

## Christopher A. Scholz - *Curriculum Vitae*

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### EDUCATION

Ph.D. Geology, Duke University, 1989  
M.S. Geology, University of Minnesota, May 1985  
B.A. Geology, University of Vermont, 1981

### PROFESSIONAL EMPLOYMENT

2008-Present	<b>Professor</b> , Dept. of Earth Sciences, Syracuse University
1998-2008	<b>Associate Professor</b> , Dept. of Earth Sciences, Syracuse University
1998	<b>Associate Professor</b> : Division of Marine Geology and Geophysics, Rosenstiel School of Marine and Atmospheric Sciences, Univ. of Miami
1994-1998	<b>Assistant Professor</b> : Division of Marine Geology and Geophysics, Rosenstiel School of Marine and Atmospheric Sciences, Univ. of Miami
1991-1994	<b>Research Assistant Professor</b> : Duke University Marine Laboratory (School of the Environment) and Department of Geology
1990-1991	<b>Research Associate</b> : Duke University Marine Laboratory
1989	<b>Visiting Assistant Professor</b> : Department of Geology, Duke University

### PROFESSIONAL AFFILIATIONS

American Geophysical Union  
Geological Society of America  
American Association of Petroleum Geologists

### AWARDS, DISTINCTIONS, SYNERGISTIC ACTIVITIES

National Continental Scientific Drilling Facility, hosted by Univ. of Minnesota and funded by National Science Foundation – Facility Committee member  
Visiting Scientist, Brown University, Department of Earth, Environmental and Planetary Sciences (2023-2024)  
Israel C. Russell Award, Geological Society of America, Limnogeology Division (2022)  
Science, Education, Environment Advisory Committee for planning the Onondaga County (NY) Aquarium (2022)  
Co-Convener - International Continental Scientific Drilling Program (ICDP) planning workshops on 1) Deep Drilling in the Turkana Basin and 2) Lake Victoria (July 2022)  
Lead-Instructor EMPOWER Basin & Range Field School (2021)  
Senior Research Associate – Turkana Basin Institute (Kenya, Stony Brook Univ.)  
Co-Convener, International Continental Scientific Drilling Program (ICDP) workshop – scientific drilling on Lake Tanganyika (June 2019)  
Distinguished Lecturer - American Association of Petroleum Geologists (2018)  
Lead-Instructor EMPOWER Lake Kivu Feld School – Rwanda (2018)

Chancellor's Citation for Faculty Excellence and Distinction 2017 (Syracuse University)  
Science Committee – Continental Scientific Drilling Coordination Office (CSDCO)  
Distinguished Lecturer – NSF GEOPRISMS– 2013-2015  
Instructor – Geophysics Short Course for African Scientists, Hosted by International Center for  
Theoretical Physics, Kigali, Rwanda, 2014  
SEPM (Society for Sedimentary Geology) William H. Twenhofel Award Selection Committee  
Lead Investigator – Lake Malawi Scientific Drilling Project  
Director of Undergraduate Studies and Advisor to majors and prospective majors, Department of  
Earth Sciences, Syracuse University, 2007-2011  
Environmental Sciences Program Advisor, Syracuse University - 2007-2011  
Associate Editor –*Sedimentology* 2008-2011  
NSF- Margins/GEOPRISMS Program – Rift Initiation and Evolution working group  
Guest Editor – Special Issue of *Palaeogeography, Palaeoclimatology, Palaeoecology* 2011  
Board of Directors – Tri-County Skaneateles Lake Pure Water Association, 2008-2011  
Science Advisory Group of the International Continental Scientific Drilling Program (ICDP)  
2001-2006  
American Association of Petroleum Geologists – Distinguished Lecturer Committee: 2007-2010  
Board of Directors – Skaneateles Lake Eurasian Milfoil Eradication Corporation: 2006-2010

## **PUBLICATIONS**

(<sup>1</sup>-student advisees; <sup>2</sup>-postdoctoral mentees)

### In Review/Revision/Progress:

Streib LC<sup>1</sup>, Stone JR, Brown ET, and **Scholz CA**, Sea Surface Temperatures Drive Quaternary Eastern African Hydroclimate, for the journal *Nature Communications*, in revision.

Habimana V, Svetlana G, Kalisa E, Nsabimana A, **Scholz CA**, Driscoll CT, Bioaccumulation of trace metals in fish from Lake Kivu and its potential risk to consumers in Rwanda, *Food Science and Nutrition*, In Revision.

Streib LC<sup>1</sup>, Stone, JR, Parikh H, and Scholz CA, *Encyonema larvatum* sp. nov.: A new species of diatom identified from the Mid-Pleistocene of Lake Malawi, eastern Africa, *Diatom Research*, In Review.

Muirhead JD, **Scholz CA**, Rooney, T, Transition to magma-driven rifting in the South Turkana Basin, for *Nature Communications*, In Progress.

Brannon<sup>1</sup>, M. A., **Scholz, C. A.**, Driscoll, C. T. and Chipman, M., Historical Records of Nutrient Loading into End-Member Mid-Latitude Lakes. For *Journal of Geophysical Research: Biogeosciences*, In Review.

### Published:

120. Kathryn J. Daniel, Joshua R. Smith, Stefan Ballmer, Warren Bristol, Jennifer C. Driggers, Anamaria Effler, Matthew Evans, Joseph Hoover, Kevin Kuns, Michael Landry, Geoffrey Lovelace, Chris Lukinbeal, Vuk Mandic, Kiet Pham, Jocelyn Read, Joshua B.

