

## **CRAIG STRATTON FEIBEL**

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**Current Position:** Associate Professor of Earth and Planetary Sciences / Anthropology

### **Education**

9/72-6/76 Avon Old Farms School, Avon, CT 06001  
9/76-6/80 Dartmouth College, Hanover, NH 03755; B. A., Earth Sciences/Geology, 6/80  
9/80-12/83 Iowa State University, Ames, IA 50011; M. S., Geology, 12/83  
9/82-6/88 University of Utah, Salt Lake City, UT 84112; Ph. D., Geology, 6/88

### **Current Research Projects**

Geological Context for Evolution in the Turkana Basin, Kenya - using high-resolution litho-, tephro- and chronostratigraphy to examine paleogeography and structural development, with sedimentological and paleontological evidence to reconstruct the impact of different controls on basin history, habitats and communities. In collaboration with CNRS, National Museums of Kenya & Turkana Basin Institute.

Scientific Drilling and Human Origins – time/space transgressive terrestrial drilling project supported by NSF and ICDP to collect lacustrine cores for environmental controls on hominin evolution.

Turkana Basin Geoinformatics – spatial, stratigraphic and temporal integration of recent and legacy data sets from Turkana Basin research 1966-present, as archival records and analytical tools. Working with R. Reynolds (Denver Museum).

Lower Paleolithic Archaeological Sites in Israel - study of the depositional setting at the Early/Middle Pleistocene lake margin sites of Gesher Benot Ya'aqov and 'Ubeidiya in the Jordan River Valley, and at the Revadim site on the coastal plain.

### **Research Experience**

I have conducted fieldwork in ten countries over the past thirty-five years, involving studies of stratigraphy, sedimentology, geochronology, paleoecology and paleoenvironments. Much of this work was undertaken in the Turkana Basin of Kenya and Ethiopia, including the sites of: Koobi Fora, West Turkana (including Nariokotome and Lokalalei), Loiyengalani, Lothagam, the Lower Kerio Valley (including Kanapoi, Ekora and Nakoret), and Kibish. These studies have advanced our understanding of the age and character of the sedimentary sequences at these sites, as well as the environmental setting for hominin evolution. A second focus is the Levantine Corridor of Israel, with analysis of the Acheulean sites of Gesher Benot Ya'aqov, Revadim Quarry and 'Ubeidiya. These sites document the environmental setting for hominin migrations out of Africa. Work in Asia investigated the context of Late Pleistocene products of those migrations, in the 20 m terrace deposits of the Solo River in Java. Investigation of Miocene palaeontological localities has included work on Maboko Island, Lake Victoria and in central Europe (Hungary, Croatia, Bosnia), both related to important hominoid fossil localities. I have also worked at a variety of other archaeological and paleontological sites including: Gona and Hadar, Ethiopia; Nyasa Province, Mozambique; Olduvai Gorge and Laetoli, Tanzania; and Kashmir, India.

My laboratory studies include sedimentological analyses documenting the character, origins, and alteration of materials from the above sites, as well as geochemical characterization of tephra. Particular focal points include the characteristics of lake margin sediments as archives of paleoenvironmental information, studies of ancient soils as landscape and climatic records, investigation of vertebrate and invertebrate fossils for both environmental and evolutionary implications, and the ecology and geochemistry of ostracods.

### **Dissertation Topic**

Paleoenvironments of the Koobi Fora Formation, Turkana Basin, northern Kenya.

**Teaching Experience**

1980-82 Teaching Assistant, Geology, Iowa State University  
 1982-83 Teaching Assistant, Geology, University of Utah  
 1985-96 Instructor, Geology and Paleontology, Koobi Fora Field School  
 Harvard University and National Museums of Kenya  
 1986-87 Associate Instructor, Geology and Paleontology, University of Utah  
 1989-90 Associate Instructor, Geology and Paleontology, University of Utah  
 1990-94 Research Assistant Professor, University of Utah  
 1994-97 Visiting Assistant Professor, Rutgers University  
 1997-2002 Assistant Professor, Rutgers University  
 2002- present Associate Professor, Rutgers University  
 2011- Instructor, Geology, Turkana Basin Institute Field School

