

## ***David M. Bice***

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### **Education**

Ph. D. in Geology, University of California, Berkeley, California, 1989. Dissertation topic: Tectonics and Stratigraphy of the Northern Apennines, Italy.

B.A. in Geology, with distinction 1981, Carleton College, Northfield, Minnesota.

### **Experience**

Emeritus Professor, Dept of Geosciences, Penn State Univ. (2022 - present)  
Teaching Professor, Dept of Geosciences, Penn State Univ. (2012 -2022)  
Professor and Undergraduate Program Head, Dept of Geosciences, PSU (2005 -2012)  
Professor, Dept of Geology, Carleton College, Northfield, MN (1999 - 2004).  
Department Chair, Dept of Geology, Carleton College, 1998-2003.  
Assoc. Professor, Dept of Geology, Carleton College, (1993 - 1999).  
Assistant Professor, Dept. of Geology, Carleton College, (Sept. 1987 to 1993).  
Teaching and Research Assistant, Dept. of Geology and Geophysics, UC Berkeley, 1983-1988  
Field Assistant, Cascades Volcano Observatory, USGS, 1981-1983

### **Collaborators**

Alessandro Montanari, Walter Alvarez, Kevin Stewart, Tim Bralower, Rodolfo Coccioni, Simone Galeotti, Luca Lanci, Giovanni Rusciadelli, Enrico Tavarnerelli, Frits Hilgen, Mary Savina, Laura Cleaveland, Christian Koerbel

**Graduate Advisor:** Walter Alvarez

### **Teaching**

#### **Courses Taught at PSU**

Introduction to Physical Geology  
Freshman seminar on Geologic Hazards  
Modeling the Earth System  
Physical Processes in the Geosciences  
Environmental Geology  
Introduction to Field Geology in Italy  
Tectonic Evolution of the Northern Apennines  
Geology of Oil and Gas  
Introductory Field Geology  
Summer Field Geology  
Senior Thesis Writing Seminar  
Earth in the Future: Predicting Climate Change and Its Impacts Over the Next Century  
Climate, Energy, and Our Future

## Courses Taught at Carleton College

Introduction to Geology

Freshman Seminar on Earth System Science

Plate Tectonics

Stratigraphy and Sedimentology Structural Geology

Advanced Structural Geology Ocean and Atmosphere Dynamics The Geology of Italy

Basin Analysis in Italy

Field Geology in Italy

## On-line teaching materials

[Earth in the Future: Predicting Climate Change and Its Impacts Over the Next Century](#)  
[Climate, Energy, and Our Future](#)  
[Modeling Earth Systems](#)

## SELECTED PUBLICATIONS

**Bice**, D, Tavarnelli, E, 2022, The influence of the Messinian Salinity Crisis on the tectonic evolution of the Northern Apennines, *in*, Claeys P; Koeberl C; Montanari A (eds), From the Guajira Desert to the Apennines, and From Mediterranean Microplates to the Mexican Killer Asteroid: Honoring the Career of Walter Alvarez: Geological Society of America Special Papers, v. 557, p. 115-127.

**Bice**, D, Csank, A, Macalady, A , Montanari, A , Tierney, D , Baldanza, A , 2022, Paleoclimate implications of earliest Pleistocene tree rings from the Dunarobba Fossil Forest, Umbria, Italy, *in*, Koeberl C, Bice DM (eds), 250 Million Years of Earth History in Central Italy: Celebrating 25 Years of the Geological Observatory of Coldigioco: Geological Society of America Special Papers, v. 542, p. 393-409.

**Bice**, D , Lacroce, M , McGee, D , Montanari, A, 2019, Late Pleistocene tectonic tilting of the Frasassi anticline from offset stalagmites in the Grotta Grande del Vento (Marche, Italy), *in*, Koeberl C, Bice DM (eds), 250 Million Years of Earth History in Central Italy: Celebrating 25 Years of the Geological Observatory of Coldigioco: Geological Society of America Special Papers, v. 542, p. 447-457.