- Russell, François Schiettekatte, Robert M. S. Schofield, **Christopher A. Scholz**, David H. Shoemaker, Piper Sledge, Amber Strunk; Criteria for identifying and evaluating locations that could potentially host the Cosmic Explorer observatories. *Rev. Sci. Instrum.* 1 January 2025; 96 (1): 014502. <https://doi.org/10.1063/5.0242016>
119. Xue L, Moucha R, Kolawole F, Muirhead J, **Scholz, CA** (2024), The influence of the strength and obliquity of pre-existing weak zones on rift propagation and segmentation, *Tectonophysics*, Volume 890, 7 November 2024, 230472, <https://doi.org/10.1016/j.tecto.2024.230472>.
118. Kelly MR, Moriarty VW, Kolar HR, Auger GAR, Henderson ME, Watson CD, Relyea RA, **Scholz CA**, Driscoll CT, and Rose KC (2024), A sequence of weather-driven hydrodynamic events stimulates the formation of harmful algal blooms on an oligotrophic lake, *Limnology and Oceanography*, v. 68, pp. 1826-1844, doi: 10.1002/lno.12623.
117. Domingos-Luz, L., Soreghan, M. J., Rasbold, G. G., Ellis, G. S., Birdwell, J. E., Kimirei, I. A., **Scholz, C. A.**, & McGlue, M. M. (2024). Middle and Late Holocene paleolimnological changes in central Lake Tanganyika: Integrated evidence from the Kavala Island Ridge (Tanzania). *The Holocene*, 0(0). <https://doi.org/10.1177/09596836241254475>
116. Streib, LC<sup>1</sup> Armitage SJ and **Scholz CA** (2024), Using Luminescence Dating to Constrain Lake Sediment Records: A New Age Model for the 1.38 Ma Lake Malawi Drill Core, Eastern Africa, *Quaternary Science Reviews*, Volume 334, 15 June 2024, 108691, <https://doi.org/10.1016/j.quascirev.2024.108691>.
115. Beck CC, Berke M, Feibel CS, Foerster V, Olaka L, Roberts, HM, **Scholz CA**, Cantner K, Noren A, Kiptoo JM, Muirhead J, and the Deep Drilling in the Turkana Basin (DDTB) Project Team, (2024), ICDP workshop on the Deep Drilling in the Turkana Basin Project: Exploring the link between environmental factors and hominin evolution over the past 4 Ma, *Scientific Drilling*. 2024.
114. Wright, L. J. M.<sup>1</sup>, & **Scholz, C. A.**, (2023). Spatio-temporal variations in sediment delivery as a response to rapid Quaternary climate change in the Lake Malawi Rift, East Africa. *Journal of Geophysical Research: Earth Surface*, 128, e2022JF007027. <https://doi.org/10.1029/2022JF007027>
113. Berke MA, Peppe DJ, and the LVDP team, ICDP workshop on the Lake Victoria Drilling Project (LVDP): Scientific drilling of the world's largest tropical lake, *Scientific Drilling Drill*, 11, 1–11, 2023, <https://doi.org/10.5194/sd-11-1-2023>.
112. Xue<sup>2</sup>, L., Muirhead, J. D., Moucha, R., Wright, L. J. M.<sup>1</sup>, & **Scholz, C. A.** (2023). The impact of climate-driven lake level changes on mantle melting in continental rifts. *Geophysical Research Letters*, 50, e2023GL103905. <https://doi.org/10.1029/2023GL103905>

111. Wright, Lachlan J.M.<sup>1</sup>, **Christopher A. Scholz**, James D. Muirhead, and Donna J. Shillington, (2023), Heterogeneous strain distribution in the Malawi (Nyasa) Rift, East Africa: Implications for rifting in magma-poor, multi-segment rift systems. *Tectonics*, 42, e2022TC007486. <https://doi.org/10.1029/2022TC007486>.
110. Shaban<sup>1</sup>, S. N., Kolawole, F., & **Scholz, C. A.** (2023). The deep basin and underlying basement structure of the Tanganyika Rift. *Tectonics*, 42, e2022TC007726. <https://doi.org/10.1029/2022TC007726>
109. Brannon<sup>1</sup>, M. A., **Scholz, C. A.**, & Driscoll, C. T. (2023). Shallow sediment as a phosphorus reservoir in an oligotrophic lake. *Journal of Geophysical Research: Biogeosciences*, 128, e2022JG007029. <https://doi.org/10.1029/2022JG007029>.
108. Allison T. Karp, Kevin T. Uno, Melissa A. Berke, James M. Russell, **Christopher A. Scholz**, Jennifer Marlon, J. Tyler Faith, A. Carla Staver, Nonlinear rainfall effects on savanna fire activity across the African Humid Period, *Quaternary Science Reviews* 304 (2023) 107994, (Invited Review), <https://doi.org/10.1016/j.quascirev.2023.107994>.
107. Jack N. Williams, Luke N. J. Wedmore, Åke Fagereng, Maximilian J. Werner, Hassan Mdala, Donna J. Shillington, **Christopher A. Scholz**, Folarin Kolawole, Lachlan J. M. Wright<sup>1</sup>, Juliet Biggs, Zuze Dulanya, Felix Mphepo, and Patrick Chindandali, Geologic and geodetic constraints on the seismic hazard of Malawi's active faults: The Malawi Seismogenic Source Database (MSSD), *Natural Hazards and Earth System Sciences*, 22, 3607–3639, 2022, <https://doi.org/10.5194/nhess-22-3607-2022>.
106. Zaremba<sup>1</sup>, N.J., **Scholz, C.A.**, Moucha, R., 2022, Application of first arrival seismic tomography in a glaciated basin: implications for paleo-ice stream development. *Journal of Glaciology* 1–14. <https://doi.org/10.1017/jog.2022.72>.
105. Liang Xue<sup>2</sup>, Robert Moucha, **Christopher A. Scholz**, , 2022, Climate-driven stress changes and normal fault behavior in the Lake Malawi (Nyasa) Rift, East Africa, *Earth and Planetary Science Letters*, <https://doi.org/10.1016/j.epsl.2022.117693>.
104. James D. Muirhead<sup>2</sup>, **Christopher A. Scholz**, Tyrone Rooney, Transition to magma-driven rifting in the South Turkana Basin, *Journal of the Geological Society* 179 (6): jgs2021-159, <https://doi.org/10.1144/jgs2021-159>.
103. McGlue, Michael M., Geoffrey S. Ellis, McKenzie A. Brannon, Jennifer C. Latimer, Jeffery R. Stone, Sarah J. Ivory, Neema E. Mganza, Michael J. Soreghan, **Christopher A. Scholz**, 2022, Sedimentary geochemistry of deepwater slope deposits in southern Lake Tanganyika (east Africa): Effects of upwelling and minor lake level oscillations, *Journal of Sedimentary Research*. Sedimentary geochemistry of deepwater slope deposits in southern Lake Tanganyika (East Africa): Effects of upwelling and minor lake level oscillations, *Journal of Sedimentary Research*, 92 (8): 721–738, <https://doi.org/10.2110/jsr.2021.104>

