

CURRICULUM VITAE
JOSEF PETER WERNE

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EDUCATION

- Ph.D. Geological Sciences (Biogeochemistry), Northwestern University, Evanston, IL, 2000
Thesis title: A geochemical evaluation of depositional controls and paleoenvironmental reconstructions in organic rich sedimentary deposits: Evidence from the modern Cariaco basin, Venezuela, and application to the Devonian Appalachian Basin
- M.S. Geological Sciences, Northwestern University, Evanston, IL, 2000
- B.S. Geology, Denison University, Granville, OH, 1995

PROFESSIONAL EXPERIENCE

- 2012-Present *Associate Professor with Tenure*, Department of Geology and Planetary Science, University of Pittsburgh, Pittsburgh, PA
Director of Graduate Studies, Geology, 2013-Present
Affiliated Faculty: Center for Latin American Studies; African Studies Program
- 2012 *Professor*, Large Lakes Observatory and Department of Chemistry & Biochemistry, University of Minnesota Duluth, Duluth, MN
- 2009-2010 Gladden Visiting Senior Fellow, Institute for Advanced Studies, University of Western Australia, Perth, Australia; and Visiting Research Associate, Western Australia Organic and Isotope Geochemistry Centre, Curtin University of Technology, Perth, WA, Australia (Sabbatical visitor)
- 2007-present *Associate Editor*, *Geochimica et Cosmochimica Acta*
- 2007-2012 *Associate Professor with Tenure*, Large Lakes Observatory and Department of Chemistry & Biochemistry, University of Minnesota Duluth, Duluth, MN
Associate Director of Graduate Studies, Water Resources Science Program
- 2006-2012 Secretary, Organic Geochemical Division, Geochemical Society
- 2002-2012 *Adjunct Graduate Faculty*, Dept. of Geological Sciences, Univ. Minn. Duluth; Water Resources Science Graduate Program, Univ. Minnesota
- 2002-2007 *Assistant Professor*, Large Lakes Observatory and Department of Chemistry & Biochemistry, University of Minnesota Duluth, Duluth, MN
- 2000-2002 *Postdoctoral Researcher*, Department of Marine Biogeochemistry and Toxicology, Royal Netherlands Institute for Sea Research, (NIOZ), Texel, The Netherlands

RESEARCH INTERESTS

Organic and Stable Isotope Biogeochemistry in Modern and Ancient Earth Systems:
(Paleo)climate and environmental change using biogeochemical proxies and proxy development; impacts of climate change on ecosystems; microbial biogeochemistry & geobiology; sulfur isotope biogeochemistry, sedimentary sulfur cycling and organic sulfur formation; carbon cycling and carbon isotope fractionation; stable isotope systematics of C, H, O, N, S in natural systems; early diagenesis, especially related to organic matter remineralization; chemical limnology/oceanography; global biogeochemical cycles; black shales; redox geochemistry.

RESEARCH SUPPORT

Granted – Currently Active

Proposal Title	<i>FESD Proposal Type I: Earth System Dynamics and its Role in Human Evolution in Africa</i>
Agency:	NSF-FESD
Amount:	\$134,381 (to Pitt)
Period Covered:	6/1/13 to 5/31/18
PI/co-PI	J.P. Werne (Pitt PI), Andrew Cohen (Univ. Arizona Lead PI)
Proposal Title	<i>The compound-specific sulfur isotopic signature of dissolved organic matter sulfurization</i>
Agency:	ACS-PRF
Amount:	\$100,000
Period Covered:	1/1/14 to 8/31/16
PI/co-PI	J.P. Werne (PI)
Proposal Title	<i>MEXIDRILL: The Basin of Mexico Drilling Program</i>
Agency:	ICDP
Amount:	\$430,000 (through UMD, all for field costs)
Period Covered:	7/1/14 to 6/30/16
PI/co-PI	J.P. Werne (co-PI), E. Brown (UMD PI), S. Lozano, B. Valero-Garces, A. Schwalb, V. Smith (co-PIs)
Proposal Title	<i>Collaborative Research: Compound-specific sulfur isotopic analysis as a tool for determining pathways of diagenetic sulfurization of organic matter</i>
Agency:	NSF-Geobiology & Low Temperature Geochemistry
Amount:	\$254,999 (to Pitt)
Period Covered:	8/1/14 to 7/31/17
PI/co-PI	J.P. Werne (PI), W. Gilhooly (IUPUI co-PI)
Proposal Title	<i>Bridging Paleolimnology and Archaeology through Human Biomarkers in Lake Sediment: Demography, Land-use, and Climate in the Northwest Titicaca Basin</i>
Agency:	NSF-Archaeology
Amount:	\$114,395
Period Covered:	8/01/15 to 7/31/17
PI/co-PI	J.P. Werne, M. Abbott (co-PIs), E. Arkush (PI)
Proposal Title	<i>Calibrating the relationship between the hydrogen isotope composition of sedimentary biomarkers, lake water, and precipitation in Mesoamerica</i>
Agency:	Univ. Pittsburgh Central Research Development Fund

Amount: \$15,900
Period Covered: 7/31/15 – 6/30/17
PI/co-PI J.P. Werne (PI)

Proposal Title *Collaborative Research: Bridging Paleolimnology and Archaeology through Human Biomarkers in Lake Sediment (Year 2): Climate and Demography in the Titicaca Basin, Peru*

Agency: NSF Archaeology
Amount: \$91,447 (to Pitt)
Period Covered: 8/1/16 – 7/31/17
PI/co-PI J.P. Werne, M. Abbott, A. Hillman (co-PIs), E. Arkush (PI)

Currently In Review

Proposal Title *Constraining the origins of the orphan branched GDGT biomarkers in lacustrine systems: A combined molecular, isotopic, and genomic approach*

Agency: NSF Geobiology & Low Temperature Biogeochemistry
Amount: \$365,518
Period Covered: Submitted 02/16 to cover 5/1/16 – 4/30/18
PI/co-PI J.P. Werne (PI), K. Bibby (co-PI)

Proposal Title *Collaborative Research: Calibration and application of molecular isotopic proxies for environmental change in the tropical lowlands of Guatemala and Mexico*

Agency: NSF Sedimentary Geology & Paleontology
Amount: \$438,254 (to Pitt)
Period Covered: Submitted 2/16 to cover 5/1/16 – 4/30/18
PI/co-PI J.P. Werne (PI), M. Berke (Notre Dame co-PI)

Proposal Title *The Biosignature of the Boring Billion, a potential indicator for life on habitable planets*

Agency: NASA Exobiology
Amount: \$TBD (to Pitt)
Period Covered: LOI submitted 5/16
PI/co-PI J.P. Werne (co-PI), W. Gilhooly (IUPUI PI), B. Steinman, M. Parenteau, S. Palacios (co-PIs), M. Johnson (collaborator)

Granted - Past

Proposal Title *Developing a Proxy Calibration for Reconstruction of Paleoclimate and Environmental Change in Mesoamerica*

Agency: Univ. Pittsburgh Center for Latin American Studies
Amount: \$4,000
Period Covered: 1/1/14 to 12/31/14
PI/co-PI J.P. Werne (PI)

Proposal Title *Understanding climate and environmental change in western Mexico*

Agency: Univ. Pittsburgh Hewlett International Grant Program
Amount: \$2,500
Period Covered: 5/1/14 to 6/30/15
PI/co-PI J.P. Werne (PI)

Proposal Title *What feeds Lake Superior food webs? A multi-isotope investigation*

Agency: MN Sea Grant
Amount: \$136,881
Period Covered: 2/1/12 to 12/31/14
PI/co-PI J.P. Werne (co-PI), E.C. Minor (PI), D. Branstrator, T. Hrabik (co-PIs)

Proposal Title *Constraining the latitudinal variability in southern South American hydroclimate through lacustrine geochemical proxies*
Agency: U. MN GPS Alliance Global Spotlight Faculty International Research Seed Grant
Amount: \$13,600
Period Covered: 9/1/12 to 8/31/13
PI/co-PI J.P. Werne (PI), S. Contreras Quintana (co-PI)

Proposal Title *Transient diagenesis in organic poor sediments: Lake Superior as a test system*
Source of Support NSF-OCE-Chemical Oceanography #OCE-0961720
Award Amount \$416,961
Period Covered 6/01/10 – 5/31/13
PI/co-PI S. Katsev (PI), J.P. Werne R. Hecky, (co-PIs)

Proposal Title *A workshop for deep drilling of the Chalco Basin, Valley of Mexico*
Agency: ICDP
Amount: \$38,500
Period Covered: 9/1/11 to 8/31/12
PI/co-PI E.T. Brown (PI), J.P. Werne (co-PI), M. Caballero, B. Ortega, S. Lozano-Garcia, B. Valero-Garces, M. Trauth, A. Schwalb (co-PIs)

Proposal Title *Linking Past, Present and the Future Ecosystem Change in Lake Malawi*
Source of Support Univ. Minnesota Office of International Programs
Award Amount \$250,000
Period Covered 5/2010 – 4/2012
PI/co-PI S. Guildford (PI), J.P. Werne, E.T. Brown, J. Austin, E. Minor, R. Hicks, R. Hecky, S. Katsev, S. Colman, T.C. Johnson (UMD co-PIs), R. Sterner, J. Cotner (UMTC co-PIs), A. Bulirani (Malawi co-PI)

Proposal Title *A 350,000 - Year History of Rainfall and Temperature in Tropical East Africa*
Source of Support NSF-P2C2 #EAR-0902714
Award Amount \$454,632
Period Covered 9/09 – 8/13
PI/co-PI T.C. Johnson (PI), J.P. Werne, C. Gallup (co-PIs)

Proposal Title *Collaborative Research: A high-resolution middle Pleistocene paleoclimate record from the Valles Caldera, New Mexico*
Source of Support NSF-P2C2 #EAR-0902888
Award Amount \$233,722 (to UMD, \$650,951 total)
Period Covered 9/09 – 8/12
PI/co-PI J.P. Werne (co-PI), E.T. Brown (co-PI), w/P. Fawcett (PI-UNM) & J. Geissman (UNM co-PI) & R.S. Anderson (NAU co-PI)

Proposal Title *Collaborative Research: Does “old” carbon subsidize Lake Superior heterotrophy? A radiocarbon investigation into organic matter cycling*
Agency: NSF-OCE-Chemical Oceanography #OCE-0825600
Amount: \$477,428 (to UMD, \$660,618 total)
Period Covered: 9/1/08 – 8/31/12

PI/co-PI L. Minor (PI), J.P. Werne, (UMD co-PI), L. McCallister (Virginia Commonwealth Univ. co-PI)

Proposal Title *MRI-R2: Acquisition of a Liquid Chromatograph Mass Spectrometry System for Biogeochemical Research at the Large Lakes Observatory*

Source of Support NSF-MRI-R2 #OCE-0959984

Award Amount \$327,344

Period Covered 4/15/10 – 3/31/12

PI/co-PI J.P. Werne (PI) E.C. Minor (co-PI)

Proposal Title *Walk-in freezer and refrigerator for limnological water and sediment samples*

Source of Support University of Minnesota Grant in Aid

Award Amount \$10,000

Period Covered 1/2011 – 12/2011

PI/co-PI E.C. Minor (PI) J.P. Werne, E.T. Brown (co-PIs)

Proposal Title *PILOT STUDY: Reconstructing tropical North American climate with the sedimentary record of Lake Chalco, Mexico*