**Courses Taught (N=27)**

Evolution and the Fossil Record LE 135  
 Invertebrate Paleontology GG 318  
 Sedimentary Processes GG 592  
 Lacustrine Sedimentation GG 592  
 Race to Save the Planet (Environmental Science telecourse) GG 107  
 Geological Context of Primate Sites GG 592 / ANTH 581  
 Introduction to Field Research in Paleoanthropology ANTH 160  
 Fluvial Sedimentation GG 592  
 Short Course on Geological Context and Fossil Localities, National Museum of Kenya  
 Quaternary Studies Seminar - Paleoenvironmental Reconstruction QS 501  
 Paleoecology ANTH 402/586  
 Environment and Human Evolution ANTH 213  
 Microstratigraphic Analysis in Archaeology ANTH & GEOL 394  
 Introduction to Human Evolution ANTH 102  
 Quaternary Studies Seminar - Consequences of Cenozoic Cooling QS 501  
 Geoarchaeology ANTH 291/2 & 586  
 Survey of Old World Prehistory ANTH 207  
 Sedimentary Geology GEOL 330  
 Pleistocene Hominid Adaptations ANTH 326  
 Context of Neogene Old World Sites ANTH 586  
 Sedimentology GEOL 340  
 Introduction to Archeology ANTH 105  
 Geology of the Turkana Basin GEO 303  
 Lacustrine Sedimentology GEOL 620  
 The Quaternary Period GEOL 434  
 Byrne Seminar: Exploring the Human Past ARTS 101  
 Fundamentals of Sedimentary Geology GEOL 211

**Research Supervision**

Undergraduate; advised 15 Undergraduate/Honors Theses (supervised 6)  
 9 MS/MA Theses; supervised C. Lepre, T. Goldman, J. Kotcho, S. Hagemann, C. Beck, R. Martin  
 21 PhD Dissertations; supervisor for R. Lefebvre, R. L. Quinn, C. J. Campisano, C. J. Lepre  
 Post-Doc: supervisor for R. L. Quinn  
 currently advising 1 MS, 2 PhD students (supervising 1 and 2)

**Honors, Awards and Appointments**

1988 Distinguished Ph.D. Research Award, Department of Geology and Geophysics, University of Utah  
 1988- Research Associate, National Museums of Kenya  
 1990-96 Assistant Director, Koobi Fora Field School  
 1992-95 Member, INQUA Working Group on the Plio-Pleistocene Boundary  
 1994-96 Research Associate, Peabody Museum, Harvard University  
 1994-03 Member, INQUA Stratigraphic Commission  
 1996-99 Co-Chair, INQUA Working Group on Hominization in Process in Africa, 2.5-1.5 Ma  
 1997-99 Associate Editor, *Journal of Human Evolution*

- 1998 Fellow, Geological Society of America  
 1999-04 Undergraduate Director, Department of Anthropology, Rutgers University  
 1999-03 Co-Chair, INQUA Working Group on Early Hominid Evolution  
 2002 Fellow, Institute for Advanced Studies, Hebrew University, Jerusalem  
 2002-03 Member, INQUA Working Group on the Lower/Middle Pleistocene Boundary  
 2006-08 Associate Editor, *Journal of Human Evolution*  
 2006- Member, Steering Committee, Hominin Sites and Paleolakes Drilling Project  
 2009-12 Undergraduate Program Director, Department of Earth and Planetary Sciences, Rutgers University  
 2011-18 Visiting Associate Professor, Turkana Basin Institute, Stony Brook University  
 2014- Member, Executive Board, Center for Human Evolutionary Studies, Rutgers University  
 2014-17 Chairman, Department of Anthropology, Rutgers University

### Professional Service

Manuscripts Reviewed for: *Science, Nature, PNAS, Geology, Journal of the Geological Society of London, PALAEO 3, Journal of Human Evolution, Annual Reviews, Evolutionary Anthropology, Quaternary International, American Journal of Physical Anthropology, Quaternary Research, Environmental Management, Palaios, Journal of Archaeological Science, Earth-Science Reviews, Journal of Paleontology*

Research Proposals Reviewed for: National Science Foundation, L. S. B. Leakey Foundation, National Geographic Society, Sigma Xi, Geological Society of America, Smithsonian Institution, Wenner-Gren Foundation, American Chemical Society, NERC

### Professional Affiliations

American Association for the Advancement of Science  
 Geological Society of America  
 International Association of Sedimentologists  
 SEPM (Society for Sedimentary Geology)  
 Paleoanthropology Society  
 American Geophysical Union

### SYNERGISTIC ACTIVITIES

- 1999 Excursion Leader, Excursion B11 Koobi Fora, northern Kenya. INQUA XV  
 2012 Expert Reviewer, National Geographic Society – collaborated on development of web-based teaching module on paleogeography and environments of the Turkana Basin  
[http://education.nationalgeographic.com/education/media/paleogeography-lake-turkana/?ar\\_a=1](http://education.nationalgeographic.com/education/media/paleogeography-lake-turkana/?ar_a=1)