102. Williams, J. N., Wedmore, L. N. J., **Scholz, C. A.**, Kolawole, F., Wright, L. J. M., Shillington, D. J., et al., 2022. The Malawi Active Fault Database: An onshore-offshore database for regional assessment of seismic hazard and tectonic evolution. *Geochemistry, Geophysics, Geosystems*, 23, e2022GC010425. <https://doi.org/10.1029/2022GC01042>
101. Steve Lund, Ellen Platzman, and **Chris Scholz**, 2022, Late Holocene Paleomagnetic Secular Variation Records from Lake Turkana, East Equatorial Africa, *The Holocene*, Vol. 32(4) 321–333.
100. Zaremba<sup>1</sup>, N and **Scholz, C.A.**, 2021, Evidence for ice-calving at the terminus of a Laurentide ice stream from multichannel seismic reflection data, Oneida Lake, NY, *Quaternary Research*, 1-18, doi:10.1017/qua.2021.53.
99. Laura M. DeMott<sup>2</sup>, **Christopher A. Scholz**, Mohamed Osman Awaleh, 2021, Lacustrine carbonate towers of Lake Abhe, Djibouti: Interplay of hydrologic and microbial processes, *Sedimentary Geology*, <https://doi.org/10.1016/j.sedgeo.2021.105983>.
98. Mingxuan Tan and **Christopher A. Scholz**, 2021, Source-to-sink response to high-amplitude lake level rise driven by orbital-scale climate change: An example from the Pleistocene Lake Malawi (Nyasa) Rift, East Africa, *Sedimentology*, <https://doi.org/10.1111/sed.12909>.
97. Shaidu Nuru Shaban<sup>1</sup>, **Christopher A. Scholz**, James D. Muirhead<sup>2</sup>, Douglas A. Wood<sup>1</sup>, 2021, The stratigraphic evolution of the Lake Tanganyika Rift, East Africa: Facies distributions and paleo-environmental implications, *Palaeogeography, Palaeoclimatology, Palaeoecology*, V. 575, 1 August 2021, 110474, <https://doi.org/10.1016/j.palaeo.2021.110474>.
96. DeMott LM<sup>1</sup>, and **Scholz, CA**, Lacustrine Carbonate Tufa Facies of Winnemucca Dry Lake Basin, NV, USA, *Journal of Sedimentary Research* (2020). 90 (12): 1804–1828. <https://doi.org/10.2110/jsr.2020.004>.
95. Zhang, C., **Scholz, C.A.**, and Harris, A.D. (2020). Sedimentary fills and sensitivity analysis of deep lacustrine facies in multi-segment rift basins: Insights from 3D forward modeling: *Sedimentary Geology*, v. 408, p. 105753, doi:10.1016/j.sedgeo.2020.105753.
94. Emily Hopper, James B. Gaherty, Donna J. Shillington, Natalie J. Accardo, Andrew A. Nyblade, **Christopher A. Scholz**, Patrick R.N. Chindindali, Richard W. Ferdinand, Gabriel Mgoni, Gabriel Mulibo, Benjamin Holtzman, Chris Havlin (2020). Preferential localized thinning of lithospheric mantle in the melt-poor Malawi Rift, *Nature Geoscience*, <https://doi.org/10.1038/s41561-020-0609-y>.
93. Benjamin T. Uveges, Christopher K. Junium, **Christopher A. Scholz**, James. M Fulton, Chemocline collapse in Lake Kivu as an analog for nitrogen cycling during Oceanic

- Anoxic Events (2020). *Earth and Planetary Science Letters*, 548, 116549, <https://doi.org/10.1016/j.epsl.2020.116459>.
92. N.J. Accardo, J. B. Gaherty, D. J. Shillington, E. Hopper, A.A. Nyblade, C. J. Ebinger, **C. A. Scholz**, P.R.N. Chindandali, R. Wambura-Ferdinand, G. Mbogoni, J.B. Russell, B.K. Holtzman, C. Havlin, C. Class (2020). Thermo-chemical modification of the Upper Mantle beneath the Northern Malawi Rift Constrained from Shear Velocity Imaging, *G3 – Geochemistry, Geophysics, Geosystems*, DOI: 10.1029/2019GC008843.
91. **Scholz, C.A.**, Shillington, D.J., Wright<sup>1</sup>, L.J.M., Accardo, N., Gaherty, J.B., and Chindandali, P. (2020). Intrarift fault fabric, segmentation, and basin evolution of the Lake Malawi (Nyasa) Rift, East Africa: *Geosphere*, v. 16, no. X, p. 1– 19, <https://doi.org/10.1130/GES02228.1>.
90. Wright<sup>1</sup>, L. J. M., Muirhead<sup>2</sup>, J. D., & **Scholz, C. A.** (2020). Spatiotemporal variations in upper crustal extension across the different basement terranes of the Lake Tanganyika Rift, East Africa. *Tectonics*, 39, e2019TC006019. <https://doi.org/10.1029/2019TC006019>.
89. Shillington, D. J., **Scholz, C. A.**, Chindandali, P. R. N., Gaherty, J. B., Accardo, N. J., Onyango, E., et al., (2020). Controls on rift faulting in the North Basin of the Malawi (Nyasa) Rift, East Africa. *Tectonics*, 39, e2019TC005633. <https://doi.org/10.1029/2019TC005633>.
88. James M. Russell, Philip Barker, Andrew Cohen, Sarah Ivory, Ishmael Kimirei, Christine Lane, Melanie Leng, Neema Maganza, Michael McGlue, Emma Msaky, Anders Noren, Lisa Park Boush, Walter Salzburger, **Christopher Scholz**, Ralph Tiedemann and the Lake Tanganyika Scientific Drilling Team, ICDP Workshop on the Lake Tanganyika Scientific Drilling Project: A late Miocene-present record of climate, rifting, and ecosystem evolution from the world’s oldest tropical lake (2020). *Scientific Drilling*, 27, 53–60, <https://doi.org/10.5194/sd-27-53-2020>.
87. DeMott<sup>1</sup>, LM, Napieralski, SA, Junium, CK, Teece, M, and **Scholz, CA**, 2019, Microbially influenced lacustrine carbonates: A comparison of late Quaternary Lahontan tufa and modern thrombolite from Fayetteville Green Lake, NY, *Geobiology*, 00:1–20, DOI: 10.1111/gbi.12367.
86. Zaremba<sup>1</sup> NJ and **Scholz, CA**, 2019, High-resolution seismic stratigraphy of Late Pleistocene Glacial Lake Iroquois and its Holocene successor: Oneida Lake, New York, *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 534, 109286, <https://doi.org/10.1016/j.palaeo.2019.109286>
85. Gaherty, JB, Zheng, W, Shillington, DJ, Pritchard, ME, Henderson, ST, Chindandali, PRN, Mdala, H, Shuler, A, Lindsey, N, Oliva, SJ, Noonan, S, **Scholz, CA**, Schaff, D, Ekstrom, G, and Nettles, M, 2019, Faulting processes during early-stage rifting: seismic and geodetic analysis of the 2009–2010 Northern Malawi earthquake sequence *Geophys. J.*