Source of Support NSF-P2C2 #EAR-0902682

Award Amount \$102,763

Period Covered 9/09 – 8/11

PI/co-PI E.T. Brown (PI), J.P. Werne (co-PI)

Proposal Title: *Validation of the MBT paleotemperature proxy in lakes*

Source of Support: NSF-EAR-Geobiology & Low Temperature Geochemistry #EAR-0745658

Award Amount: \$199,360

Period Covered: 2/15/08 – 1/31/11

PI/co-PI J.P. Werne (PI)

Proposal Title: *Changing Nutrient and Productivity Regimes in Lake Superior: Causes and time course*

Agency: Sea Grant

Period Covered: 1/09 – 6/10

Amount: \$89,877

PI/co-PI R. Hecky (PI), T.C. Johnson, J.P. Werne (co-PIs)

Proposal Title *Deriving temperature from archaea in tropical East African Lake Malawi*

Source of Support National Geographic Society Committee for Research and Exploration #8098-06

Award Amount \$26,500

Period Covered 1/07-12/09

PI/co-PI J.P. Werne (PI), R. Hicks, L. Powers

Proposal Title *Deriving temperature from archaea in tropical East African Lake Malawi*

Source of Support University of Minnesota Grant-In-Aid #20607

Award Amount \$26,944

Period Covered 7/06-12/09

PI/co-PI J.P. Werne, non-PI collaborators R. Hicks, Lindsay Powers

Proposal Title: *Travel support for initiation of collaborative study of paleoclimate in the North American tropics*

Agency: Chancellor's small grant

Period Covered: 1/09 – 6/09

Amount: \$750

PI/co-PI J. Werne (PI)
 Proposal Title: *Establishing current trends in temperature and primary production in Lake Superior through the establishment and maintenance of time series sediment trap moorings*
 Agency: Mn Sea Grant
 Period Covered: 6/1/08 – 5/31/09
 Amount: \$6,000
 PI/co-PI J.P. Werne (PI)

Proposal Title *The thermal and hydrological history of East Africa since the Last Glacial Maximum*
 Source of Support NOAA Office of Global Programs #GC06-533
 Award Amount \$334,999
 Period Covered 8/06 – 7/09
 PI/co-PI T.C. Johnson (PI), J.P. Werne (co-PI)

Proposal Title *Linking archaeal membrane lipids and ecology in great lakes: Understanding the TEX₈₆ paleotemperature proxy*
 Source of Support NSF-OCE-Chemical Oceanography #OCE-0452927
 Award Amount \$537,294
 Period Covered 8/01/05-7/31/09
 PI/co-PI J.P. Werne (PI), R. Hicks (co-PI)

Proposal Title *Response of tropical African terrestrial vegetation to climate change*
 Source of Support Research Corporation Cottrell College Science Award #CC6559
 Award Amount \$39,545
 Period Covered 1/06-12/08
 PI/co-PI J.P. Werne

Proposal Title: *Acquisition of an uninterruptible power supply for the stable isotope lab at LLO*
 Agency: University of Minnesota Grant In Aid #20903
 Period Covered: 7/07 – 1/08
 Amount: \$19,100 (including match)
 PI/co-PI J.P. Werne (PI), J. Pastor, C. Gallup (co-PIs)

Proposal Title: *Testing for Crenarchaeota in Elk Lake, Minnesota*
 Agency: UMD-Chancellor's Faculty Small Grants
 Period Covered: 1/07-6/07
 Amount: \$1,500
 PI/co-PI J.P. Werne, R. Hicks (co-PIs)

Proposal Title *Constraining dietary practices of Dhahrat Umm al-Marar, Jordan (2250-2000 B.C.) by analysis of organic residues on archaeological artifacts*
 Source of Support UMD Chancellors Faculty Small Grants
 Award Amount \$1,500 (\$750 to me)
 Period Covered 1/06 – 6/06
 PI/co-PI J.E. Jones, J.P. Werne, co-PIs

Proposal Title *Collaborative Research: Aquatic Paleoclimate Proxy Records of Tropical Temperature Variability*
 Source of Support NSF-ESH ATM-0502456
 Award Amount \$160,579 (\$73,225 to JPW)

Period Covered 9/05-8/06
 PI/co-PI K. Hughen (PI; WHOI), J.P. Werne (co-PI)

Proposal Title: *Supplement to: Acquisition of stable isotope ratio monitoring mass spectrometer system for biogeochemical research at Large Lakes Observatory*

Source of Support: NSF-Oceanic Instrumentation OCE-0456123
 Period Covered: 2/05-7/06
 Award Amount: \$27,960
 PI/co-PI J.P. Werne (PI), T. Johnson, R.D. Ricketts, C. Gallup, J. Pastor (co-PIs)

Proposal Title *Effects of variable redox conditions on nutrient regeneration during organic matter remineralization*

Source of Support ACS-PRF #41951-GB2
 Award Amount \$35,000
 Period Covered 5/05-8/07
 PI/co-PI J.P. Werne (PI)

Proposal Title *Acquisition of stable isotope ratio monitoring mass spectrometer system for biogeochemical research at Large Lakes Observatory*

Source of Support NSF-MRI, OCE-0320880
 Award Amount \$285,460
 Period Covered 8/03 – 7/06
 PI/co-PI J.P. Werne (PI), T. Johnson, R.D. Ricketts, C. Gallup, J. Pastor (co-PIs)

Proposal Title *Environmental controls on the timing and mechanism(s) of organic matter sulfurization*

Source of Support University of Minnesota Grant-In-Aid #19204
 Award Amount \$26,605
 Period Covered 7/02 – 1/04
 PI/co-PI J.P. Werne (PI)

PUBLICATIONS (PEER-REVIEWED)

* denotes student/postdoc author

h-index: 21 (ISI Web of Science; 47 results; 1467 citations)
 22 (Scopus; 47 results, 1735 citations)
 25 (Google Scholar; 46 results, 2298 citations)

In Preparation:

54. Munoz-Ucros*, J., A.J. Reed, J.P. Werne, R.E. Hicks (*in preparation*) Planktonic archaeal abundance and diversity change with depth in lakes Malawi and Kivu. *For submission to Journal of Great Lakes Research*
53. Zigah*, P., E.C. Minor, D. Repeta, A. McNichol, L. Xu, J.P. Werne (*in preparation*) Radiocarbon evidence of autochthonous-allochthonous linkage in a large oligotrophic lake. *For submission to Limnology & Oceanography*
52. Woltering*, M., J.P. Werne, J. Munoz-Ucros*, R. Hicks, J.S. Sinninghe Damsté, S. Schouten (*in preparation*) The depth distribution of Thaumarchaeota in the water column of Lake Malawi; implications for the TEX₈₆ temperature proxy. *For submission to Organic Geochemistry*
51. Contreras*, S., J.P. Werne, E.T. Brown, J. Halbur, J.S. Sinninghe Damsté, S. Schouten, A. Correa-Metrio, P.J. Fawcett (*in preparation*) Evaluating spatial heterogeneity and environmental variability

inferred from branched glycerol dialkyl glycerol tetraether (GDGT) distribution in soils from Valles Caldera, New Mexico. *For submission to Organic Geochemistry*

In Review:

50. O'Beirne*, M., J.P. Werne, R. Hecky, T. Johnson, S. Katsev, E. Reavie (*in review*) Anthropogenic climate change has altered primary productivity in Lake Superior. *Submitted to Nature Geoscience* 5/16.
49. Johnson, T.C., J.P. Werne, E.T. Brown, A. Abbott*, M. Berke*, B. Steinman, J. Halbur*, S. Contreras*, S. Grosshuesch, A. Deino, R.P. Lyons, C.A. Scholz, S. Schouten, J. Sinninghe Damsté (*in review*) The Mid-Pleistocene Transition in Southern East Africa: Potential Impact on Early Human Migration. *Submitted to Nature* 11/15.

Accepted/In Press:

48. Contreras*, S., J.P. Werne, E.T. Brown, R.S. Anderson, P.J. Fawcett (*accepted pending revision*) A leaf wax carbon isotope record of vegetation change and climate variability in southwestern North America during mid-Pleistocene glacial cycles. *Palaeogeography, Palaeoclimatology, Palaeoecology*.

Published:

47. Kruger*, B.R., J.P. Werne, D.K. Branstrator, T.R. Hrabik, Y. Chikaraishi, N. Ohkouchi, E.C. Minor (2016) Organic matter transfer in Lake Superior's food web: Insights from bulk and molecular stable isotope and radiocarbon analyses. *Limnology & Oceanography*, v. 61 pp. 149-164.
46. Raven*, M.R., A.L. Sessions, J.F. Adkins, T.W. Lyons, J.P. Werne (2015) Sulfur isotopic composition of individual organic compounds from Cariaco Basin sediments. *Organic Geochemistry*. v. 80 pp. 53-59.
45. O'Beirne*, M.D., L.J. Strzok*, J.P. Werne, T.C. Johnson, R.E. Hecky (2015) Anthropogenic influences on the sedimentary geochemical record in western Lake Superior (1800-present). *Journal of Great Lakes Research*. v. 41 pp. 20-29.
44. Cisneros-Dozal*, L.M., Y. Huang, J. Heikoop, P. Fawcett, J. Fessenden, R. Anderson, P. Meyers, T. Larson, G. Perkins, J. Toney, J.P. Werne, F. Goff, G. WoldeGabriel, C. Allen, M. Berke* (2014) Quantifying monsoon strength during the mid-Pleistocene in the southwestern United States. *Quaternary Science Reviews*. v. 103 pp. 81-90.
43. Berke*, M.A., T.C. Johnson, J.P. Werne, D. Livingston, K. Grice, S. Schouten, J.S. Sinninghe Damsté (2014) Characterization of the last deglacial transition in tropical East Africa: Insights from Lake Albert, Africa. *Palaeogeography, Palaeoclimatology, Palaeoecology*. v. 409 pp. 1-8.
42. Zigah*, P., E.C. Minor, H.A. Abdulla, J.P. Werne, P.G. Hatcher (2014) An investigation of size-fractionated organic matter from Lake Superior and a tributary stream using radiocarbon, stable isotopes and NMR. *Geochimica et Cosmochimica Acta*. v. 127, pp. 264-284.
41. Liu*, Xiuju, S.M. Colman, E.T. Brown, A.C.G. Henderson, J.P. Werne, J.A. Holmes (2014) Multi-proxy Evidence from Lake Qinghai for the Deglacial Climate History of the Northeastern Tibetan Plateau. *Journal of Paleolimnology*, v. 51, pp. 223-240.