### PUBLICATIONS

1. Feibel, C. S. 1980. Geological mapping of the Himalayan foothills using Landsat imagery. Unpublished B. A. Thesis, Dartmouth College, Hanover. 15 pp.
2. Feibel, C. S. 1983. Stratigraphy and paleoenvironments of the Koobi Fora Formation along the western Koobi Fora Ridge, East Turkana, Kenya. Unpublished M.S. Thesis, Iowa State University, Ames. 104 pp.
3. Brown, F. H. and Feibel, C. S. 1985. Stratigraphical notes on the Okote Tuff Complex at Koobi Fora. *Nature* 316: 794-797. doi:10.1038/316794a0
4. Feibel, C. S. and Brown, F. H. 1986. Depositional history of the Koobi Fora Formation, northern Kenya. *Proceedings of the Second Conference on the Geology of Kenya*.
5. Brown, F. H. and Feibel, C. S. 1986. Revision of lithostratigraphic nomenclature in the Koobi Fora region, Kenya. *Journal of the Geological Society, London* 143: 279-310. doi:10.1144/gsjgs.143.2.0297
6. Feibel, C. S. 1987. Fossil fish nests from the Koobi Fora Formation (Plio-Pleistocene) of northern Kenya. *Journal of Paleontology* 61: 130-134. <http://www.jstor.org/stable/1305138>

7. Feibel, C. S. 1988. Paleoenvironments of the Koobi Fora Formation, Turkana Basin, northern Kenya. Unpublished Ph.D. Dissertation, University of Utah, Salt Lake City. 330 pp.
8. Brown, F. H. and Feibel, C. S. 1988. "Robust" hominids and Plio-Pleistocene paleogeography of the Turkana Basin, Kenya and Ethiopia. In: Grine, F. E. (ed.) *Evolutionary History of the "Robust" Australopithecines*. Aldine-de Gruyter, New York. pp. 325-341.
9. Feibel, C. S., Brown, F. H. and McDougall, I. 1989. Stratigraphic context of fossil hominids from the Omo Group deposits: northern Turkana Basin, Kenya and Ethiopia. *American Journal of Physical Anthropology* 78: 595-622. doi: [10.1002:ajpa.1330780412](https://doi.org/10.1002/ajpa.1330780412)
10. Ekdale, A. A., Brown, F. H. and Feibel, C. S. 1989. Non-marine macroborings in Early Pleistocene algal biolithites (stromatolites) from the Turkana Basin, northern Kenya. *Palaios* 4: 389-396. <http://www.jstor.org/stable/3514564>
11. Brown, F. H. and Feibel, C. S. 1991. Stratigraphy, depositional environments and palaeogeography of the Koobi Fora Formation. In: Harris, J. M. (ed.) *Koobi Fora Research Project, Volume 3. Stratigraphy, artiodactyls and palaeoenvironments*. Clarendon Press, Oxford. pp. 1-30.
12. Feibel, C. S., Harris, J. M. and Brown, F. H. 1991. Palaeoenvironmental context for the late Neogene of the Turkana Basin. In: Harris, J. M. (ed.) *Koobi Fora Research Project, Volume 3. Stratigraphy, artiodactyls and palaeoenvironments*. Clarendon Press, Oxford. pp. 321-370.
13. Feibel, C. S. and Brown, F. H. 1991. Age of the primate-bearing deposits on Maboko Island, Kenya. *Journal of Human Evolution* 21: 221-225. doi: [10.1016/0047-2484\(91\)90063-2](https://doi.org/10.1016/0047-2484(91)90063-2)
14. Feibel, C. S. 1992. Earliest *Homo* debate. *Nature* 358: 289-290. doi: [10.1038/358289a0](https://doi.org/10.1038/358289a0)
15. Feibel, C. S. and Brown, F. H. 1993. Microstratigraphy and paleoenvironments. In: Walker, A. C. and Leakey, R. E. (eds.) *The Nariokotome Homo erectus skeleton*. Harvard University Press, Cambridge. pp. 21-39.
16. Haileab, B. and Feibel, C. S. 1993. Tephra from Fejej, Ethiopia. *Journal of Human Evolution* 25: 515-517.
17. Coffing, K., Feibel, C., Leakey, M. and Walker, A. 1994. Four million year old hominids from East Lake Turkana, Kenya. *American Journal of Physical Anthropology* 93: 55-65. doi: [10.1002/ajpa.1330930104](https://doi.org/10.1002/ajpa.1330930104)
18. Feibel, C. S. 1994. Freshwater stingrays from the Plio-Pleistocene of the Turkana Basin, Kenya and Ethiopia. *Lethaia* 26: 359-366. doi: [10.1111/j.1502-3931.1993.tb01542.x](https://doi.org/10.1111/j.1502-3931.1993.tb01542.x)
19. Rogers, M. J., Harris, J. W. K. and Feibel, C. S. 1994. Changing patterns of land use by Plio-Pleistocene hominids in the Lake Turkana Basin. *Journal of Human Evolution* 27: 139-158. doi: [10.1006/jhev.1994.1039](https://doi.org/10.1006/jhev.1994.1039)
20. Leakey, M. G., Feibel, C. S., McDougall, I. and Walker, A. 1995. New four-million-year-old hominid species from Kanapoi and Allia Bay, Kenya. *Nature* 376: 565-571. doi: [10.1038/376565a0](https://doi.org/10.1038/376565a0)
21. Wynn, J. G. and Feibel, C. S. 1995. Paleoclimatic implications of vertisols within the Koobi Fora Formation, Turkana Basin, northern Kenya. *Journal of Undergraduate Research* 6(1): 32-42.
22. Feibel, C. S. 1995. Geological context and the ecology of *Homo erectus* in East Africa. In: Bower, J. R. F. and Sartono, S. (eds.) *Evolution and ecology of Homo erectus*. Pithecanthropus Centennial Foundation, Leiden. pp. 67-74.
23. Feibel, C. S., Agnew, N., Latimer, B., Demas, M., Marshall, F., Waane, S. A. C. and Schmid, P. 1996.