*Int.*, 217, 1767–1782 doi: 10.1093/gji/ggz119.

84. Demott L.M.<sup>1</sup>, **Scholz C.A.** and Junium C.K., 2019, 8200-year growth history of a Lahontan-age lacustrine tufa deposit, *Sedimentology*, v. 66, pp. 2169–2190, doi: 10.1111/sed.12579
83. Muirhead, J.D.<sup>2</sup>, Wright, L.J.M.<sup>1</sup>, and **Scholz, C.A.**, 2019, Rift evolution in regions of low magma input in East Africa, *Earth and Planetary Science Letters*, 506 (2019) 332–346.
82. N. J. Accardo, D. J. Shillington, J. B. Gaherty, **C. A. Scholz**, A. A. Nyblade, P. R. N. Chindandali, G. Kamihanda, T. McCartney, D. Wood, R. Wambura Ferdinand, (2018), Implications for the Growth and Interactions of Large Border Faults in the Malawi Rift from 3D Refraction Imaging, *Journal of Geophysical Research*, <http://dx.doi.org/10.1029/2018JB016504>
81. M. E. Kirby, L. Heusser, **C. Scholz**, R. Ramezan, M. A. Anderson, B. Markle, E. Rhodes, K. C. Glover, J. Fantozzi, C. Hiner, B. Price and H. Rangel, 2018, A late Wisconsin (32–10k cal a BP) history of pluvials, droughts and vegetation in the Pacific south-west United States (Lake Elsinore, CA), *Journal of Quaternary Science*, SSN 0267-8179. DOI: 10.1002/jqs.3018.
80. Kelleher, C., **Scholz, C.A.**, Condon, L. and Reardon, M. (2018), Drones in geoscience research: The sky is the only limit, *Eos*, 99, <https://doi.org/10.1029/2018EO092269>. Published on 22 February 2018.
79. Morrissey, A.<sup>1</sup>, **Scholz C.A.**, Russell, J.R., 2018, Late-Quaternary TEX86 paleotemperatures from the world’s largest desert lake, Lake Turkana, Kenya, *J Paleolimnol* (2018) 59:103–117.
78. Gan<sup>1</sup> S.Q., and **Scholz, C.A.** 2017, Skew Normal Distribution Deconvolution of Grain-Size Distribution And Its Application To 530 Samples From Lake Bosumtwi, Ghana, *Journal of Sedimentary Research*, , v. 87, 1214–1225.
77. N.J. Accardo, J.B. Gaherty, D.J. Shillington, C.J. Ebinger, A.A. Nyblade, G.J. Mbogoni, P.R.N. Chindandali, R.W. Ferdinand, G.D. Mulibo, G. Kamihanda, D. Keir, **C. Scholz**, K. Selway, J.P. O’Donnell, G. Tepp, R. Gallacher, K. Mtelela, J. Salima and A. Mruma, Surface wave imaging of the weakly extended Malawi Rift from ambient-noise and teleseismic Rayleigh waves from onshore and lake-bottom seismometers, *Geophys. J. Int.* (2017) 209, 1892–1905.
76. McCartney<sup>1</sup>, T. and **Scholz, C.A.**, 2016, A 1.3 million year record of synchronous faulting in the hangingwall and border fault of a half-graben in the Malawi (Nyasa) Rift, *Journal of Structural Geology*, v. 91, p. 114-129.
75. T. C. Johnson, J. P. Werne, E.T. Brown, A. Abbott, M. Berke, B. A. Steinman, J. Halbur, S. Contreras, S. Grosshuesch, A. Deino, **C. A. Scholz**, R P. Lyons, S. Schouten & J. S.