40. Schouten, S. and 68 others (2013) An interlaboratory study of TEX₈₆ and BIT analysis of sediments, extracts, and standard mixtures. *Geochemistry, Geophysics, Geosystems*. v. 14, pp. 5263-5285.
39. Brown, E.T., J.P. Werne, S. Lozano-Garcia, M. Caballero-Miranda, B. Ortega-Guerrero, E. Cabral Cano, B. L. Valero Garces, A. Schwalb (2013) Scientific drilling in the Basin of Mexico to evaluate climate history, hydrological resources, and seismic and volcanic hazards. *Scientific Drilling* v. 14, pp. 72-75.
38. Berke*, M.A., T.C. Johnson, J.P. Werne, K. Grice, S. Schouten, J.S. Sinninghe Damsté (2012) Molecular records of climate variability and vegetation response since the Late Pleistocene in the Lake Victoria basin, East Africa. *Quaternary Science Reviews* v. 55, pp. 59-74.
37. Zigah*, P.K., E.C. Minor, J.P. Werne, S. Leigh McCallister (2012) An isotopic ($\Delta^{14}\text{C}$, $\delta^{13}\text{C}$, and $\delta^{15}\text{N}$) investigation of zooplankton allochthony vs. autochthony in Lake Superior and across a size-gradient of aquatic systems. *Biogeosciences* v. 9, pp. 3663-3678.
36. Berke*, M.A., T.C. Johnson, J.P. Werne, S. Schouten, J.S. Sinninghe Damsté (2012) A mid-Holocene thermal maximum at the end of the African Humid Period. *Earth & Planetary Science Letters* v. 351-351, pp. 95-104.
35. Woltering*, M., J.P. Werne, J.L. Kish*, R. Hicks, J.S. Sinninghe Damsté, S. Schouten (2012) Vertical and temporal variability of *Crenarchaeota* in Lake Superior and the implications for the application of the TEX₈₆ temperature proxy. *Geochimica et Cosmochimica Acta* v. 87, pp. 136-153.
34. Zigah*, P.K., E.C. Minor, J.P. Werne (2012) Radiocarbon and stable-isotope geochemistry of organic and inorganic carbon in Lake Superior. *Global Biogeochemical Cycles*. V. 26, GB1023, doi:10.1029/2011GB004132
33. Konecky, B., J.M. Russell, T.C. Johnson, E.T. Brown, M.A. Berke*, J.P. Werne, Y. Huang (2011) Atmospheric circulation patterns during late Pleistocene climate changes at Lake Malawi, Africa. *Earth and Planetary Science Letters*. v. 312, pp 318-326.
32. Weijers, J., B. Bernhardt*, F. Peterse, J.P. Werne, J.A.J. Dungait, S. Schouten, J.S. Sinninghe Damsté (2011) Absence of seasonal patterns in MBT-CBT indices in mid-latitude soils. *Geochimica et Cosmochimica Acta*. v. 75, pp. 3179-3190.
31. Zigah*, P.K., E.C. Minor, J.P. Werne, S.L. McCallister (2011) Radiocarbon and stable-carbon isotopic insights into provenance and cycling of carbon in Lake Superior. *Limnology & Oceanography*. v. 56, pp. 867-886.
30. Fawcett, P., J.P. Werne, R. Anderson, J. Heikoop, E. Brown, M. Berke*, S. Smith, F. Goff, L. Hurley, M. Cisneros-Dozal, S. Schouten, J. Sinninghe Damsté, Y. Huang, J. Toney, J. Fessenden, G. WoldeGabriel, V. Atudorei, J. Geissman, C. Allen (2011) Extended Megadroughts in the Southwestern United States during Pleistocene Interglacials. *Nature*. v. 470, pp. 518-521.
29. Powers*, L., J.P. Werne, I. Castañeda*, T.C. Johnson, E.C. Hopmans, J.S. Sinninghe Damsté, S. Schouten (2011) Organic Geochemical Records of Environmental Variability in Lake Malawi During the Last 700 Years, Part I: The TEX₈₆ Temperature Record. *Palaeogeography, Palaeoclimatology, Palaeoecology*. v. 303, pp. 133-139.
28. Castañeda*, I., Werne, J.P., Johnson, T., Oberem*, L. (2011) Organic Geochemical Records from Lake Malawi (East Africa) of the last 700 years, part II: Biomarker Evidence for Recent Changes in Primary Productivity. *Palaeogeography, Palaeoclimatology, Palaeoecology*. v. 303, pp. 140-154.

27. Woltering*, M., Werne, J.P., Johnson, T., S. Schouten, J.S. Sinninghe Damsté (2011) Late Pleistocene temperature history of southeast Africa: A TEX₈₆ temperature record from Lake Malawi *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 303 p. 93-102.
26. Li, X.N., W. Gilhooly, A. Zerkle, T. Lyons, J. Farquhar, J.P. Werne, R. Varela, M. Scranton (2010) Stable sulfur isotopes in the water column of the Cariaco Basin. *Geochimica et Cosmochimica Acta*, v. 74, pp. 6764-6778.
25. Blaga, Cornelia I., G.-J. Reichart, S. Schouten, A.F. Lotter, J.P. Werne, J.S. Sinninghe Damsté (2010) Branched glycerol dialkyl glycerol tetraethers in lake sediments: Can they be used as temperature and pH proxies? *Organic Geochemistry*, v. 41, pp. 1225-1234.
24. Powers*, L., J.P. Werne, A.J. Vanderwoude*, J.S. Sinninghe Damsté, E.C. Hopmans, S. Schouten (2010) Applicability and calibration of the TEX₈₆ paleothermometer in lakes. *Organic Geochemistry*, v. 41, pp. 404-413.
23. Leavitt, P., S. Fritz, N. Anderson, P. Baker, T. Blenckner, L. Bunting, J. Catalan, D. Conley, W. Hobbs, E. Jeppesen, A. Korhola, S. McGowan, K. Ruhland, J. Rusak, G. Simpson, N. Solovieva, J.P. Werne (2009) Paleolimnological evidence of the effects on lakes of energy and mass transfer from climate and humans. *Limnology & Oceanography*, v. 54, no. 6/2, pp. 2330-2348.
22. Castañeda*, I., Werne, J.P., Johnson, T. (2009) Influence of climate change on algal community structure and primary productivity of Lake Malawi (East Africa) from the Last Glacial Maximum to present. *Limnology & Oceanography*, v. 54, no. 6/2, pp. 2431-2447.
21. Weijers, J.W.H., C. Blaga, J.P. Werne, and J.S. Sinninghe Damsté (2009) Microbial membrane lipids in lake sediments as a paleothermometer. *PAGES News*, v. 17, no. 3, pp. 102-104.
20. Russell*, J., Werne, J.P., (2009) Climate change and productivity variations recorded by sedimentary sulfur in Lake Edward, Uganda/D.R. Congo. *Chemical Geology*, v. 264, pp. 337-346.
19. Castañeda*, I., Werne, J.P., Johnson, T., and Filley, T. (2009) Late Quaternary vegetation history of southeast Africa: the molecular isotopic record from Lake Malawi. *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 275, pp. 100-112.
18. Donahue*, M., J.P. Werne, C. Meile, T.W. Lyons (2008) Response to Comment by I.C. Bourg on “Modeling sulfur isotope fractionation and differential diffusion during sulfate reduction in sediments of the Cariaco Basin” by M.A. Donahue, J.P. Werne, C. Meile, and T.W. Lyons. *Geochimica et Cosmochimica Acta*, v. 72, pp. 5855-5856.
17. Werne, J.P., T.W. Lyons, D.J. Hollander, S. Schouten, E.C. Hopmans, and J.S. Sinninghe Damsté (2008) Investigating pathways of diagenetic organic matter sulfurization using compound-specific sulfur isotope analysis. *Geochimica et Cosmochimica Acta*, v. 72, pp. 3489-3502.
16. Donahue*, M., J.P. Werne, C. Meile, T.W. Lyons (2008) Modeling the effects of fractionation and differential diffusion on the sulfur isotope signature of sulfate reduction in Cariaco Basin sediments. *Geochimica et Cosmochimica Acta*, v. 72, pp. 2287-2297.
15. Castañeda*, I., Werne, J.P., Johnson, T.C. (2007) Wet/arid phases in the southeast African tropics since the Last Glacial Maximum. *Geology*, v. 35, no. 9, pp. 823-826.
14. Russell*, J., Werne, J.P. (2007) The use of solid phase extraction chromatographic columns in fatty acid purification. *Organic Geochemistry*, v. 38, p. 48-51.

13. Powers*, L., T.C. Johnson, J.P. Werne, I. Castañeda*, E.C. Hopmans, J.S. Sinninghe Damsté, S. Schouten (2005) Large temperature variability in the southern African tropics since the Last Glacial Maximum. *Geophysical Research Letters*. 32, L08076, doi:10.1029/2004GL022014.
12. Werne, J.P., and J.S Sinninghe Damsté (2005) Mixed sources contribute to the molecular isotopic signature of methane-rich mud breccia sediments of Kazan mud volcano (Eastern Mediterranean). *Organic geochemistry*, v. 36, no. 1, pp. 13-27.
11. Werne, J.P. and D.J. Hollander (2004) Balancing supply and demand: Controls on carbon isotope fractionation in the Cariaco Basin (Venezuela) Younger Dryas to Present. *Marine Chemistry*. v. 92, no. 1-4, pp. 275-293.
10. Powers*, L., Werne, J.P., Johnson, T.C., Hopmans, E.C., Sinninghe Damste, J.S.S., and Schouten, S. (2004) Crenarchaeotal membrane lipids in lake sediments: a new paleotemperature proxy for continental paleoclimate reconstruction? *Geology*, v. 32, no. 7, p. 613-616.
9. Werne, J.P., D.J. Hollander, T.W., Lyons, J.S. Sinninghe Damsté (2004) Organic sulfur biogeochemistry: Recent advances and future directions for organic sulfur research. In: Sulfur Biogeochemistry: Past and Present. J. Amend, K. Edwards, & T. Lyons, eds. *GSA Special Paper* 379, Ch. 9 pp. 135-150
8. Werne, J.P., T. Zitter, R.R. Haese, G. Aloisi, I. Bouloubassi, S. Heijs, A. Fiala-Medioni, R.D. Pancost, J.S. Sinninghe Damste, G. de Lange, L.J. Forney, J.C. Gottschal, J.-P. Foucher, J. Mascle, J. Woodside, and the MEDINAUT and MEDINETH Shipboard Scientific Parties (2004) Life at cold seeps: A synthesis of ecological and biogeochemical data from Kazan mud volcano, eastern Mediterranean Sea. *Chemical Geology*, v. 205, no. 3-4, p. 367-390.
7. Sageman, B.B., A.E. Murphy, J.P. Werne, C.A. Ver Straeten, D.J. Hollander, and T.W. Lyons (2003) A tale of shales: the relative roles of production, decomposition, and dilution in the accumulation of organic-rich strata, Middle-Upper Devonian, Appalachian basin. *Chemical Geology*, v. 195, p. 229-273.
6. Lyons, T.W., J.P. Werne, and D.J. Hollander, R.W. Murray (2003) Contrasting sulfur geochemistry and Fe/Al and Mo/Al ratios across the last oxic-to-anoxic transition in the Cariaco Basin, Venezuela. *Chemical Geology*. v. 195, p. 131-157.
5. Werne, J.P., T.W. Lyons, D.J. Hollander, M.J. Formolo, J.S. Sinninghe Damsté (2003) Reduced sulfur in euxinic sediments of the Cariaco Basin: sulfur isotope constraints on organic sulfur formation. *Chemical Geology* v. 195, p. 159-179.
4. Werne, J.P., M. Baas, J.S. Sinninghe Damsté (2002) Molecular isotopic tracing of carbon flow and trophic relationships in a methane-supported microbial community. *Limnology & Oceanography* v. 46 no. 6, p. 1694-1701.
3. Werne, J.P., B.B. Sageman, T.W. Lyons, and D.J. Hollander (2002) An integrated assessment of a "type euxinic" deposit: Evidence for multiple controls on black shale deposition in the middle Devonian Oatka Creek Formation. *American Journal of Science*, v. 302, pp. 110-143.
2. Werne, J.P., D.J. Hollander, A. Behrens, P. Schaeffer, P. Albrecht, J.S. Sinninghe Damsté (2000) Timing of early diagenetic sulfurization of organic matter: A precursor-product relationship in Holocene sediments of the anoxic Cariaco Basin, Venezuela, *Geochimica et Cosmochimica Acta*, v. 64, no. 10, pp. 1741-1751.