- The Laetoli hominid footprints - a preliminary report on the conservation and scientific restudy. *Evolutionary Anthropology* 4: 149-154. doi: [10.1002/evan.1360040502](https://doi.org/10.1002/evan.1360040502)
24. Leakey, M. G., Feibel, C. S., Bernor, R. L., Cerling, T. E., Harris, J. M., Stewart, K. M., Storrs, G. W., Walker, A., Werdelin, L., and Winkler, A. J. 1996. Lothagam: a record of faunal change in the late Miocene of East Africa. *Journal of Vertebrate Paleontology* 16: 556-570. doi: [10.1080/02724634.1996.10011339](https://doi.org/10.1080/02724634.1996.10011339)
25. Rogers, M. J., Feibel, C. S. and Harris, J. W. K. 1996. Deciphering early hominid land use and behaviour: A multidisciplinary approach from the Lake Turkana Basin. In: Magori, C. C., Saanane, C. B. and Schrenk, F. (eds.) Four million years of hominid evolution in Africa: Papers in honour of Dr. Mary Douglas Leakey's outstanding contribution in palaeoanthropology. *Kaupia, Darmstädter Beiträge zur Naturgeschichte* 6: 9-19.
26. Semaw, S., Renne, P., Harris, J. W. K., Feibel, C. S., Bernor, R. L., Fessaha, N. and Mowbray, K. 1997. 2.5-million-year-old stone tools from Gona, Ethiopia. *Nature* 385: 333-336. doi: [10.1038/385333a0](https://doi.org/10.1038/385333a0)
27. Feibel, C. S. 1997a. Debating the environmental factors in hominid evolution. *GSA Today* 7(3):1-7.
28. Feibel, C. S. 1997b. A terrestrial Auxiliary Stratotype Point and Section for the Plio-Pleistocene boundary in the Turkana Basin, East Africa. *Quaternary International* 40: 73-79. doi: [10.1016/S1040-6182\(96\)00063-8](https://doi.org/10.1016/S1040-6182(96)00063-8)
29. Brown, F. H. and Feibel, C. S. 1997. Lithostratigraphic terminology of Plio-Pleistocene sediments of the Koobi Fora region. In: Isaac, G. Ll. (ed.) *Koobi Fora Research Project, Volume 5. Plio-Pleistocene Archaeology*. Clarendon Press, Oxford. pp. 60-63.
30. Leakey, M. G., Feibel, C. S., McDougall, I., Ward, C. and Walker, A. 1998. New specimens and confirmation of an early age for *Australopithecus anamensis*. *Nature* 393: 62-66. doi: [10.1038/29972](https://doi.org/10.1038/29972)
31. Feibel, C. S. 1999a. Lakes, lacustrine processes and limnology. In: Alexander, D. E. and Fairbridge, R. W. (eds.) *The Encyclopedia of Environmental Science*. Chapman & Hall, New York. pp. 354-356.
32. Roche, H., Delagnes, A., Brugal, J. P., Feibel, C. S., Kibunjia, M., Mourre, V. and Texier, P. J. 1999. Early hominid stone tool production and technical skill 2.34 Myr ago in West Turkana, Kenya. *Nature* 399: 57-60. doi: [10.1038/19959](https://doi.org/10.1038/19959)
33. McDougall, I. and Feibel, C. S. 1999. Numerical age control for the Miocene-Pliocene succession at Lothagam, a hominoid-bearing sequence in the northern Kenya Rift. *Journal of the Geological Society, London* 156: 731-745. doi: [10.1144/gsjgs.156.4.0731](https://doi.org/10.1144/gsjgs.156.4.0731)
34. Feibel, C. S. 1999b. Tephrostratigraphy and geological context in paleoanthropology. *Evolutionary Anthropology* 8: 87-100. doi: [10.1002/\(SICI\)1520-6505\(1999\)8:3<87::AID-EVAN4>3.0.CO;2-W](https://doi.org/10.1002/(SICI)1520-6505(1999)8:3<87::AID-EVAN4>3.0.CO;2-W)
35. Feibel, C. S. 1999c. Basin evolution, sedimentary dynamics and hominid habitats in East Africa: an ecosystem approach. In: Bromage, T. and Schrenk, F. (eds.) *African Biogeography, Climate Change, and Human Evolution*. Oxford University Press, Oxford. pp. 276-281.
36. Goren-Inbar, N., Feibel, C. S., Verosub, K. L., Melamed, Y., Kislev, M. E., Tchernov, E. and Saragusti, I. 2000. Pleistocene milestones on the Out-of-Africa corridor at Gesher Benot Ya'aqov, Israel. *Science* 289: 944-947. doi: [10.1126/science.289.5481.944](https://doi.org/10.1126/science.289.5481.944)
37. Feibel, C. S. 2001. Archaeological sediments in lake margin environments. In: Stein, J. K. and Farrand, W. R. (eds.) *Sediments in Archaeological Context*. University of Utah Press, Salt Lake City. pp. 127-148.
38. Goren-Inbar, N., Werker, E. and Feibel, C. S. 2002. *The Acheulian site of Gesher Benot Ya'aqov: The*