- Sinninghe Damsté, 2016, A progressively wetter climate in southern East Africa over the past 1.3 million years. *Nature*, doi:10.1038/nature19065.
74. Donna J. Shillington, James B. Gaherty, Cynthia J. Ebinger, **Christopher A. Scholz**, Kate Selway, Andrew A. Nyblade, Paul A. Bedrosian, Cornelia Class, Scott L. Nooner, Matthew E. Pritchard, Julie Elliott, Patrick R. N. Chindandali, Gaby Mbogoni, Richard Wambura Ferdinand, Nelson Boniface, Shukrani Many, Godson Kamihanda, Elifuraha Saria, Gabriel Mulibo, Jalf Salima, Abdul Mruma, Leonard Kalindekafe, Natalie J. Accardo, Daud Ntambila, Marsella Kachingwe, Gary T. Mesko, Tannis McCartney, Melania Maquay, J. P. O'Donnell, Gabrielle Tepp, Khalfan Mtelela, Per Trinhammer, Douglas Wood, Ernest Aaron, Mark Gibaud, Martin Rapa, Cathy Pfeifer, Felix Mphopo, Duncan Gondwe, Gabriella Arroyo, Celia Eddy, Brian Kamoga, and Mary Mosh, Acquisition of a Unique Onshore/Offshore Geophysical and Geochemical Dataset in the Northern Malawi (Nyasa) Rift, *Seismological Research Letters* Volume 87, Number 6 November/December 2016, pp. 1-11.
73. Wood<sup>1</sup>, D.A., **Scholz, C.A.**, 2016, Stratigraphic framework and lake level history of Lake Kivu, East African Rift, *Journal of African Earth Sciences*, <http://dx.doi.org/10.1016/j.jafrearsci.2016.06.01464>.
72. Shanahan, T.M., Hughen, K.A., McKay, N.P., Overpeck, J.T., **Scholz, C.A.**, Gosling, W.D., Miller, C.S., Peck, J.A., King, J.W. & Heil, C.W., 2016, CO<sub>2</sub> and fire influence tropical ecosystem stability in response to climate change, *Nature - Scientific Reports* 6, Article number: 29587, doi:10.1038/srep29587
71. Lyons<sup>1</sup>, RP, **Scholz, CA**, and 9 others, 2015, Continuous 1.3-million-year record of East African hydroclimate, and implications for patterns of evolution and biodiversity, *Proceedings of the National Academy of Sciences* v.112 (51) pp. 15568-15573.
70. Ellis, GS, Katz, BJ, **Scholz, CA**, and Swart, PK, 2015, Organic sedimentation in modern lacustrine systems: A case study from Lake Malawi, East Africa, in Larsen, D., Egenhoff, S.O., and Fishman, N.S., eds., Paying Attention to Mudrocks: Priceless!: *Geological Society of America Special Paper* 515, p. 19–47, doi:10.1130/2015.2515(02).
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68. Wood, D.A.<sup>1</sup>, Zal, H.J.J., **Scholz, C.A.**, Ebinger, C.J. and Nizere, I., 2015, Evolution of the Kivu Rift, East Africa: interplay among tectonics, sedimentation and magmatism, 2015, *Basin Research* (2015) 1–14, doi: 10.1111/bre.12143, 1-14.
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63. Hargrave<sup>2</sup>, J.E., Hicks<sup>2</sup>, M.K., **Scholz, C.A.**, 2014 Lacustrine Carbonates From Lake Turkana, Kenya: A Depositional Model of Carbonates in an Extensional Basin, *Journal of Sedimentary Research*, v. 84, 224–237
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#### **PAPERS AND LECTURES PRESENTED IN 2024**

Hudson-Mohawk Professional Geologists Association, Invited Speaker, April 2024, Albany NY.  
SEPM International Sedimentary Geosciences Congress, May 2024, Flagstaff AZ.  
AGU Fall meeting, December 2024, Washington DC.

#### **PROPOSALS SUBMITTED/DEVELOPED IN 2024**

NSF – P4CLIMATE program, Collaborative Research: Collaborative Research: A Synthesis of Hydroclimate Records From Lake Bosumtwi And Other African Scientific Drill Cores: New Proxies, Geochronologies and Proxy-Model Integration, CA Scholz PI

Bezos Earth Fund: SAMAKI-AI: Conserving Biodiversity And Rescuing Fisheries In Africa's Great Rift Valley With AI-Powered Coastal Habitat Management, CA Scholz PI.

NSF – NRT Program: NRT: Cosmic Explorers: Nurturing the Next Generation of Gravitational-Wave Pioneers, CA Scholz, co-PI.

NSF-Mid-Scale Infrastructure Program, Mid-Scale RI-1 (M1:IP): Expanding Science Frontiers through Continental Drilling (ESF), Submitted by University of Minnesota, CAS participant.

International Continental Scientific Drilling Program, Deep Drilling in the Turkana Basin: Exploring the link between environmental factors and hominin evolution over the past 4 Ma, CA Scholz co-investigator, \$1,600,000, developed in 2024, submitted January 15, 2025. Pending.

International Continental Scientific Drilling Program, The Lake Victoria Drilling Project, CA Scholz – co-investigator, \$1,600,000, developed in 2024, submitted January 15, 2025. Pending.

**RESEARCH SUPPORT** (\* = Grants in force)(Principal Investigator on all projects, except as noted)

(60) Collaborative Research: Identifying and Evaluating Sites for Cosmic Explorer\*, National Science Foundation, Division of Physics: Investigator-Initiated Research Projects, (**\$362,159**), Scholz is co-principal investigator.

(59) Halliburton Strategic University Alliance Grant Software Grant for Geophysical Laboratories\*, \$27,668,702, 2024-2023.

(58) High-Resolution Seismic Reflection Site Survey Supporting Lake Victoria Scientific Drilling\*, National Science Foundation EAR-Instrumentation & Facilities program (**\$199,534**), 9/1/22-8/31-24.

(57) Developing 350-year records of Nutrient Loading and Environmental Change in



Skaneateles Lake and Oneida Lakes, NY: Evaluating End-Member Lake Systems in Upstate NY, New York State Water Resources Institute, (**\$33,675**), 6/1/22-5/30/23.

(56) Collaborative Research: Characterizing Quaternary Fault Behavior and Surface Processes of an Active Rift: The Lake Malawi (Nyasa) Rift, East Africa\*, National Science Foundation Tectonics/Geophysics Programs (**\$763,785**), 5/22-4/25.