1. Werne, J.P., D.J. Hollander, T.W. Lyons, L.C. Peterson (2000) Climate-induced variations in productivity and planktonic ecosystem structure from the Younger Dryas to Holocene in the Cariaco Basin, Venezuela *Paleoceanography*, v. 15, no. 1, pp. 19-29.

INVITED LECTURES AND CONFERENCE PRESENTATIONS

* denotes student/postdoc author

Invited lectures at Universities/Institutes/Organizations)

- 2016 – Univ. Pittsburgh “Let’s Talk Africa!” Lecture series
2015 – Univ. Pittsburgh chapter of ACS student organization
2014 – Univ. Pittsburgh Dept. of Chemistry Untenured Faculty Seminar
2013 – Penn State Univ.; Univ. Akron; Univ. Concepción, Chile, Summer Course “Cambio Ambiental Global en Sudamérica”
2011 – Univ. MN Duluth (Geology); Univ. Massachusetts Amherst; Univ. Pittsburgh; Bemidji State Univ.
2010 – Univ. Western Australia, Perth, Western Australia (Centre for Water Research and Institute for Advanced Studies); Royal Netherlands Institute for Sea Research; Univ. MN Duluth (Chemistry)
2009 – Curtin Univ. of Technology, Perth, Western Australia; National Autonomous University of Mexico (UNAM), Mexico City, Mexico; Univ. Wisconsin River Falls; Univ. California Riverside
2008 – Invited Lecturer, Quaternary PaleoRecords Short Course “Sediment fingerprinting in terrestrial environments: Impacts in science and society”, University of MN Twin Cities
2007 – St. Olaf College, Washington University St. Louis, Univ. MN Twin Cities (Ecology & Evolutionary Biol. Dept.), Univ. MN Twin Cities (Geol. & Geophys. Dept.)
2005 – Univ. Massachusetts Amherst, Chesapeake Biological Laboratory, Georgia Tech
2004 – Purdue Univ., Univ. Bristol (U.K.), Univ. Birmingham (U.K.), Univ. St. Thomas (MN), Gustavus Adolfus College, Iowa State U.,
2003 – Winona State Univ., Univ. Minnesota Duluth (Geol. Dept.)
2002 – Univ. MN Twin Cities (Quaternary Paleo Grp.), Minnesota Mass Spectrometry Discussion Group
2001 – Royal Netherlands Institute for Sea Research, Univ. Minnesota Duluth, Univ. California Riverside
1999 – Univ. Missouri

Invited Presentations at Conferences:

- Werne, J.P., M. Woltering, J. Halbur, J. Sinninghe Damsté, S. Schouten, J. Munoz-Ucros, R. Hicks S. Loomis, M. Caballero, S. Lozano-Garcia, A. Correa-Metrio (2014) Applications of GDGTs as paleothermometers in lakes, GDGT-based proxies: State of the art and future directions workshop, Royal Netherlands Institute for Sea Research, April 2014.
- Werne, J.P., Biomarkers in Paleolimnology. International Paleolimnology Symposium 2012, Glasgow, Scotland, August/September 2012.
- Werne, J.P., A view of biogeochemistry through the haze of biomarkers. Symposium on the Future of Chemical Oceanography in a Changing World, Georgia Coastal Center, Savannah, Georgia, February 2009.
- Werne, J.P., The molecular isotopic signature of anaerobic methane oxidation. Gordon Research Conference on Chemical Oceanography, Tilton School, New Hampshire, August 2005.

Werne, J.P., L. Powers*, T.C. Johnson, E. Hopmans, J.S. Sinninghe Damsté, S. Schouten. Lipid biomarkers of Crenarchaeota in lacustrine systems. ASLO Summer Meeting, Santiago de Compostela, Spain, June 2005.

Werne, J.P., T.W. Lyons, D.J. Hollander, J.S. Sinninghe Damsté. Pathways of diagenetic organic matter sulfurization and sedimentary sulfur cycling revealed through molecular sulfur isotope analysis. American Chemical Society Spring Meeting, San Diego, March 2005.

Werne, J.P., B.B. Sageman, T.W. Lyons, D.J. Hollander. Water column anoxia records in Devonian Black Shales. NATO Advanced Research Workshop, Crimea, Ukraine, October 2003.

Werne, J.P. Understanding the sedimentary archive: Molecular isotopic clues to (paleo)environmental controls on organic matter sources and alterations. John Hedges Memorial Symposium on New Approaches in Marine Organic Biogeochemistry. Friday Harbor Laboratory, Washington, August 2003.

Werne, J.P., D.J. Hollander, T.W. Lyons, and J.S. Sinninghe Damsté. Linking organic sulfur to inorganic sedimentary sulfur, microbial processes, and global cycles. *Geol.Soc.Am, Abstr. Programs*, v. 34, GSA Fall Meeting, Denver 2002

Werne, J.P., D.J. Hollander, T.W. Lyons, and J.S. Sinninghe Damsté. Compound-specific sulfur isotope constraints on the pathway(s) of diagenetic sulfurization of organic matter., *Geol.Soc.Am, Abstr. Programs*, v. 33, GSA Fall Meeting, Boston 2001

Werne, J.P. Bulk and molecular sulfur isotope constraints on the timing and pathways of early diagenetic sulfurization of organic matter. Invited Speaker, Gordon Research Conference on Organic Geochemistry, Holderness, NH, August 2000

Volunteered Presentations at Conferences:

Last 5 years, older presentations at end of CV

2016

Brown, E., S. Lozano-García, M. Caballero-Miranda, B. Ortega- Guerrero, E. Cabral-Cano, E. Morales, L. Pérez-Alvarado, A. Schwalb, V. Smith, J. Werne, P. Fawcett, M. Stockhecke, F. Preusser, J. Kallmeyer, S. Watt, A. Noren, A. Myrbo, R. O'Grady, B. Steinman, H. Rawson, T. Wonik, M. Blaauw, D. Schnurrenberg, B. Valero-Garcés and the MexiDrill science team (2016) MexiDrill, the Basin of Mexico Drilling Program, Preliminary Reports. Spanish Geological Congress, Huelva, Spain, September 2016.

Kruger, B.R., J.P. Werne, D.K. Branstrator, T.R. Hrabik, Y. Chikaraishi, N. Ohkouchi, R. Hershey, D. Moser, E.C. Minor (2016) Applying natural abundance radiocarbon analysis to understand ecosystem dynamics in surface- and ground-water: Insights and precautions. ASLO Summer Meeting, Santa Fe, New Mexico, June 2016.

Johnson, T.C., J.P. Werne, (2016) From Lake Malawi Drilling: East African Climate May Have Caused Major Evolutionary Turnover in Mammalian Species During MIS 14. European Geosciences Union General Assembly, Vienna, Austria, April 2016.

Brown, E.T., J.P. Werne, P. Fawcett, B. Valero Garces, M. Caballero, S. Lozano Garcia, B. Ortega, A. Schwalb, V. Smith, S. Watt, M. Stockhecke, E. Cabral-Cano, E. Morales Casique, L. Perez, B. Steinman, A. Myrbo, A. Noren, R. O'Grady, D. Schnurrenberger (2016) Initial Report on MexiDrill: The Basin of Mexico Drilling Program. European Geosciences Union General Assembly, Vienna, Austria, April 2016.

Gilhooly, W.P., J.P. Werne, M. O'Beirne*, J. Harris*, F. Fouskas*, J. Havig, T. Hamilton, M. McCormick (2016) Diurnal sulfur isotope patterns in a stratified euxinic lake. Gordon Research Conference on Geobiology, Galveston, Texas, January 2016.

2015

Anderson, R.S., P. Fawcett, E. Brown, J.P. Werne, G. Jimenez-Moreno, J. Toney, D. Garcia, H. Garrett, N. Dunbar (2015) A long Pleistocene paleoclimate record from Stoneman Lake, Arizona. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2015.

Johnson, T.C., J.P. Werne, M. Berke*, S. Contreras*, E. Brown (2015) A progressively wetter climate in southern East Africa over the past 1.3 million years. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2015.

Gilhooly, W.P., J.P. Werne, M. O'Beirne*, J. Harris*, F. Fouskas*, B. Steinman (2015) Reinforcing key concepts in the discipline of geobiology through active learning in the field – and example integrating middle school through graduate school students. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2015.

Contreras, S., J.P. Werne, A. Araneda, C.A. Conejero (2015) Evaluating carbon isotope signature of bulk organic matter and plant wax derived n-alkanes from lacustrine sediments as climate proxies along the western side of the Andes. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2015.

Gilhooly, W.P., J.P. Werne, M. O'Beirne*, J. Harris*, F. Fouskas*, J. Havig, T. Hamilton (2015) Diurnal sulfur isotope patterns in a stratified euxinic lake. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2015.

Kumar*, D., M. Woltering, J. Halbur, J. Sinninghe Damsté, S. Schouten, J. Munos-Ucros, R. Hicks, J.P. Werne (2015) Patterns of isoprenoid GDGT production in the water column of Lake Malawi, Africa. Midwest Geobiology 2015, Bloomington, Indiana, September 2015.

O'Beirne*, M., J.P. Werne, W.P. Gilhooly, J. Harris, F. Fouskas (2015) Refining gas chromatography techniques for the determination of inorganic polysulfide speciation – analysis and application to artificial and natural samples. Midwest Geobiology 2015, Bloomington, Indiana, September 2015.

Contreras, S., J.P. Werne, A. Araneda (2015) Evaluating distribution and carbon isotope signature of plant wax derived n-alkanes from lacustrine sediments as climate proxies along the western side of the Andes. Proceedings, Goldschmidt Conference, Prague, August 2015.

Werne, J.P., Brown, E.T., Abbott, A., Berke, M., Halbur, J., Contreras-Quintana, S., Grossheusch, S., Schouten, S., Sinninghe Damsté, J., Lyons, R., Scholz, C.A., Cohen, A.S., and King, J. (2015) A progressively wetter climate in Southern East Africa over the past million years. African Quaternary Conference and Workshop. Capetown, South Africa, February 2015.

2014

Contreras*, S., J.P. Werne, J. Halbur, A. Correa-Metrio, E.T. Brown, J.S. Sinninghe Damsté, S. Schouten, P. Fawcett (2014) Evaluating spatial heterogeneity and environmental variability in branched glycerol dialkyl glycerol tetraether (GDGT) distribution in soils from Valles Caldera, New Mexico, USA. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2014.

Werne, J.P., M. Woltering, J. Halbur, J. Sinninghe Damsté, S. Schouten, J. Munoz-Ucos, R. Hicks (2014) Why does the TEX₈₆ seem to work in the sediments of Lake Malawi? Proceedings, Goldschmidt Conference, Sacramento, CA, June 2014.

Kruger*, B.R., E.C. Minor, J.P. Werne, T.C. Johnson (2014) Great Lakes food webs: Insights from stable and radioisotope analysis of bulk and molecular material in Lake Superior. ASLO Ocean Sciences Meeting, Hawaii, February 2014.