- wood assemblage*. Oxbow Press, Oxford. 121 pp. ISBN-13: 978-1842170724
39. Sharon, G., Feibel, C. S., Belitzky, S., Marder, O., Khalaily, H. and Rabinovitch, R. 2002. 1999 Jordan River drainage project damages Gesher Benot Ya'aqov: A preliminary study of the archaeological and geological implications. In: Gal, Z. (ed.) *Eretz Zafon: Studies in Galilean Archaeology*. Israel Antiquities Authority, Jerusalem. pp. 1-19.
  40. Feibel, C. S. 2003a. Stratigraphy and depositional history of the Lothagam sequence. In: Leakey, M. G. and Harris, J. M. (eds.) *Lothagam: The Dawn of Humanity in Eastern Africa*. Columbia University Press, New York. pp. 17-29.
  41. Bernor, R. L., Feibel, C. S. and Viranta, S. 2003. The vertebrate locality of Hatvan, Late Miocene (Middle Turolian, MN12), Hungary. In: Petculescu, A. and Stiuca, E. (eds.) *Advances in Vertebrate Paleontology, Hen to Panta*, Bucharest. pp. 105-112.
  42. Feibel, C. S. 2003b. Stratigraphy and depositional setting of the Pliocene Kanapoi Formation, lower Kerio Valley, Kenya. *Contributions in Science* 498: 9-20.
  43. Rosenfeld, A., Nathan, Y., Feibel, C. S., Shilman, B., Halicz, L., Goren-Inbar, N. and Siman-Tov, R. 2004. Paleoenvironment of the Acheulian Gesher Benot Ya'aqov Pleistocene lacustrine strata, northern Israel – lithology, ostracod assemblages and ostracod shell geochemistry. *Journal of African Earth Sciences* 38: 169-181. doi: [10.1016/j.jafrearsci.2003.10.008](https://doi.org/10.1016/j.jafrearsci.2003.10.008)
  44. Roche, H., Brugal, J. -P., Delagnes, A., Feibel, C., Harmand, S., Kibunjia, M., Prat, S. and Texier, P. -J. 2004. Plio-Pleistocene archaeological sites in the Nachukui Formation, West Turkana, Kenya: synthetic results 1997-2001. *Comptes Rendus Palevol* 2: 663-673. doi: [10.1016/j.crpv.2003.06.001](https://doi.org/10.1016/j.crpv.2003.06.001)
  45. Feibel, C. S. 2005. Quaternary lake margins of the Levant Rift Valley. In: Speth, J. D. and Goren-Inbar, N. (eds.) *Paleoecology of the Levantine Corridor*. Oxbow Books, Oxford. pp. 21-36.
  46. Lepre, C. J., Quinn, R. L., Joordens, J. J., Swisher, C. C., and Feibel, C. S. 2007. Plio-Pleistocene facies environments from the KBS Member, Koobi Fora Formation: implications or climate controls on the development of lake-margin hominin habitats in the northeast Turkana Basin (northwest Kenya). *Journal of Human Evolution* 53: 504-514. doi: [10.1016/j.jhevol.2007.01.015](https://doi.org/10.1016/j.jhevol.2007.01.015)
  47. Campisano, C. J. and Feibel, C. S. 2007. Connecting local environmental sequences to global climate patterns: Evidence from the hominin-bearing Hadar Formation, Ethiopia. *Journal of Human Evolution* 53: 515-527. doi: [10.1016/j.jhevol.2007.05.015](https://doi.org/10.1016/j.jhevol.2007.05.015)
  48. Quinn, R. L., Lepre, C. J., Wright, J. D. and Feibel, C. S. 2007. Paleogeographic variations of pedogenic carbonate  $\delta^{13}\text{C}$  values from Koobi Fora, Kenya: implications for floral compositions of Plio-Pleistocene hominin environments. *Journal of Human Evolution* 53: 560-573. doi: [10.1016/j.jhevol.2007.01.013](https://doi.org/10.1016/j.jhevol.2007.01.013)
  49. Van Bocxlaer, B., Van Damme, D. and Feibel, C. S. 2008. Gradual versus punctuated equilibrium evolution in the Turkana Basin molluscs: Evolutionary events or biological invasions? *Evolution* 62: 511-520. doi: [10.1111/j.1558-5646.2007.00296.x](https://doi.org/10.1111/j.1558-5646.2007.00296.x)
  50. Feibel, C. S. 2008. Microstratigraphy of the Kibish Hominin Sites KHS and PHS, lower Omo Valley, Ethiopia. *Journal of Human Evolution* 55: 404-408. doi: [10.1016/j.jhevol.2008.05.011](https://doi.org/10.1016/j.jhevol.2008.05.011)
  51. Roman, D., Campisano, C., Quade, J., DiMaggio, E., Arrowsmith, R. and Feibel, C. 2008. Composite tephrostratigraphy of the Dikika, Gona, Hadar, and Ledi-Geraru Project areas, northern Awash, Ethiopia. In: Quade, J. and Wynn, J. G. (eds) *The geology of early humans in the Horn of Africa*. Geological Society of America, Special Publication 446. Boulder. pp. 119-134.
  52. Campisano, C. J. and Feibel, C. S. 2008a. Tephrostratigraphy of the Hadar and Busidima Formations at Hadar, Afar Depression, Ethiopia. In: Quade, J. and Wynn, J. G. (eds) *The geology of early humans in the*