(55) Deep Drilling in the Turkana Basin (DDTB) Exploring the link between environmental factors and hominin evolution (workshop proposal)(CA Scholz is co-PI, funded to Hamilton College)

(54) The Lake Tanganyika Scientific Drilling Project (TSDP) Full Drilling Proposal, International Continental Scientific Drilling Program, \$1,500,000 (to Brown University)(CA Scholz is Co-PI) 2021-2025

(53) Halliburton Strategic University Alliance Grant Software Grant for Geophysical Laboratories, **\$27,668,702**, 2021-2023.

(52) The RhINO Project (Rift-Climate-Earth Surface Interactions: Rift Basin Stratigraphy and Implications for Global Exploration)\*; Consortium of Oil & Gas Companies **\$420,000**, 2020-2024.

(51) Skaneateles Lake Association - Studies of Phosphorous in Skaneateles Lake Sediments\*, **\$127,033**, 6/1/2019-12/31/2022.

(50) National Science Foundation – Earth Sciences Instrumentation & Facilities, Acquisition of a Multi-sensor Core Logger for Syracuse University, **\$403,425**, 1/1/2019-12/31/2021. (co-I)

(49) National Science Foundation – Paleo Perspectives on Climate Change (P2C2) program, Collaborative Research: A High Resolution Paleoclimate Archive of Termination I in Oneida Lake and Glacial Lake Iroquois Sediments\*, **\$503,622**, 2018-2021. Supplement awarded 7/1/22, **\$100,661**.

(48) RAKGas, Ltd., Supplemental Support for Processing of SEGMeNT Multichannel Seismic Reflection Data from Central and Northern Lake Malawi, **\$204,663**. 2017-2018.

(47) Rhino Resources, Ltd., Comparative deformation of the Kerimbab Graben, Offshore Mozambique and Tanzania, and the East African Rift, **\$32,676**, 2017-2018.

(46) National Science Foundation – GEOPRISMS program, Collaborative Research: GeoPRISMS: Constraining the flux of magma and magmatic CO<sub>2</sub> during early-stage rifting in East Africa, **\$210,812**, CA Scholz PI, J. Muirhead lead Co-PI, 7/1/2017-6/30/2020.

(45) Syracuse University Phase I Proposal: Environmental Monitoring and Geoscience Surveying Applications for sUAS at Syracuse University (co-PI). **\$59,993**. 12/1/2016-3/31/2017.

- (44) Halliburton Strategic University Alliance Grant Software Grant for Geophysical Laboratories, **\$27,640,652**, 2018-2020.
- (43) Consortium of Oil and Gas Companies: Stratigraphic Evolution of the East African Rift, **\$675,000**, 1/1/2016-12/31/2019.
- (42) Halliburton Strategic University Alliance Grant Software Grant for Geophysical Laboratories **\$37,078,668.32** 2015-2017.
- (41) National Science Foundation - NRT: Education Model Program on Water-Energy Research (EMPOWER) at Syracuse University, \$2,965,339 (Co-PI), 2015-2021.
- (40) Beach Petroleum Ltd., Analysis of South Lake Tanganyika Seismic Reflection Data, **\$117,906**, 2013-2015.
- (39) Consortium of Oil and Gas Companies: Lacustrine carbonate and siliciclastic mixed systems of the Kivu/Tanganyika (East Africa) and Walker Lake (Basin and Range) Rifts, **\$750,000**, 7/2012-6/2015.
- (38) John D. & Catherine T. MacArthur Foundation (UMn subcontract), Dynamics of the Lake Kivu System: Geological, Biological and Hydrographic Impacts on Biodiversity and Human Wellbeing, **\$79,900**, 10/2011-4/2013.
- (37) Vanoil Energy Ltd., Seismic Reflection Survey of Lake Kivu, Rwanda, East Africa: PHASE 1 - Airgun Survey, **\$319,770**, 10/2011-6/2013.
- (36) NSF-Continental Dynamics, Collaborative Research: Tectonic and magmatic processes during early-stage rifting: an integrated study of northern Lake Malawi, Africa, **\$766,846**, 1/2012-12/2017.
- (35) Tullow Kenya BV Bathymetric and Subbottom Profiling Survey of South Lake Turkana, Kenya, **\$135,000**, 5/2011-1/2012.
- (34) Vanoil Energy Ltd., Seismic Reflection Survey of Lake Kivu, Rwanda, East Africa: Phase I - High-Resolution Reconnaissance Survey, **\$85,847**, 6/1/2010 - 5/31/2011
- (33) Statoil Petroleum AS, Carbonate Petrology of Saline Lake Systems in Extensional Settings: Case Studies from the Afar Region, East African Rift, and the Basin and Range Province, USA, **\$258,702**, 9/15/2010 - 12/31/2011.
- (32) Tri-County Skaneateles Lake Pure Water Association, Benthic bottom habitat mapping of Skaneateles Lake; promoting the eradication of Eurasian Milfoil, **\$438,528**, 4/1/08-3/31/09.
- (31) Landmark Graphics Corporation Strategic University Alliance Grant, **\$6,206,200** (Software grant) through December 31, 2014.