Werne, J.P., J. Halbur, S. Loomis, M. Caballero, S. Lozano-Garcia, A. Correa-Metrio (2014) Branched GDGT based temperature reconstruction in paleolimnology: Insights from regional calibrations in Mexican and Guatemalan lakes. *Geol. Soc. Am, Abstr. Programs*, v. 46, no. 2, Northeastern Section GSA Meeting, Lancaster, PA, March, 2014.

2013

O'Beirne*, M.D., Werne, Josef P., R. Hecky, T.C. Johnson, S. Katsev, E. Reavie (2013) Anthropogenic climate change has driven Lake Superior productivity beyond the range of Holocene variability. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2013.

Werne, Josef P., Julia Halbur*, Meg Rubesch*, Erik T. Brown, Beatriz Ortega, Margarita Caballero, Alexander Correa-Metrio, and Socorro Lozano (2013) Response of Terrestrial Vegetation to Variations in Temperature and Aridity Since the Last Glacial Maximum in Lake Chalco, Mexico. American Geophysical Union Meeting of the Americas, Cancun, Mexico, May 2013.

Zigah*, P., Minor, E., Werne, J.P. (2013) Radiocarbon distributions in Lake Superior, the world's largest freshwater lake. Recent Changes in the Biogeochemistry of the Great Lakes System Scientific Planning Workshop. Detroit, MI. March 2013.

Zakaria*, Mohd-Rozhan, Robert E. Hecky, Stephanie J. Guildford, Josef P. Werne (2013) Measurements of seasonal vertical geochemical fluxes of a large and deep tropical rift lake in East Africa collected using moored sequential sediment traps. Proceedings, International Association for Great Lakes Research meeting, June 2013.

2012

Werne, J.P., J. Halbur*, S. Contreras*, M. Caballero, S. Lozano, A. Correa, P. Fawcett (2012) Complexities in the use of branched GDGT based temperature reconstruction: Case studies from the southwest USA and Mexico. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2012.

Contreras*, S.; J.P. Werne; E.T. Brown; R S. Anderson; P.J. Fawcett (2012) Tracking millennial-scale climate variability through the Marine Isotope Stage (MIS) 12 using terrigenous biomarkers in lacustrine sediments from Valles Caldera, New Mexico, USA. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2012.

Cisneros Dozal, L.M.; Y. Huang; J.M. Heikoop; P.J. Fawcett; J.E. Fessenden; R S. Anderson; P.A. Meyers; T.E. Larson; G. Perkins; J.L. Toney; J.P. Werne; F.Goff; G.W. WoldeGabriel; C.D. Allen; M.A. Berke* (2012) A mid-Pleistocene record of monsoonal precipitation in southwestern US, insights into the occurrence of drought. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2012.

Werne, J.P., T. C. Johnson. A. N. Abbott*, M. A. Berke*, S. Contreras*, J. Halbur*, E. T. Brown, S. Schouten, and J. S. Sinninghe-Damste (2012) A 1.2 Ma history of temperature and hydroclimate in the Lake Malawi basin. *Geol.Soc.Am, Abstr. Programs*, v. 44, GSA Fall Meeting, Minneapolis, 2012.

- Contreras*, Sergio, Werne, J. P., Brown, E.T., Anderson, R. S., Fawcett, P. (2012) Tracking millennial-scale climate variability through the Marine Isotope Stage (MIS) 12 using terrigenous biomarkers in lacustrine sediments from Valles Caldera, New Mexico, USA. Proceedings, Gordon Research Conference on Organic Geochemistry, Holderness, New Hampshire, August, 2012.
- O'Beirne*, M.D., Werne, J.P., Hecky, R.E., Johnson, T.C. (2012) Reconstruction of postglacial paleoproductivity in Lake Superior - placing recent changes in a historical context. Proceedings, Gordon Research Conference on Organic Geochemistry, Holderness, New Hampshire, August, 2012.
- Halbur*, J., Pierce*, M., Werne, J.P., Caballero, M., Lozano, S., Correa, A. (2012) Development and application of a regional branched GDGT-temperature calibration in central Mexican lakes. Proceedings, Gordon Research Conference on Organic Geochemistry, Holderness, New Hampshire, August, 2012.
- Kruger*, B.R., E.C. Minor, J.P. Werne, T.C. Johnson (2012) Using Molecular and Bulk Radiocarbon and Stable Isotope Signatures to Understand the Sources and Cycling of Carbon Inputs to Lake Malawi. Proceedings, Gordon Research Conference on Organic Geochemistry, Holderness, New Hampshire, August, 2012.
- Zigah*, P., Minor, E., Werne, J.P. (2012) Sources and cycling of organic compound fractions in high molecular weight dissolved organic matter in Lake Superior: Insights from $\Delta^{14}\text{C}$ and $\delta^{13}\text{C}$. 21st International Radiocarbon Conference. UNESCO HQ, Paris, France, July 2012.
- 2011
- Fawcett, P.J., E.T. Brown, J.P. Werne, S. Contreras*, R.S. Anderson, J.P. Dodd, Z.D. Sharp, J.M. Heikoop, C.D. Allen (2011) Millennial-scale climate variability during a mid-Pleistocene glacial (MIS 12) from a terrestrial record in the Valles Caldera, New Mexico. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2011.
- Contreras*, S., J.P. Werne, E.T. Brown, R.S. Anderson, P. Fawcett (2011) Climate variability during the Marine Isotope Stage (MIS) 12-11 transition recorded in lacustrine sediments from Valles Caldera, New Mexico, USA. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2011.
- Kruger*, B.R., E.C. Minor, J.P. Werne, T.C. Johnson (2011) Spatial Distribution, Sources, and Age of Sedimentary Carbon in Lake Malawi, East Africa. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2011.
- Berke*, M.A., T.C. Johnson, J.P. Werne, K. Grice, S. Schouten, J.S. Sinninghe Damsté (2011) Holocene hydrologic and thermal coherence at Lakes Albert and Victoria, East Africa. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2011.
- Werne, J.P., M. Rubesch*, M., E.T. Brown, B. Ortega, M. Caballero, S. Lozano (2011) Response of Terrestrial Vegetation to Variations in Temperature and Aridity Since the Last Glacial Maximum in Lake Chalco, Mexico. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2011.
- Johnson, T.C., A.N. Abbott, J.P. Werne, M.A. Berke, E.T. Brown, S. Schouten, J.S. Sinninghe Damsté (2011) A 1.2 Ma history of temperature and aridity in the Lake Malawi basin. *Geol.Soc.Am, Abstr. Programs*, v. 43, GSA Fall Meeting, Minneapolis, 2011.

- Rubesch*, M., J.P. Werne, E.T. Brown, B. Ortega, M. Caballero, S. Lozano (2011) A 45,000 year geochemical record of temperature and aridity from Lake Chalco, Mexico. *Geol.Soc.Am, Abstr. Programs*, v. 43, GSA Fall Meeting, Minneapolis, 2011.
- Werne, J.P., B. Bernhardt*, M. Woltering*, R.D. Ricketts, M. Caballero, E.C. Hopmans, S. Schouten, J.S. Sinninghe Damsté (2011) Complications in the interpretation of molecular paleotemperature reconstructions using isoprenoid and branched tetraethers: lessons to be learned. 25th International Meeting on Organic Geochemistry. Interlaken, Switzerland, September 2011.
- Berke*, M.A., J.P. Werne, T.C. Johnson, K. Grice, S. Schouten, J.S. Sinninghe Damsté (2011) Climate variability of the Lake Victoria, East Africa region since the Late Pleistocene as shown by molecular biomarkers. 25th International Meeting on Organic Geochemistry. Interlaken, Switzerland, September 2011.
- Woltering*, M., J.P. Werne, E.C. Hopmans, S. Schouten, J.S. Sinninghe Damsté (2011) The vertical niche of Crenarchaeota in Lake Malawi: the origin and interpretation of the TEX₈₆ temperature signal in the sediment. 25th International Meeting on Organic Geochemistry. Interlaken, Switzerland, September 2011.
- Minor, E.C. P. Zigah*, J.P. Werne (2011) Radiocarbon distributions in Lake Superior, the world's largest freshwater lake (by area). 25th International Meeting on Organic Geochemistry. Interlaken, Switzerland, September 2011.
- Strzok*, L., J.P. Werne, R.E. Hecky, T.C. Johnson (2011) A sedimentary geochemical record of productivity and nutrient trends in Lake Superior. Proceedings, International Association for Great Lakes Research meeting, June 2011.
- Abbott*, A.N., M.A. Berke*, T.C. Johnson, J.P. Werne, E.T. Brown, S. Schouten, J.S. Sinninghe Damsté (2011) Temperature and aridity in tropical East Africa over the past 600,000 years: Reconstructions from the Lake Malawi drill core. Proceedings, International Association for Great Lakes Research meeting, June 2011.
- Ricketts, R.D., M. Du*, J.P. Werne, E.T. Brown (2011) Late Quaternary Asian climate: Peiku Co and geophysical, biogeochemical, and sedimentological proxies. Proceedings, International Association for Great Lakes Research meeting, June 2011.
- Minor, E.C., P.K. Zigah*, J.P. Werne (2011) Mesozooplankton biomass in Lake Superior incorporates mainly fresh autochthonous organic matter. Proceedings, International Association for Great Lakes Research meeting, June 2011.
- Kruger*, B.R., E.C. Minor, J.P. Werne, T.C. Johnson (2011) Spatial distribution and sources of sedimentary carbon in Lake Malawi, Africa. Proceedings, International Association for Great Lakes Research meeting, June 2011.
- Woltering*, M.L., J.P. Werne, R.E. Hicks, J.S. Sinninghe Damsté, S. Schouten (2011) Present day distribution of Crenarchaeota and their membrane lipids in large lake systems providing new insights into the interpretation of TEX₈₆ temperature records from sediment archives of large lakes. Proceedings, International Association for Great Lakes Research meeting, June 2011.

ADVISEES & GRADUATE THESES SUPERVISED (GRADUATE, UNDERGRADUATE, POSTDOCTORAL)

Past

Postdoctoral:

Contreras, Sergio. 2011-2014. *A high-resolution middle Pleistocene paleoclimate record from the Valles Caldera, New Mexico.*

Subsequent position:

Assistant Professor, Faculty of Sciences, Catholic University of the Santísima Concepción, Concepción, Chile.

PhD:

Kruger, Brittany Ruth. 2014. *Sources, Cycling, and Fate of Organic Matter in Large Lakes: Insights from Stable Isotope and Radiocarbon Analysis in Lakes Malawi and Superior.* PhD Thesis, Water Resources Science, University of Minnesota.

Subsequent position:

Staff Scientist, Desert Research Institute, University of Nevada Reno.

Zigah, Prosper Kojo. 2011. *Sources, biogeochemical cycling, and fate of organic matter in Lake Superior: An investigation using natural abundance radiocarbon and stable isotopes.* PhD Thesis, Water Resources Science, University of Minnesota.

Subsequent positions:

Postdoctoral investigator Dept. of Surface Waters- Research and Management, Swiss Federal Institute of Aquatic Science and Technology (EAWAG), Switzerland;
Postdoctoral scholar, Department of Marine Chemistry & Geochemistry, Woods Hole Oceanographic Institution.

Berke, Melissa Ann. 2011. *Molecular and isotopic records of climate variability and vegetation response for tropical East Africa during the latest Pleistocene and Holocene.* PhD Thesis, Geology and Geophysics, University of Minnesota.

