Quaternary Paleoclimatology and Paleoecology; Biogeochemical Cycles; Ecosystem Ecology; Aquatic Ecosystems; Geological Limnology; Advanced Limnology

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- Martel-Cea, A., M. Grosjean, I. Alvial, R. de Jong, **S.C. Fritz**; L. von Gunten. 2016. Late Holocene environmental changes as recorded in the sediments of high Andean Laguna Chepical, Central Chile (32°S; 3050 masl.). *Paleo3* doi:10.1016/j.palaeo.2016.08.003
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