- (30) Tullow Oil plc, Surestream, and Beach Petroleum Ltd., Support for geophysical data archival, **\$145,000**, 1/1/07-12/31/12.
- (29) NSF – Earth System History Program, The Lake Malawi Drilling Project - A long, high-resolution record of abrupt climate change in the southern tropics of East Africa **\$340,525**, 9/15/06-8/31/09.
- (28) Industrial Associates of the Lacustrine Rift Basin Research Program of Syracuse University; Ongoing support (1/1/2000-12/2011): **\$2,105,048**.
- (27) NSF – Earth System History Program, High resolution, low-latitude paleoclimatology from newly acquired drill cores from Lake Bosumtwi, Ghana, **\$268,687**, 9/15/06-8/31/09.
- (26) Skaneateles Lake Eurasian Milfoil Eradication Corporation, **\$163,280**, 6/1/2007-5/31/2008.
- (25) Tullow Oil, plc, Geochemical Stratigraphic Correlation of Lake Albert Rift Exploration Wells, Uganda, **\$102,524**, 7/1/2007-6/30/2009.
- (24) Landmark Graphics Corporation, Software grant for commercial seismic interpretation and mapping software. (Multiple awards since 1995). Value of current software grant to Syracuse University = **\$4,108,859**, in force through December 31, 2008.
- (23) NSF-Earth System History Program- Scientific Drilling on Lake Malawi, East African Rift, **\$2,192,078**, ended Jan 2006.
- (22) International Continental Scientific Drilling Program - Scientific Drilling in Lake Malawi, **\$700,000**, ended Jan 2006.
- (21) International Continental Scientific Drilling Program: Tropical Paleoclimatology: Scientific Drilling in Lake Bosumtwi, **\$112,141**, ended Aug 2006.
- (20) NSF-Earth System History Program - Tropical Paleoclimatology: Scientific Drilling in Lake Bosumtwi, **\$268,687**, ended Oct. 2006.
- (19) Hardman Resources Ltd. - Seismic Reflection Studies on Lake Albert, Uganda and Congo, **\$1,294,879**, ended 12/06.
- (18) NSF/U. Arizona subcontract - instructional support for the Nyanza Project, **\$103,106**, ended 2003.
- (17) NSF – Continental Dynamics. REU support for Lake Edward Project, **\$10,000** ended, 2003.
- (16) NSF - ESH/Global Change: Seismic reflection site survey of Lake Edward, **\$403,660**, 1998-2003.
- (15) NSF - ESH/Global Change: Seismic reflection site survey of Lake Bosumtwi, **\$314,058**,

1999-2002.

(14) NSF - Science Workshop on Scientific Drilling in Lakes Malawi and Tanganyika, **\$35,000**, 1999-2000.

(13) ICDP - Science Workshop on Scientific Drilling in Lakes Malawi and Tanganyika, **\$25,000**, 1999-2000.

(12) NSF - ESH/Global Change: Forcing of Tropical Continental Climate, **\$42,128**, 1999-2000.

(11) Lacustrine Rift Basin Industrial Associates - Seismic Analysis and Petrophysical Studies of Lacustrine Source Rock Facies Using Seismic Reflection and Drill Core Data from Lake Edward, East Africa, **\$336,000**, 1997-1999.

(10) NSF/U. Arizona subcontract - instructional support for the Nyanza Project - **\$7,605**, 1999.

(9) Lacustrine Rift Basin Industrial Associates - Sequence Stratigraphy and Sedimentology of Lacustrine Carbonates and Mixed-System Turbidites: Modern Analogs for Lacustrine Reservoirs, Lake Tanganyika, East Africa, **\$325,000**, 1996-1997.

(8) South Florida Water Management District - Seismic Stratigraphic Studies along South Florida Canals: A Pilot Study, **\$29,291**, 1996-1997.

(7) NSF-EAR (Instrumentation and Facilities) - Modernization of the RSMAS seismic processing facility, **\$29,524**, 1997.

(6) Lacustrine Rift Basin Industrial Associates - Deep water sands and sublacustrine fans in Lakes Malawi and Tanganyika (consortium of 7 oil companies). Two years (1994-1995) totaling **\$472,272**.

(5) National Science Foundation - Continental Dynamics Program - Multichannel Seismic Investigation of Lake Baikal: Structure and Stratigraphy of the Upper Crust. Principal Investigator (Joint proposal with the University of Michigan, University of South Carolina and USGS, Atlantic Branch of Marine Geology). Three years (1992-1995) totaling \$763,810, U. Miami component = **\$211,357**.

(4) National Science Foundation - EAR Global Change - IDEAL Paleoclimate Studies on Lake Victoria. Collaborative with U. of Minnesota. Three years, \$681,200, 7/1/93-9/30/97, U. Miami component = **\$58,527**.

(3) Lacustrine Rift Basin Industrial Associates - Malawi Rift Lake Delta Study, Principal Investigator, (consortium of 7 oil companies), **\$200,000**, 10/92-12/93.

(2) Petrofina - Planning a Multichannel Seismic Reflection Investigation of Lakes Mobutu (Albert) and Edward, Uganda and Zaire. Principal Investigator, **\$25,600**, 7/92-1/93.

(1) Lacustrine Rift Basin Industrial Associates Studies of deltaic sand body geometry in Lake Malawi, East Africa. Co-Principal Investigator with T.C. Johnson, (consortium of 6 oil companies), 10/90-9/92, totaling **\$600,000**.

## **COURSES TAUGHT**

“Fundamentals of Geology” Professional Examination Preparation  
The Energy Transition: Earth Science of Energy (Syracuse University)  
Climate Change and Human Origins (Syracuse University)  
History of Earth and Life (Syracuse University)  
Sedimentary Processes and Systems (Syracuse University)  
Sedimentary Basin Analysis (Syracuse University, Univ. of Miami)  
Reflection Seismology (Syracuse University)  
Tropical Paleoclimatology Seminar (Syracuse University)  
Extensional Tectonics Seminar (Syracuse University)  
Introduction to Oceanography (U. Miami)  
Applied Environmental Geophysics (U. Miami)  
Geological Oceanography (Duke Marine Lab.)  
Lacustrine Sedimentation (Oil and Gas Industry Short course)  
Exploration Seismology (Duke University)