- Horn of Africa*. Geological Society of America, Special Publication 446. Boulder. pp. 135-162.
53. Campisano, C. J. and Feibel, C. S. 2008b. Depositional environments and stratigraphic summary of the Pliocene Hadar Formation, Afar Depression, Ethiopia. In: Quade, J. and Wynn, J. G. (eds) *The geology of early humans in the Horn of Africa*. Geological Society of America, Special Publication 446. Boulder. pp. 179-201.
  54. Feibel, C. S., Goren-Inbar, N., and Frumin, M. 2009. Historical perspectives on long-term landscape evolution in the Hula Basin. In: Shea, J. J. and Lieberman, D. E. (eds.) *Transitions in Prehistory: Essays in Honor of Ofer Bar-Yosef*. Oxbow Books for the American Schools of Prehistoric Research, Oxford, pp. 23-31.
  55. Feibel, C. S., Lepre, C. J. and Quinn, R. L. 2009. Stratigraphy, Correlation, and Age Estimates for Fossils from Area 123, Koobi Fora. *Journal of Human Evolution* 57: 112-122. doi: [10.1016/j.jhevol.2009.05.007](https://doi.org/10.1016/j.jhevol.2009.05.007)
  56. Spiro, B., Ashkenazi, S., Mienis, H.K., Melamed, Y., Feibel, C., Delgado, A., and Starinsky, A. 2009. Climate variability in the Upper Jordan Valley around 0.78 Ma, inferences from time-series stable isotopes of Viviparidae, supported by mollusc and plant palaeoecology. *Palaeogeography, Palaeoclimatology, Palaeoecology* 282: 32-44. doi: [10.1016/j.palaeo.2009.08.005](https://doi.org/10.1016/j.palaeo.2009.08.005)
  57. Alperson-Afil, N., Sharon, G., Kislev, M., Melamed, Y., Zohar, I., Ashkenazi, S., Rabinovich, R., Biton, R., Werker, E., Hartman, G., Feibel, C. and Goren-Inbar, N. 2009. Spatial patterning revealing hominin behavioral modernity at Gesher Benot Ya'aqov, Israel. *Science* 326: 1677-1680. doi: [10.1126/science.1180695](https://doi.org/10.1126/science.1180695)
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- A81. Cohen, A.S., Asrat, A., Campisano, C.J., Feibel, C.S., Ivory, S., Kingston, J.D., Lamb, H.F., Olago, D.O., Renaut, R.W., Schabitz, F., and HSPDP field team. 2013 The Hominin Sites and Paleolakes Drilling Project (HSPDP): Documenting the paleoenvironmental context of human origins in East Africa through scientific drilling. GSA Annual Meeting., Denver, CO.
- A82. Feibel, C. S., van der Lubbe, J. H., Yost, C. L., Beck, C. C., Vonhof, H. B., Joordens, J. C., and Cohen, A. S. 2014. An integrated multi-proxy investigation of outcrop and core records from an early Pleistocene lacustrine sequence in West Turkana, Kenya. GSA Abstracts with Programs Vol. 46, No. n: xx.
- A83. Beck, C. C. and Feibel, C. S. 2014. Using a multi-proxy approach to refining paleoenvironmental and paleoclimatic reconstructions of the Holocene at Lake Turkana, Kenya. GSA Abstracts with Programs Vol. 46, No. n: xx.
- A84. Quinn RL, Lepre CJ, Feibel CS, Bobe R, Werdelin L, Plavcan JM, Manthi FK, and Ward CV. 2014. The environmental context of *Australopithecus anamensis*: Pedogenic carbonate stable isotopic evidence for vegetation structure and climatic conditions at Kanapoi, Kenya. AAPA Annual Meeting.
- A85. Joordens, J., Feibel, C. S., van der Lubbe, J., Sier, M. J., Dupont-Nivet, G., Langereis, C., Beck, C., Cohen, A. and Vonhof, H. 2014. The ICDP HSPDP-Turkana project: towards integrated core and outcrop paleoclimate records. 12<sup>th</sup> Netherlands Earth Science Congress. Veldhoven, The Netherlands.
- A86. Sier, M. J., Langereis, C., Dupont-Nivet, G., Vonhof, H., Joordens, J., Yost, C., Beck, C., Feibel, C., van der Lubbe, J., and Cohen, A. 2014. ICDP Hominin Sites and Paleolakes Drilling Project, an Introduction. 12<sup>th</sup> Netherlands Earth Science Congress. Veldhoven, The Netherlands.
- A87. Beck, C., Feibel, C., Wright, J. and Mortlock, R. 2014. A multi-proxy approach to tracing a regressive