Subsequent positions:

Postdoctoral Researcher, Global Change and Sustainability Center, Univ. Utah;
Assistant Professor, Department of Civil & Environmental Engineering and Earth Sciences, University of Notre Dame.

Woltering, Martijn Leonard. 2011. *Thaumarchaeota distribution in the water column of Lake Superior and Malawi; implications for the TEX₈₆ lacustrine temperature proxy.* PhD Thesis, Water Resources Science, University of Minnesota.

Subsequent positions:

University Associate, Dept. of Chemistry, Curtin University, Perth, Australia
Research Scientist, Earth Science & Resource Engineering, Commonwealth Scientific and Industrial Research Organisation (CSIRO), Perth, Western Australia, Australia.

Castañeda, Isla Sarita. 2007. *Paleoenvironmental variability in the southeast African tropics since the Last Glacial Maximum: Molecular and isotopic records from Lake Malawi.* PhD Thesis, Geology and Geophysics, University of Minnesota.

Subsequent Positions:

Postdoctoral Researcher, Dept. of Marine Organic Biogeochemistry, Royal Netherlands Institute for Sea Research (NIOZ)
Assistant Professor, Department of Geosciences, University of Massachusetts Amherst.

Powers, Lindsay. 2005. *Calibration and application of a new paleotemperature tool in lacustrine systems: TEX₈₆ for continental paleoclimate reconstruction.* PhD Thesis, Water Resources Science, University of Minnesota.

Subsequent positions:

NSF Postdoctoral Fellow, Mzuzu University, Malawi

Ratheon, Logistical support for Antarctic Science
CoopEUS Scientist National Ecological Observatory Network, Inc.
Deputy Director Earth Science, The HDF Group, Champaign.

MS:

- O'Beirne, Molly D. 2013. *Anthropogenic climate change has driven Lake Superior productivity beyond the range of Holocene variability: An organic and stable isotopic study of human impacts on a pristine biogeochemical system*. MS Thesis, Water Resources Science, University of Minnesota.
Subsequent position: PhD Candidate, Univ. Pittsburgh
- Cantarero, Sebastian. 2013. *Multiproxy paleoclimatic record from geochemical analyses of Lake Chalco sediments, a closed basin lake in central Mexico*. MS Thesis, Geological Sciences, University of Minnesota
Subsequent position: Research Associate, Earth Observatory of Singapore
- Pierce, Megan Leigh. 2012. *A 40,000 year geochemical record from Lake Chalco, Mexico*. MS Thesis, Geological Sciences, University of Minnesota
Subsequent position: Staff Scientist, Barr Engineering, Duluth, MN
- Du, Miao. 2012. *A multiproxy record of Asian monsoon variations during the last 15,000 years from Peiku Co, Tibetan Plateau*. MS Thesis, Geological Sciences, University of Minnesota
Subsequent position: PhD Student, Univ. Wisconsin
- Zhang, Cong. 2011. *Organic Matter Sulfurization during Early Diagenesis in Florida Bay*. MS Thesis, Chemistry & Biochemistry, University of Minnesota
Subsequent position: PhD Student, Univ. Florida
- Abbott, April. 2011. *Pleistocene Temperature Variability in East Africa: A 1.2 Million Year TEX₈₆ Record from Lake Malawi*. MS Thesis, Geological Sciences, University of Minnesota
Subsequent position: PhD Candidate, Univ. Oregon
- Strzok, Ladislaus. 2011. *Changing Nutrient and Productivity Regimes in Lake Superior: Causes and time course*. MS Thesis, Chemistry & Biochemistry, University of Minnesota Duluth
Subsequent position: Pollution Control Specialist, Minnesota Pollution Control Agency
- Bernhardt, Beth. 2010. *Validation of the MBT-CBT Paleotemperature Proxy: Effects of Environmental and Seasonal Variability in Soils and Lacustrine Sediments*. MS Thesis, Water Resources Science, University of Minnesota
Subsequent position: Scientist, Cellana
- Woltering, Martijn. 2008. *Late Pleistocene temperature history of southeast Africa: A TEX₈₆ temperature record from Lake Malawi*. MS Thesis, Water Resources Science, University of Minnesota
Subsequent position: PhD Candidate, Univ. MN
- Donahue, Michael. 2006. *Inferred Sulfate Reduction Rate and Associated Fractionation from the Cariaco Basin*. MS Thesis, Water Resources Science, University of Minnesota
Subsequent position: MS in Mathematics, Univ MN Duluth; Natural Resources Engineering Co.
- Xiao, Zilan. 2005. *The biomarker record of Elk Lake, Minnesota – implications for Holocene vegetation response to climate change*. MS Thesis, Chemistry, University of Minnesota
Subsequent position: PhD Candidate, Univ. British Columbia
- Pearson, Keely. 2005. *An assessment of environmental changes during the Holocene as recorded in the bulk geochemical and molecular signals of lake superior sediments*. MS Thesis, Water Resources Science, University of Minnesota
Subsequent position: Staff Scientist, Barr Engineering, Duluth, MN

Undergraduates: Brandon Shelton, 2002-3; Luke Beirl, Tiffany Purdy, Jeni Kiewatt, 2005-6; Andrea Sanford, 2006-7; Ben Marsh, 2007-8; Clarissa Booth, 2006-8; Shaili Sharma, 2008; Ben Reed, 2009 Sarah Kempka, 2008-9; Benjamin Page, 2008-9; Ryan Crist, 2008-9; Abhishek Shah, 2011, Jason

Featherstone, 2011; Julia Halbur, 2010-11; Dana Roach, 2011; Stephen Ippolito, 2014; Melissa Griffore, 2014/15.

Current

- Damara Kautz, PhD, Geology, 8/12-present, Research Topic: *Calibration and application of molecular isotopic proxies for environmental change in the tropical lowlands of Guatemala and Mexico.*
- Molly O'Beirne, PhD, Geology, 8/13-present, Research Topic: *Determining pathways of diagenetic sulfurization of organic matter using compound-specific sulfur isotopic analysis.*
- Dervla Kumar, PhD, Geology, 8/14-present, Research Topic: *Constraining the origins of orphan branched glycerol dialkyl glycerol tetraethers (GDGTs): Potential proxies for paleoclimate and environmental change.*
- Arielle Woods, PhD, Geology, 8/14-present, Research Topic: *The geochemical record of paleohydrology in Lake Junin, Peru.*
- Troy Ferland, PhD, Geology, 8/15-present, Research Topic: *A molecular isotopic record of climate and environmental change from Lake Magadi: The Homin Sites and Paleolakes Drilling Project*
- Evan Scott, UG, Chemistry/Geology, 8/14-present, Research Topic: *Testing the potential of the hydrogen isotope composition of algal biomarkers for reconstruction of hydroclimate in Mexico.*
- Tyler Myers, UG, Geology, 5/15-present, Research Topic: *Reconstructing hydroclimate in Mexico: The leaf wax hydrogen isotope record from Laguna de Juanacatlan.*
- Christina Puhnaty, UG, Chemistry, 9/15-present, Research Topic: *Biogeochemistry of organic sulfur*
- Elizabeth Holmes, UG, Chemistry/Archaeology, 12/15-present, Research Topic: *Fecal sterols as indicators of human and camelid occupation in the Titicaca Basin, Peru*

ACADEMIC SERVICE, HONORS, AND SYNERGISTIC ACTIVITIES

- Associate Editor of *Geochimica et Cosmochimica Acta* 2007-present
- Member-at-Large, Executive Committee of the Organic Geochemistry Division of the Geochemical Society, 2014-2016
- Invited Keynote Speaker, Applications of GDGTs as paleothermometers in lakes, GDGT-based proxies: State of the art and future directions workshop, Royal Netherlands Institute for Sea Research, April 2014.
- DOSECC Member Representative, Univ. Pittsburgh, 2012-2014
- Invited Lecturer, Univ. Concepción Environmental Sciences EULA Center Summer Course "Global Environmental Change: Evidence in southern South America" Concepción, Chile, January 2013
- Secretary of the Organic Geochemical Division of the Geochemical Society 2006-2012.
- Invited Keynote Speaker, International Paleolimnology Symposium 2012, session on Advances in Organic Molecular Applications in Paleolimnology, Glasgow, Scotland, August 2012
- Organizing and Chairing (w/E. Minor and P. Zigah) session at 54th International Association of Great Lakes Research conference, Duluth, Minnesota, June 2011 "Molecular and Isotopic Insights into Biogeochemical Cycling of Organic Matter in Aquatic Systems"
- Panelist, National Science Foundation, 2010
- Gledden Visiting Senior Fellow, Institute for Advanced Studies, University of Western Australia, Perth, WA, 2009 – 2010
- Visiting Research Associate, Western Australia Organic and Isotope Geochemistry Centre, Curtin University of Technology, Perth, WA, 2009 – 2010
- Local Organizing Committee, 10th Australasian Environmental Isotope Conference & 3rd Australasian Hydrogeology Research Conference, December 2009
- Organizing (w/M. Lachniet and N. Tabor) session at Goldschmidt Conference, Davos, Switzerland, July 2009 "Terrestrial records/analogues of modern and ancient climate change"

Organizing and Chairing (w/Y. Huang) session at 11th International Paleolimnology Symposium, Guadalajara, Mexico, June 2009 “Organic Geochemical Paleoclimate Proxies in Lakes and Bogs: From Calibration to Quantitative Reconstruction”

Invited Speaker, Symposium on the Future of Chemical Oceanography in a Changing World, Georgia Coastal Center, Savannah, Georgia, February 2009.

Invited Lecturer, Quaternary Paleo Records Short Course “Sediment fingerprinting in terrestrial environments: Impacts in science and society”, University of MN Twin Cities, May 2008

Organized and Chaired (w/E. Schefuß) session at Goldschmidt Conference, Köln, Germany, August 2007 “Novel molecular & isotopic approaches to assess ocean-atmosphere-biosphere linkages in modern and paleo systems”

Panelist, US Department of Energy, 2006

Invited speaker, Gordon Research Conference on Chemical Oceanography, August 2005

Member of local organizing committee, 10th International Conference on Paleolimnology, Duluth, MN, USA, July 2006

Panelist, National Science Foundation, 2005

Organized and Chaired (w/L. Powers) session at ASLO, Feb. 2005 “Molecular methods in lacustrine biogeochemical studies and continental paleoclimate reconstruction: Emerging paleorecords of modern geochemical and microbial processes”

Organized and Chaired (w/D. Hollander) session at AGU, Dec. 2004 “Continental Paleoclimate Proxies: From Calibration to Quantitative Reconstruction”

Invited Speaker, NATO Advanced Research Workshop “Past and Present Water Column Anoxia”, Crimea, Ukraine, October 2003

Invited Speaker, J. Hedges Memorial Symposium on Biogeochemical Cycles, September 2003

Moderator, Organic Geochemical Stratigraphy short course, Univ. Minn., 2003

Invited Speaker, Gordon Research Conference on Organic Geochemistry 2000

Lawrence L. Sloss Summer Research Fellowship (NU Dept. Geological Sciences), 1999

EAOG Visiting Scientist Grant, for studies at Netherlands Institute for Sea Research, 1998