## **CRUISE AND FIELD EXPERIENCE**

LAKE MALAWI, MALAWI, High-resolution seismic reflection and multibeam echosounder acquisition, Chief Scientist & PI, January 2024.  
LAKE VICTORIA, TANZANIA, High-resolution seismic acquisition, Chief Scientist & PI, January 2023.  
ONEIDA LAKE, NEW YORK, Multichannel seismic acquisition, Lead Scientist & PI, July 2019.  
LAKE KIVU, RWANDA, EMPOWER FIELD SCHOOL – Water and Energy in the Developing World – Lead Instructor – June 2018  
LAKE MALAWI, Active Source Seismic Acquisition, SEGMeNT Project, Co-Chief Scientist, 2015  
LAKE KIVU, RWANDA, Geophysical data acquisition, sediment coring, 5 cruises: 2010- 2014 (Chief Scientist).  
LAKE TURKANA RIFT, KENYA, Geophysical data acquisition (airgun, high-resolution reflection seismic, side scan sonar) and sediment sampling (Kullenberg and Vibrocoring), Chief Scientist, 2009-2011.  
DEATH VALLEY, *Rift Systems Field School*, Lead Instructor, 2008-2014.  
KENYA RIFT, *Rift Systems Field School*, Lead Instructor, 2006-2011  
BASIN AND RANGE *Saline Lakes Field School*, 2011-2015  
LAKE MALAWI, EAST AFRICA, Chief Scientist for the *Lake Malawi Scientific Drilling Project*, Feb-Mar 2005.  
LAKE BOSUMTWI, GHANA, *GLAD800 Scientific Drilling*, co-PI, Jul 2004.  
LAKE BOSUMTWI, GHANA, *R/V Kilindi*, Single channel seismic acquisition, Chief Scientist, May 2004.  
LAKE ALBERT, UGANDA/CONGO, Deep-basin multichannel seismic acquisition, 2003.  
LAKE EDWARD, UGANDA/CONGO, Single channel seismic acquisition, Chief Scientist, May 2003.  
SENECA & CAYUGA LAKES, NY, *R/V William Scandling*, Multichannel seismic acquisition, Chief Scientist, Oct. 2002.  
SKANEATELES LAKE, NY, Single channel seismic acquisition, Chief Scientist, Aug 2002.  
LAKE MALAWI, EAST AFRICA, *R/V Ndunduma*, Single, Multichannel seismic acquisition, sediment sampling. Chief Scientist, Nov-Dec 2001.  
LAKE BOSUMTWI, GHANA, WEST AFRICA, *R/V Kilindi*, High-resolution and Multichannel seismic reflection profiling, Piston Coring, Chief Scientist, Dec 1999, May-Jun 2000.  
LAKE TANGANYIKA, EAST AFRICA, *R/V Tanganyika Explorer*, Electric deep-water vibrocoring, Multichannel seismic acquisition. Co-Chief Scientist, Feb-Mar 1997.  
LAKE MALAWI, EAST AFRICA, *R/V Ndunduma*, Multichannel seismic acquisition, electric deep-water vibrocoring, Chief Scientist, Jan-Feb 1995.

LAKE VICTORIA, EAST AFRICA, *R/V Ibis*, Multichannel and single -channel seismic acquisition, Co-chief Scientist, Mar-Apr 1995.

NORTH CAROLINA CONTINENTAL SLOPE, *R/V Cape Hatteras*, Seismic acquisition, electric deep-water vibrocoring. Chief Scientist, Apr 1994.

LAKE BAIKAL, SIBERIA, *R/V Balkash*, Multichannel Seismic Reflection Acquisition, Co-Chief Scientist, Aug-Sep 1992.

LAKE MALAWI, EAST AFRICA, *S/V Timba*, Digital Seismic Acquisition, High-resolution Seismic and SideScan Sonar, Gravity- and Vibro-Coring. Chief Scientist, Jan-Feb 1992.

LAKE MALAWI, EAST AFRICA, *Percussion Drilling and Vibrocoring Program* on Subaerial Deltas, Jul-Aug 1991.

CARIBBEAN AND WESTERN ATLANTIC, *R/V Cape Hatteras*, Digital single channel seismic acquisition, Jun 1990.

LAKE MALAWI, EAST AFRICA, *S/V Timba*, Single channel seismic profiling, Chief Scientist, Apr-May 1990.

GEORGES BANK, WESTERN ATLANTIC, *R/V Probe Researcher*, Multichannel seismic acquisition, May 1988.

BLAKE OUTER RIDGE, WESTERN ATLANTIC, *R/V Cape Hatteras*, Sediment coring, high-resolution seismic profiling, 1987.

LAKE MALAWI, EAST AFRICA, *R/V Nyanja*, Multichannel seismic acquisition Numerous cruises over 7 months, 1986.

LAKE MALAWI, EAST AFRICA, *R/V ORION*, Single channel high-resolution seismic profiling, sediment piston coring, 1986.

LAKE SUPERIOR, *R/V Viking*, Single channel seismic profiling, sediment gravity coring, 1984.

LAKE CHAMPLAIN, *R/V Melosira*, Sediment coring, single channel seismic profiling, 1979.

## **GRADUATE STUDENTS AND POSTDOCTORAL SCHOLARS:**

Students (24) (\* current)( • All-University Doctoral Prize Winner)

Keely Brooks (Southern Nevada Water Authority), Michael McGlue (Univ. Kentucky), Mathew Martin (Newfield Exploration Co.), Mathew Buoniconti (Chevron), Robert Lyons (Chevron), Stoney Gan (USF), Sean Quarry, Allison Burnett, Robert Gobell, Xuewei Zhang (Chevron), Amy Morrissey (Conoco-Phillips), Tonny Sseruberi (Petroleum Exploration Department-Uganda), Curtis Bixler (BHP), Douglas Wood (NOAA), Tannis McCartney (GSC), Mattie Friday (ION), Laura DeMott (USGS), Nicholas Zaremba (NOAA), Lachlan Wright• (Chevron), Shaidu Nuru Shaban (Tanzania Petroleum Development Corp.), Laura Streib (Syracuse Univ.), McKenzie Brannon\*, John Greenlee\*, Leken Ollemoita\*

Post-Doctoral Scholars (9): Tobias Karp (GMX Gmb), Michael J. Soreghan (U. Oklahoma), H. Gröschel-Becker (U. Miami), K. Lezzar (Fusion Geophysical), Jennifer Hargrave (Univ. Louisiana at Lafayette), Melissa Hicks (Onondaga Community College), James Muirhead (University of Auckland), Laura DeMott (USGS), Liang Xue (New Mexico Tech.)

Current advisees: 2 Ph.D., 1 M.S., 1 Post-doctoral Scholar

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