- event at Ferguson's Gulf, Lake Turkana, Kenya: Implications for modern analogues to assist in interpretations of the Plio-Pleistocene record. European Geophysical Union, Annual Meeting. Vienna.
- A88. Joordens, J., Feibel, C., van der Lubbe, J., Sier, M., Yoat, C., Beck, C., Dupont-Nivet, G., Langereis, C., Vonhof, H., and Cohen, A. 2014. Early *Homo* evolution in the Turkana Basin, Kenya: An ongoing research project for assessing its climatic and environmental background. The African Human Fossil Record, Toulouse, France.
- A. 89. Beck, C., Feibel, C., Henderik, R., Gravina, A., Sier, M. J., Cohen, A. and Campisano, C. 2014. A fluctuating Pleistocene lake margin: updates from the HSPDP West Turkana Kaitio drill leg. Geological Society of America, Vancouver.
- A90. Cohen, A. S. et al. 2015. The Hominin Sites and Paleolakes Drilling Project (HSPDP): Understanding the paleoenvironmental and paleoclimatic context of human origins through continental drilling. EGU, Vienna.
- A91. Harmand et al. 2015. Paleoanthropology Society Meeting, San Francisco.

#### FUNDING SUMMARY

2015-16	National Science Foundation (BCS 1443339) DDIG: Finding Prometheus: A multi-pronged approach to the search for fire in the Early Pleistocene at FxJj20 AB, Koobi Fora, Kenya (PI for S. Hlubik)	\$ 22,669
2013-18	National Science Foundation (EAR- 1338553) FESD: Earth System Dynamics and its Role in Human Evolution in Africa (Co-I as subcontract to A. Cohen, et al)	\$ 4 800 000 RU \$ 163 912
2012-14	National Science Foundation (EAR- 1241615) IPG: Collaborative Research: A High Resolution Analysis of Unique Paleoenvironmental Data From Key Hominin Sites (Co-PI w A. Cohen, et al)	\$ 1 000 000 RU \$ 85 352
2012-15	National Science Foundation (EAR- 1123000) Collaborative Research: The Hominid Sites And Paleolakes Drilling Project: Acquiring a High Resolution Paleoenvironmental Context of Human Evolution (Co-PI w A. Cohen, et al)	\$ 344 884
2012-15	International Continental Drilling Program (04-2010) The Hominin Sites And Paleolakes Drilling Project (HSPDP): Using Scientific Drilling To Understand The Paleoclimate Context Of Human Evolution (Co-PI w A. Cohen, et al)	\$ 1 000 000
2010-11	Leakey Foundation (22256) Refined Stratigraphy for upper Burgi/KBS Members, Koobi Fora, Kenya (Co-PI w J. Joordens)	\$ 19 500
2007	National Science Foundation (EAR-0725553) Scientific Drilling for Human Origins: Exploring the Application of Drill Core Records to Understanding Hominin Evolution (Co-PI w A. Cohen, R. Johnson)	\$ 125 423 RU \$ 65 000
2007	International Continental Drilling Program (ICDP 10/07) Scientific Drilling for Human Origins: An ICDP Workshop Proposal to Investigate Critical Time Intervals in Hominin-Paleoenvironmental History (Co-PI w A. Cohen, A. Behrensmeyer, R. Johnson, R. Potts)	\$ 70 000