Scott Fellow (NU Dept. of Geological Sciences), 1998-1999

Northwestern University Graduate Fellow, 1995 – 1997

Manuscript reviews for *Nature*, *Nature Geosciences*, *Proceedings of the National Academy of Sciences*; *Nature Communications*; *Geochimica et Cosmochimica Acta*; *Geophysical Research Letters*; *Geology*; *Organic Geochemistry*; *Limnology & Oceanography*; *Earth & Planetary Science Letters*; *Quaternary Science Reviews*; *Environmental Microbiology*; *Chemical Geology*; *Marine Chemistry*; *Geobiology*; *Paleoceanography*; *J. Paleolimnology*; *Climate of the Past*; *Palaeogeography, Palaeoclimatology, Palaeoecology*; *Deep-Sea Research*; *Marine Geology*; *GSA Special Publications*; *J. Sedimentary Research*; *Ecology Letters*; *Limnology & Oceanography Methods*; *American Journal of Science*; *Geochemical Society Symposium Volume*; *J. Environmental Science and Technology*; *Applied Geochemistry*; *Reviews in Geophysics*; *Global and Planetary Change*; *J. Chromatography A*; *GSA Bulletin*; *Quaternary Research*; *J. Great Lakes Research*

Proposal reviews for NSF (EAR-Sedimentary Geology & Paleontology, EAR-Geobiology & Low Temperature Geochemistry, EAR-Instrumentation & Facilities, EAR-Hydrologic Sciences, OCE-Chemical Oceanography, OCE-Biological Oceanography, OCE-Marine Geology & Geophysics, Division of Environmental Biology, Earth System History, Biogeoscience, ATM-Paleoclimate, Major Research Instrumentation), Australian Research Council, Israel Science Foundation, NWO-ALW (Dutch Science Foundation), CALFED, US Civilian Research & development Foundation (CRDF), Swiss National Science Foundation, NASA, National Geographic, ACS-PRF, DOE, The Marsden Fund (New Zealand), Deutsche Forschungsgemeinschaft (DFG), Research Corporation, European Research Council, Science Foundation of Ireland

PROFESSIONAL AFFILIATIONS

American Geophysical Union, Geochemical Society, European Association of Organic Geochemists, Geological Society of America, American Society for Limnology and Oceanography, International Paleolimnology Association, American Chemical Society, International Association for Great Lakes Research

FACILITIES DEVELOPED

The Organic and Stable Isotope Biogeochemistry Laboratories at the University of Pittsburgh. This facility is equipped with GC, GC/MS, LC/MS, and IRMS systems aimed at performing molecular and isotopic analyses. Specific instrumentation includes: ThermoScientific Delta V Plus stable isotope ratio monitoring mass spectrometer (IRMS) coupled with both Thermo GC-Isolink (for molecular C isotope analysis) and Costech Elemental Analyzer (EA; for bulk C, N, S isotope analysis); ThermoScientific Delta V Plus IRMS coupled with both Thermo GC-Isolink (for molecular H isotope analysis) and Thermo TC/EA (Thermochemical EA; for bulk O and H isotope analysis); ThermoScientific TSQ Endura Triple Quadrupole Liquid Chromatograph/Mass Spectrometer (LC/MS) with Dionex Ultimate 3000 LC; ThermoScientific MSQ Plus Single Quadrupole LC/MS with Dionex Ultimate 3000 LC; ThermoScientific ISQ LT Single Quadrupole Gas Chromatograph/MS (GC/MS) with Trace 1310 GC; ThermoScientific Trace 1310 GC with Flame Ionization, Flame Photometric, and Electron Capture Detectors; Dionex Automated Solvent Extraction system (ASE 350)

UMD Large Lakes Observatory Organic and Stable Isotope Biogeochemistry Laboratory Instrumentation currently includes Finnigan Delta^{Plus} XP stable isotope mass spectrometer with the following inlets: Costech Elemental Analyzer, Agilent 6890 GC, Finnigan GasBench II, Dual Inlet; Gas Chromatograph (Agilent 6890 GC with FID and FPD detectors). There is also an Agilent 6460 triple quadrupole LC/MS. Other instrumentation includes: Gas Chromatograph/Mass Spectrometer (Agilent 5973 MS with 6890 GC and autoinjector); UIC carbon and sulfur coulometers; Lachat Flow Injection Autoanalysis system.

COURSES TAUGHT

2015 – 2016 Academic Year (Pitt)

GEOL 1030 The Atmosphere, Oceans, & Climate
GEOL 2501 Organic Geochemistry
GEOL 3931 Topics in Paleoenvironmental Analysis (co-taught with M. Abbott)
GEOL 3952 Topics in Geobiology & Biogeochemistry

2014 – 2015 Academic Year (Pitt)

GEOL 0030 The Atmosphere, Oceans, & Climate
GEOL 3901 Topics in Sedimentary Geology: Aquatic & Sedimentary Geochemistry
GEOL 3931 Topics in Paleoenvironmental Analysis (co-taught with M. Abbott)
GEOL 3952 Topics in Geobiology & Biogeochemistry

2013 – 2014 Academic Year (Pitt)

GEOL 0030 The Atmosphere, Oceans, & Climate
GEOL 2501 Organic Geochemistry
GEOL 3931 Topics in Paleoenvironmental Analysis (co-taught with M. Abbott)
GEOL 3952 Topics in Geobiology & Biogeochemistry (co-taught 1 semester with E. Elliott)

2011 – 2012 Academic Year (UMD)

CHEM 2212 Environmental Chemistry
CHEM 4185 Chemistry Undergraduate Seminar II

WRS 8100 Interdisciplinary Seminar in Water Resources Science
 WRS 8581 Research and Professional Ethics in Water Resources and Environmental Science
2010 – 2011 Academic Year (UMD)
 CHEM 2212 Environmental Chemistry
 CHEM 4185 Chemistry Undergraduate Seminar II
 WRS 8581 Research and Professional Ethics in Water Resources and Environmental Science
 CHEM 5150 Organic & Stable Isotope Biogeochemistry
 WRS 8100 Interdisciplinary Seminar in Water Resources Science
2009 – 2010 Academic Year (UMD)
On Sabbatical Leave
2008 – 2009 Academic Year (UMD)
 CHEM 2212 Environmental Chemistry
 LIM 5004 Field Limnology
 CHEM 4184 Chemistry Undergraduate Seminar I
2007 – 2008 Academic Year (UMD)
 CHEM 2212 Environmental Chemistry
 CHEM 5150 Organic & Stable Isotope Biogeochemistry
2006 – 2007 Academic Year (UMD)
 CHEM 2212 Environmental Chemistry
2005 – 2006 Academic Year (UMD)
 CHEM 2212 Environmental Chemistry
 LIM 5102 Chemical Limnology
2004 – 2005 Academic Year (UMD)
 CHEM 2172 General Chemistry
 CHEM 5150 Organic & Stable Isotope Biogeochemistry
2003 – 2004 Academic Year (UMD)
 CHEM 2172 General Chemistry
 LIM 5001 Physical & Chemical Limnology (co-taught with B. May)
 CHEM 8750 Special Topics in Chemistry: Biogeochemistry
2002 – 2003 Academic Year (UMD)
 CHEM 8750 Special Topics in Chemistry: Organic & Stable Isotope Biogeochemistry
 CHEM 2172 General Chemistry
 LIM 5002 Geological Limnology (co-taught with T. Johnson)

RESEARCH CRUISES & FIELD EXPERIENCE

Lake Chalco, Mexico: MexiDrill: Recovering a ~500 m sediment core sequence
 Mahoney Lake, BC: 8/15 Water column, sediment core, and pore water sampling
 Fayetteville Green Lake, NY: 5/15 Water column, sediment core, and pore water sampling
 Chilean Patagonia: 1/13, several lakes were sampled for surface sediments
 Lake Malawi: R/V *Ndunduma*, 1/10, *in situ* filtration, hydrographic analysis, water sampling
 Van Buren Lake & Bath Pond, OH: 6/08, sediment coring (“MUCK” gravity cores);
 Lake Tulane, MN: 5/08, diver-assisted sediment coring (push-cores);
 Elk Lake, MN: 2/09, sediment coring (“Bolivia” piston cores); 7/07, *in situ* filtration, hydrographic
 analysis, water sampling;
 Lake Superior: R/V *Blue Heron*, 5/12, 5/07, 5/06, 9/05, 6/04, 8/04, 9/02, piston- & multi- coring, *in situ*
 filtration & water sampling, sediment trap mooring deployment;
 Florida Bay: 8/03, push-core sampling by snorkeler;
 Orca Basin, Gulf of Mexico: R/V *Longhorn*, 6/03, 11/96; R/V *Suncoaster*, 7/02, box-, piston-, &
 multi- coring, *in situ* filtration & water sampling
 Lake Mendota, WI: piston coring w/Livingston Corer, 6/97

Lake Michigan: R/V *Neeskay*, 5/96, 1/96, sediment box coring & water sampling

ADVISORS

D.J. Hollander	Ph.D./M.S. – Northwestern University (currently at U. South Florida)
B.B. Sageman	Ph.D./M.S. – Northwestern University
T.W. Lyons	Ph.D./M.S. – Univ. Missouri-Columbia (currently at U. CA Riverside)
J.S. Sinninghe Damsté	Postdoctoral – Royal NIOZ

SERVICE TO THE UNIVERSITY

Department of Geology:

Director of Graduate Studies, 2013-Present
Graduate Committee 2012-Present; Chair 2013-Present
Undergraduate Committee 2013-Present
Environmental Studies BA Committee 2013-Present
Recruitment Committee 2013-Present
Space Committee 2013-Present
Budget & Planning Committee 2013-Present
Strategic Planning Committee 2014-Present
Admissions Committee 2014-Present
Awards Committee 2014-Present
Web Page Committee 2014-Present
Faculty Search Committees: 2013-14; 2014-15; 2015-16

Dietrich School of Arts & Sciences

Served on *Ad Hoc* committees for Promotion/Tenure, 2014/15 academic year

CONFERENCE PRESENTATIONS

* denotes student/postdoc author

Volunteered Presentations at Conferences:

Prior to last 5 years, recent presentations above

2010

Abbott*, A., T.C. Johnson, M. Berke*, J.P. Werne, S. Schouten, J.S. Sinninghe Damsté (2010) Temperature and aridity in tropical East Africa over the past 200,000 years: Reconstructions from the Lake Malawi drill core. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2010.

Du*, M., R.D. Ricketts, S. Colman, J.P. Werne (2010) A high-resolution Holocene Asian monsoon record from a Tibetan Lake – Peiku Co. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2010.

Berke*, M.A., T.C. Johnson, J.P. Werne, S. Schouten, J.S. Sinninghe Damsté (2010) Temperature and hydrologic variability of Lake Victoria, East Africa since the Late Pleistocene. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2010.

Weijers, J.W.H., B. Bernhardt*, F. Peterse, J.P. Werne, J. Dungait, S. Schouten, J.S. Sinninghe Damsté (2010) Could a reconstruction of annual mean air temperature using the MBT-CBT proxy be biased to a season of ‘optimal growth’ of the source organism? *EOS Transactions*, AGU Fall Meeting, San Francisco, 2010.

