

Gabriel J. Bowen

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Education:

- 1999 - 2003 **University of California**, Santa Cruz, California
Ph.D., Earth Sciences (12/03)
- 1995 - 1999 **University of Michigan**, Ann Arbor, Michigan
B.S. with highest honors, Geological Sciences (4/99)

Work Experience:

- 03/04 – present **University of Utah**, Salt Lake City, Utah
Postdoctoral Research Associate, Biology
- ◆ Developed the use of hair isotopes for forensic research
- 01/04 – 02/04 **University of California**, Santa Cruz, California
Postdoctoral Research Associate, Earth Sciences
- 01/00 – 12/03 **University of California**, Santa Cruz, California
Teaching and Research Assistant, Earth Sciences
- ◆ Organized and instructed laboratory and field exercises and discussions in oceanography, field geology, and evolutionary biology
 - ◆ Conducted isotopic analyses (C, N, O) of organic and mineralic substrates
 - ◆ Performed maintenance of mass spectrometers (VG Optima and Prism) and vacuum preparation lines
- 05/99 – 08/99 **Conoco, Inc.**, Lafayette, Louisiana
Geology and Geophysics Intern, Deepwater Exploration
- ◆ Planned, executed and presented an interpretive regional-scale study of sand distribution in the Gulf of Mexico Deepwater
 - ◆ Interpreted electric log, 2-d, and 3-d seismic data
- 05/97 – 05/99 **University of Michigan**, Ann Arbor, Michigan
Laboratory and Field Research Assistant, Geological Sciences
- ◆ Crafted, prepared, installed, and sampled from field equipment (including soil, ground and surface water sampling)
 - ◆ Performed laboratory analysis of field samples (autoburette titrations, carbon coulometrics, GC, ICP)
- 01/98 – 08/98 **University of Michigan**, Ann Arbor, Michigan
Student Preparator, Ruthven Museum of Natural History
- ◆ Collected and prepared fossil vertebrates from Paleocene and Eocene freshwater limestones
 - ◆ Developed techniques for using 3-d computer imaging in taphonomic studies of limestone

- 07/97 – 08/97 **University of Michigan**, Ann Arbor, Michigan
 Undergraduate Researcher, Green River Basin Paleontological Study
- ◆ Collected fossil vertebrates from southwestern Wyoming
 - ◆ Prepared and executed a systematic study of Eocene fossil horses
- 05/96 – 08/96 **Michigan Technological University**, Houghton, Michigan
 Laboratory and Field Research Assistant, Biological Sciences
- ◆ Organized and performed field sampling of fishes and chemical assays of gut contents

Awards and Achievements:

- 3/00 **Graduate Fellowship**, National Science Foundation
- 10/99 **Case Award for Attainment in Research**, University of Michigan
- 9/99 **Regent's Fellowship**, University of California, Santa Cruz
- 9/99 **Educational Advancement Scholarship**, Conoco, Inc.
- 4/99 **Highest Honors in Geological Sciences**, University of Michigan
- 1997 – 1999 **Golden Key National Honor Society**, University of Michigan
- 1996 – 1999 **Class Honors**, University of Michigan
- 7/97 **Sophomore Honors Award**, University of Michigan
- 3/96 **Branstrom Freshman Prize**, University of Michigan, Fall Semester

Publications:

- Bowen G. J.**, Koch P. L., Meng J., Ye J. and Ting S. (in press) Stratigraphy and correlation of fossiliferous late Paleocene-early Eocene strata of the Erlian Basin, Inner Mongolia, China. *American Museum Novitates*.
- Bowen G. J.**, Wassenaar L. I. And Hobson K. A. (in press) Global application of stable hydrogen and oxygen isotopes to wildlife forensics. *Oecologia*.
- Dutton A., Wilkinson B. H., Welker J. M., **Bowen G. J.** and Lohmann K. C. (in press) Spatial distribution and seasonal variation in $^{18}\text{O}/^{16}\text{O}$ of modern precipitation and river water across the conterminous United States. *Hydrological Processes*.
- Ting S., Wang Y., Schiebout J. A., Koch P. L., Clyde W. C., **Bowen G. J.** and Wang Y. (in press) New Early Eocene mammalian fossils from the Hengyang Basin, Hunan, China. *Bulletin of the Carnegie Museum of Natural History*.
- Bowen G. J.**, Beerling D. J., Koch P. L., Zachos J. C. and Quattlebaum T. (2004) [A humid climate state during the Paleocene-Eocene thermal maximum](#). *Nature*, 432, 495-499.
- Bowen G. J.** and Beerling D. J. (2004) [An integrated model for soil organic carbon and CO₂: Implications for paleosol carbonate pCO₂ paleobarometry](#). *Global Biogeochemical Cycles*, 18, GB1026, doi:10.1029/2003GB002117.
- Hobson K. A., **Bowen G. J.**, Wassenaar L. I., Ferrand Y. and Lormee H. (2004) Using stable hydrogen isotope measurements of feathers to infer geographical origins of migrating European birds. *Oecologia*, 140, doi:10.1007/s00442-004-1671-7.
- Meng J., **Bowen G. J.**, Koch P. L., Ting S., Li Q. and Jin X. (2004) [Gomphos elkema from the Erlian Basin: Evidence for the Early Tertiary Bumbanian Land Mammal Age in Nei-Mongol, China](#). *American Museum Novitates*, 3425, 1-25.
- Bowen G. J.** and Revenaugh J. (2003) [Interpolating the isotopic composition of modern meteoric precipitation](#). *Water Resources Research*, 39, 1299, doi:10.129/2003WR002086.
- Bains S., Norris R. D., Corfield R. M., **Bowen G. J.**, Gingerich P. D. and Koch P. L. (2003) Marine-terrestrial linkages at the Paleocene-Eocene boundary. In *Causes and Consequences of Globally Warm Climates in the Early Paleogene* (ed. S. L. Wing, P. D. Gingerich, B. Schmitz, and E. Thomas), pp. 1-9. Geological Society of America.