2005	National Science Foundation (EAR-0530405) Workshop Proposal: Paleoclimates and human evolution: Integrating continental drilling research with paleoanthropology and other geological records (Co-PI with G. Ashley)	\$ 25 000
2002-8	National Science Foundation (BCS-0218511) Environmental Dynamics and the Evolution of Human Adaptability (Co-PI with R. Potts, A. K. Behrensmeyer, P. B. deMenocal, B. Wood)	\$ 2 415 584
2000	INQUA Commission on Human Evolution and Paleoecology Interbasinal Correlation of Sedimentary Sequences in Africa	\$ 1 000
1999	National Science Foundation Travel Grant to attend Durban INQUA Congress.	\$ 2 000
1999-00	National Geographic Society Revadim - A Lower Paleolithic Levantine Site: Palaeoenvironment, subsistence and adaptation strategies (Co-PI with I. Saragusti)	\$ 12 000
1998-00	CARE Archaeological Foundation Sedimentology and Environmental Context at Gesher Benot Ya'aqov, Israel	\$ 4 500
1997-9	CNRS (National Center for Scientific Research), Paris, Plio-Pleistocene Paleoenvironments and Evolution of Hominids, West Turkana, Kenya (Co-PI with H. Roche, H. Bocherens, J. -P. Brugal, M. Kibunjia, P. -J. Texier and F. Wiedemann)	\$ 80 000
1996-7	CARE Archaeological Foundation Sedimentology and Environmental Context at Gesher Benot Ya'aqov, Israel	\$ 3 500
1995-6	L. S. B. Leakey Foundation Paleoenvironmental Context for Hominid Evolution	\$ 14 000
1995	INQUA Stratigraphic Commission Travel Grant to attend Berlin INQUA Congress.	\$ 400
1995-1996	CARE Archaeological Foundation Sedimentology and Depositional Environments at Gesher Benot Ya'aqov, Israel	\$ 2 500
1992-1993	L. S. B. Leakey Foundation Paleoenvironmental Reconstruction of the Mio-Pliocene Sequence at Lothagam Hill, Kenya	\$ 4 530
1992-1994	National Science Foundation (EAR-9117956) Stratigraphic Evolution of the Turkana Basin, Northern Kenya (Co-PI with F. H. Brown)	\$ 114 740
1990-1993	National Science Foundation (BCS-9007662) Hominid Habitats in the Turkana Basin, Kenya and Ethiopia (Co-PI with F. H. Brown)	\$ 124 500
1988-1989	Fulbright Collaborative Research Award Paleoenvironmental Studies in the Neogene of Kenya	\$ 14 760



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1988-1990	National Science Foundation Study of Archeological Sites and Fossil Hominid Localities in the Turkana Basin (Co-Investigator with F. H. Brown)	\$ 141 269
1988-1989	L. S. B. Leakey Foundation Stratigraphy, Age and Paleoenvironments of the Miocene Deposits of Maboko, Majiwa and Kaloma, western Kenya	\$ 1 000
1986	Geological Society of America Characteristics of Paleoenvironments of the Koobi Fora Formation, northern Kenya	\$ 700
1985	Geological Society of America Characteristics of Paleoenvironments of the Koobi Fora Formation, northern Kenya	\$ 700
1984	Chevron and Standard Oil Companies Paleoenvironmental Analysis of the Koobi Fora Formation, northern Kenya	\$ 575
1980	Paul K. Richter Research Award, Dartmouth College Geologic Mapping of the Himalayan Foothills	\$ 250
1980	Explorer's Club, Youth Activities Fund Kashmir Valley Research Project	\$ 800
1979	Explorer's Club, Youth Activities Fund Tanzania Expedition	\$ 800
1976-1980	Daniel Webster Scholarship, Dartmouth College	\$ 600