- Woltering*, M., J.P. Werne, R. Hicks, J. Kish, S. Schouten, J.S. Sinninghe Damsté (2010) Spatial and temporal variability of Crenarchaeota in Lake Superior and implications for the application of the TEX₈₆ temperature proxy. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2010.
- Berke*, M.A., T.C. Johnson, J.P. Werne, S. Schouten, J.S. Sinninghe Damsté (2010) A mid-Holocene thermal maximum at the end of the African Humid Period. *Geol.Soc.Am, Abstr. Programs*, v. 42, GSA Fall Meeting, Denver, 2010.
- Konecky, B. J.M. Russell, T.C. Johnson, E.T. Brown, M. Berke*, J.P. Werne, Y. Huang (2010) Hydrogen isotopic response to late Pleistocene climate change in Lake Malawi, Africa. *Geol.Soc.Am, Abstr. Programs*, v. 42, GSA Fall Meeting, Denver, 2010.
- Fawcett, P.J., J.P. Werne, R.S. Anderson, J. Heikoop, E.T. Brown, F. Goff, L. Hurley, G. Woldegabriel, J.W. Geissman, C. Allen (2010) Core VC-3: A window into the Middle Pleistocene climatic and geologic evolution of the Valles Caldera, New Mexico. *Geol.Soc.Am, Abstr. Programs*, v. 42, GSA Fall Meeting, Denver, 2010.
- Berke*, M.A., T.C. Johnson, J.P. Werne, S. Schouten, J.S. Sinninghe Damsté (2010) Quaternary temperature reconstruction of Lake Victoria, East Africa. Proceedings, 21st Biennial meeting of the American Quaternary Association (AMQUA), Laramie, Wyoming, August 2010.
- Berke*, M.A., T.C. Johnson, J.P. Werne, S. Schouten, J.S. Sinninghe Damsté (2010) Quaternary temperature reconstruction of Lake Victoria, East Africa. Proceedings, Gordon Research Conference on Organic Geochemistry, Holderness, New Hampshire, August, 2010.
- Woltering*, M., J.P. Werne, R. Hicks, J. Kish*, S. Schouten, J.S. Sinninghe Damsté (2009) Spatial and temporal variability of Crenarchaeota in Lake Superior and implications for the application of the TEX₈₆ temperature proxy. Proceedings, Gordon Research Conference on Organic Geochemistry, Holderness, New Hampshire, August, 2010.
- Brown, E.T. J.P. Werne, M. Rubesch, P.J. Fawcett, B. Ortega, M. Caballero, S. Lozano (2010) Lacustrine sedimentary evidence of millennial scale variability in North America and Africa revealed by XRF core scanning. Proceedings, Goldschmidt Conference, Nashville, TN June 2010.
- Strzok*, L., R.E. Hecky, T.C. Johnson and J.P. Werne (2010) Productivity and nutrient trends in Lake Superior based on stable isotope stratigraphy. Proceedings, Conference on the Ecology of Lake Superior, May 2010.
- Zigah*, P.K., E.C. Minor, J.P. Werne, (2010) Radiocarbon insights into the role of “old” carbon in Lake Superior biogeochemistry. Proceedings, Conference on the Ecology of Lake Superior, May 2010.
- Hicks, R., J.L. Kish*, R.J. Oster*, A.J. Reed*, J. Welch*, M. Woltering*, and J.P. Werne (2010) Lesser Known Microbes from the Depths of Lake Superior: Archaeal Dynamics in Surface Waters and Deep Water Ecology. Proceedings, Conference on the Ecology of Lake Superior, May 2010.
- Kish*, J., A. Reed*, R. Oster*, J.P. Werne, R. Hicks (2010) Planktonic archaeal communities related to nitrogen cycle processes change seasonally in Lake Superior. Proceedings, International Association for Great Lakes Research meeting, 2010.
- Minor, E.C., P.K. Zigah*, J.P. Werne, (2010) Sources and cycling of carbon in Lake Superior: Insights from $\Delta^{14}\text{C}$. Proceedings, Ocean Sciences Meeting, 2010.

2009

- Johnson, T.C., J.P. Werne, M. Woltering*, M. Berke*, J.S. Sinninghe Damsté, S. Schouten (2009) A 150,000-year record of temperature from Lake Malawi, East Africa (*invited*). *EOS Transactions*, AGU Fall Meeting, San Francisco, 2009.
- Berke*, M., T.C. Johnson, J.P. Werne, S. Schouten, J.S. Sinninghe Damsté (2009) Holocene TEX₈₆ temperature reconstructions from Lake Turkana, East Africa. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2009.
- Woltering*, M., J.P. Werne, R. Hicks, J. Kish*, S. Schouten, J.S. Sinninghe Damsté (2009) Distribution of lacustrine *Crenarchaeota* in Lake Superior: implications for the application of the TEX₈₆ temperature proxy. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2009.
- Konecky, B., J. Russell, T.C. Johnson, Y. Huang J.P. Werne, M. Woltering* (2009) A new precipitation record from Lake Malawi for the last 75,000 years based on compound-specific D/H ratios. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2009.
- Russell, J.M., T.C. Johnson, Y. Huang, J.P. Werne, J. Overpeck, Z. Liu, B. Otto-Bliesner (2009) The hydrologic and thermal evolution of tropical Africa since 21 kyr BP: Recent progress and synthesis. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2009.
- Fawcett, P., J.P. Werne, R. Anderson, J. Heikoop, E. Brown, M. Berke*, S. Smith, F. Goff, L. Hurley, L. Cisneros Dozal, S. Schouten, J. Sinninghe Damsté, Y. Huang, J. Toney, J. Fessenden, G. WoldeGabriel, J. Geissman, C. Allen (2009) Mid-Pleistocene orbital and millennial scale climate change in a 200 ky lacustrine sediment core from SW North America. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2009.
- Zigah*, P.K., E.C. Minor, J.P. Werne, (2009) Sources and cycling of carbon in Lake Superior: Insights from $\Delta^{14}\text{C}$. Conference Proceedings, 10th Australasian Environmental Isotopes Conference, Perth, Australia, December 2009.
- Woltering*, M., J.P. Werne, R. Hicks, J. Kish*, S. Schouten, J.S. Sinninghe Damsté (2009) Ecology of lacustrine *Crenarchaeota* in Lake Superior: implications for the application of the TEX₈₆ temperature proxy. 24th International Meeting on Organic Geochemistry. Bremen, Germany, September 2009.
- Berke*, M.A., J.P. Werne, T.C. Johnson, S. Schouten, J.S. Sinninghe Damsté (2009) The thermal and hydrologic history of the East African Rift Lakes region since the Last Glacial Maximum using TEX₈₆ paleothermometry and δD . 24th International Meeting on Organic Geochemistry. Bremen, Germany, September 2009.
- Woltering*, M., J.P. Werne, R. Hicks, J. Kish*, S. Schouten, J.S. Sinninghe Damsté (2009) Ecology of lacustrine *Crenarchaeota* in Lake Superior: implications for the application of the TEX₈₆ temperature proxy. 11th International Conference on Paleolimnology. Guadalajara, Mexico, June 2009.
- Zigah*, P.K., E.C. Minor, J.P. Werne, L. McCallister (2009) Sources and cycling of carbon in Lake Superior: Insights from $\Delta^{14}\text{C}$. Conference Proceedings, International Association for Great Lakes Research annual meeting, Toledo, OH, USA, May 2009.
- Kish*, J.L., R.J. Oster*, J.P. Werne, R.E. Hicks (2009) Archaeal diversity in the pelagic zone of Lake Superior. Conference Proceedings, International Association for Great Lakes Research annual meeting, Toledo, OH, USA, May 2009.

Hicks, R.E., R.J. Oster*, D.E. Ostrom*, J.L. Kish*, J. Welch*, C. Booth*, J.P. Werne (2009) Abundance and diversity of planktonic ammonia-oxidizing archaea in lake Superior. Conference Proceedings, International Association for Great Lakes Research annual meeting, Toledo, OH, USA, May 2009.

2008

Werne, J.P., C. Booth*, S. Grosshuesch (2008) Influence of anoxia on nutrient regeneration during organic matter decomposition in the Orca Basin, Gulf of Mexico. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2008.

Woltering*, M., J.P. Werne, R. Hicks, J. Kish*, S. Schouten, J.S. Sinninghe Damsté (2008) Ecology of lacustrine *Crenarchaeota* in Lake Superior: implications for the application of the TEX₈₆ temperature proxy. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2008.

Berke*, M.A., T.C. Johnson, J.P. Werne, S. Schouten, J.S. Sinninghe Damsté (2008) Lacustrine sediment records of the thermal history of the East African Rift Lakes region since the Last Glacial Maximum. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2008.

Fawcett, P.J., J.P. Werne, R.S. Anderson, J. Heikoop, E.T. Brown, L. Hurley, S. Smith, H. Soltow, F. Goff, J.W. Geissman, G. WoldeGabriel, J. Fessenden-Rahn, M. Cisneros-Doral, C.D. Allen (2008) Coupled warming and drought in the American southwest during long mid-Pleistocene interglacials MIS 13 and 11. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2008.

Li*, X.N., W.P. Gilhooly, A.L. Zerkle, T.W. Lyons, J. Farquhar, J.P. Werne, M.I. Scranton (2008) Fractionation of sulfur isotopes in the Cariaco Basin. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2008.

Werne, J.P., I.C. Castaneda, T.C. Johnson (2008) Molecular and Isotopic Evidence for Climate-Induced Changes in the Algal Community and Primary Production in Lake Malawi (East Africa) During the Past 23,000 Years. AGU Chapman Conference on "Lakes and Reservoirs as Sentinels, Integrators, and Regulators of Climate Change". Incline Village, NV, September 2008.

Werne, J.P., C. Booth*, J. Kish*, R. Hicks, E. Hopmans, J. Sinninghe Damsté, S. Schouten (2008) GDGTs in Lakes: Why doesn't the TEX₈₆ work in small lakes, and can the CBT/MBT pick up the slack? Gordon Research Conference on Organic Geochemistry, Holderness, New Hampshire, August 2008

Woltering*, M., J.P. Werne, R. Hicks, J. Kish*, S. Schouten, J.S. Sinninghe Damsté (2008) Lacustrine *Crenarchaeota* ecology in Lake Superior: Implications for the application of the TEX₈₆ temperature proxy. Gordon Research Conference on Organic Geochemistry, Holderness, New Hampshire, August 2008

Woltering*, M., J.P. Werne, T.C. Johnson, S. Schouten, J.S. Sinninghe Damsté (2008) Late Pleistocene temperature variability in south east Africa: A TEX₈₆-based temperature record from Lake Malawi spanning the last 75,000 years. Gordon Research Conference on Organic Geochemistry, Holderness, New Hampshire, August 2008

Berke*, M., J.P. Werne, R. T.C. Johnson, S. Schouten, J.S. Sinninghe Damsté (2008) A TEX₈₆-based thermal history of the East African Rift Lake region since the Last Glacial Maximum. Gordon Research Conference on Organic Geochemistry, Holderness, New Hampshire, August 2008

2007

- Berke*, M., T.C. Johnson, J.P. Werne, L.A. Powers* (2007) Lake surface temperature variability in Lake Malawi since the Last Glacial Maximum. *EOS Transactions*, AGU Fall Meeting, San Francisco, 2007.
- Woltering*, M., J.P. Werne, T.C. Johnson, S. Schouten, J.S. Sinninghe Damsté (2007) A 75,000 year TEX₈₆-based temperature record from Lake Malawi, East Africa. . *EOS Transactions*, AGU Fall Meeting, San Francisco, 2007.
- Werne, J.P., C. Booth*, B. Marsh*, S. Grosshuesch (2007) Redox controls on nutrient regeneration during organic matter decomposition in the Orca Basin, Gulf of Mexico. 23rd International Meeting on Organic Geochemistry. Torquay, England, September 2007.
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