- Ting S., **Bowen G. J.**, Koch P. L., Clyde W. C., Wang Y., Wang Y. and McKenna M. C. (2003) Biostratigraphic, chemostratigraphic, and magnetostratigraphic study across the Paleocene/Eocene boundary in the Hengyang Basin, Hunan, China. In *Causes and Consequences of Globally Warm Climates in the Early Paleogene* (ed. S. L. Wing, P. D. Gingerich, B. Schmitz, and E. Thomas), pp. 521-535. Geological Society of America.
- Wing S. L., Harrington G. J., **Bowen G. J.** and Koch P. L. (2003) [Floral change during the Initial Eocene Thermal Maximum in the Powder River Basin, Wyoming](#). In *Causes and Consequences of Globally Warm Climates in the Early Paleogene* (ed. S. L. Wing, P. D. Gingerich, B. Schmitz, and E. Thomas) pp. 425-440. Geological Society of America.
- Bowen G. J.** and Bloch J. I. (2002) [Petrography and geochemistry of floodplain limestones from the Clarks Fork basin, Wyoming, U.S.A.: Carbonate deposition and fossil accumulation on a Paleocene-Eocene floodplain](#). *Journal of Sedimentary Research*, 72, 46-58.
- Bowen G. J.**, Clyde W. C., Koch P. L., Ting S., Alroy J., Tsubamoto T., Wang Y. and Wang Y. (2002) [Mammalian dispersal at the Paleocene/Eocene boundary](#). *Science*, 295, 2062-2065.
- Bowen G. J.** and Wilkinson B. (2002) [Spatial distribution of \$\delta^{18}\text{O}\$ in meteoric precipitation](#). *Geology*, 30, 315-318.
- Bowen G. J.**, Koch P. K., Gingerich P. D., Norris R. D., Bains S. and Corfield R. M. (2001) Refined isotope stratigraphy across the continental Paleocene-Eocene boundary on Polecat Bench in the Northern Bighorn Basin. In *Paleocene-Eocene Stratigraphy and Biotic Change in the Bighorn and Clarks Fork Basins, Wyoming* (ed. P. D. Gingerich), pp. 73-88. University of Michigan Papers on Paleontology, 33.
- Bloch J. I. and **Bowen G. J.** (2001) Paleocene-Eocene microvertebrates in freshwater limestones of the Willwood Formation, Clarks Fork basin, Wyoming. In *Eocene Biodiversity: Unusual Occurrences and Rarely Sampled Habitats* (ed. G. F. Gunnell), pp. 95-129. Kluwer Academic/Plenum Publishers.

Presentations:

- ◆ *Greenhouse Climate and Carbon Cycle Dynamics: Lessons from the Early Cenozoic* (2004)
- ◆ University of New Hampshire (2004)
- ◆ *4th International Conference on Applications of Stable Isotope Techniques to Ecological Studies* (2004).
- ◆ Rice University (2004)
- ◆ Ohio State University (2004)
- ◆ University of Chicago (2004)
- ◆ *American Geophysical Union Fall Meeting* (2004, 2003, 2002, 2001)
- ◆ *Society of Vertebrate Paleontology Annual Meeting* (2004, 2003)
- ◆ *IUGS/ICS Symposium on the Paleogene* (2003)
- ◆ *Geological Society of America National Meeting* (2004, 2002, 2000, 1999)
- ◆ *International Conference on the Climate and Biota of the Early Paleogene* (2001)

Primary Advisors:

Paul L. Koch (Graduate, University of California), Thure Cerling (Postdoctoral, University of Utah) and Jim Ehleringer (Postdoctoral, University of Utah).

Professional Affiliations:

- ◆ American Geophysical Union
- ◆ Geological Society of America
- ◆ Society of Economic Paleontologists and Mineralogists
- ◆ Society of Vertebrate Paleontologists

Professional Service and Educational Outreach:

- ◆ Peer reviewer: National Science Foundation (2004), *Geochimica et Cosmochimica Acta* (2004), *Earth and Planetary Science Letters* (2003), *Journal of Geology* (2003).
- ◆ Developed web site (<http://es.ucsc.edu/~gbowen/Isomaps.html>) providing scientific content on the stable isotope composition of precipitation, including a module allowing on-demand estimation of δD and $\delta^{18}\text{O}$ of precipitation that has been queried >2000 times since 4/2003.
- ◆ Advised undergraduate senior thesis study of the isotope geochemistry of the Flagstaff Limestone, Utah (Andy Daniels, 2003-2004).
- ◆ Departmental seminar coordinator, UCSC Earth Sciences, Fall 2002.