Montanari, A , **Bice**, DM , Jull, AJT , Kudryavtsev, AB , Macalady, JL , Schaperdoth, I , Sharp, WD , Shimabukuro, D , Schopf, WJ , Vucetic, V , 2019, Pelagosite revisited: The origin and significance of a laminated aragonitic encrustation of Mediterranean supralittoral rocks, *in*, Koeberl C, Bice DM (eds), 250 Million Years of Earth History in Central Italy: Celebrating 25 Years of the Geological Observatory of Coldigioco: Geological Society of America Special Papers, v. 542, p. 501-532.

Coccioni, R, Montanari, A , **Bice**, D , Brinkhuis, H , Deino, A , Frontalini, F , Lirer, F , Maiorano, P , Monechi, S , Pross, J , Rochette, P , Sagnotti, L , Sideri, M , Sprovieri, M , Tateo, F , Touchard, Y , Van Simaey, S , Williams, GL , 2018, The Global Stratotype Section and Point (GSSP) for the base of the Chattian Stage (Paleogene System, Oligocene Series) at Monte Cagnero, Italy: Episodes, v. 41, p. 17-32.

**Bice, D.**, Montanari, A., Vučetić, V. Vučetić, A., 2012, The Influence of Regional and Global Climatic Oscillations on Croatian Climate: *International Journal of Climate*, v 32. , p. 1537-1547.

Bralower, T., Eccles, L., Kutz, J., Yancey, T., Schueth, J., Arthur, M., and **Bice, D.**, 2010, Grain size of Cretaceous-Paleogene boundary sediments from Chicxulub to the open ocean: Implications for interpretation of the mass extinction event: *Geology*, v. 38, p. 199-202.

Galeotti, S., von der Heydt, A., Huber, M., **Bice, D.**, Dijkstra, H., Jilbert, T., Lanci, L., and Reichart, G-J. , 2010, Evidence for active ENSO variability in the late Miocene greenhouse climate: *Geology*, v. 38, p. 419-422

Coccioni, R., Montanari, A., **Bice, D.M.**, and 12 others, 2008, Integrated stratigraphy of the Oligocene pelagic sequence in the Umbria-Marche basin (northeastern Apennines, Italy): A potential Global Stratotype Section and Point (GSSP) for the Rupelian/Chattian boundary, *GSA Bulletin*, v. 120; no. 3/4; p. 487-511

Li, Y-X, Bralower, T., Montañez, I. Osleger, D. Arthur, M., **Bice, D.**, Herbert, T., Erba, E., Premoli Silva, I., 2008, Toward an orbital chronology for the early Aptian Oceanic Anoxic Event (OAE1a, ~120 Ma): *Earth and Planetary Science Letters* 271, 88-100

Mitchell, R., **Bice, D.**, Montanari, A, Cleaveland, L., Christianson, K, Coccioni, R., and Hinnov, L., 2008, Oceanic Anoxic Cycles: Orbital Prelude to the Bonarelli Level (OAE2), *Earth and Planetary Science Letters*, 267 (2008) 1-16

**Bice, D.**, Montanari, A., and Rusciadelli, G., 2007, Earthquake-induced turbidites triggered by sea level oscillations in the Upper Cretaceous and Paleocene of Italy: *Terra Nova*, 19, 387-392.

**Bice, D.M.**, 2006, STELLA modeling as a tool for understanding the dynamics of earth systems, *in* Manduca, C., and Mogk, D., eds., *Earth and Mind: How Geologists Think and Learn about the Earth*: Geological Society of America Special Paper 413, p. 171- 185,

**Bice, D.**, 2001, Using STELLA models to explore the dynamics of Earth systems: experimenting with Earth's climate system using a simple computer model: *Journal of Geoscience Education*, v. 49, p. 170-181.

**Bice, D.**, Mitchell, R., Christianson, K., Cleaveland, L., and Montanari, A., 2006, Prelude to the Livello Bonarelli (OAE2): Cyclostratigraphy and Astrochronology in the Cenomanian: *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract GC24A-06.

Hilgen, F., Aziz, H, **Bice, D.**, Iccarino, S, Krijgsman, W., Kuiper, K, Montanari, A., Raffi, I., Turco, E., and Zachariasse, W., 2005, The global boundary stratotype section and point of the Tortonian stage (upper Miocene) at Monte dei Corvi: *Episodes*, v. 28, no. 1, p. 6-18.

Mader, D., Cleaveland, L.C., **Bice**, D.M., Montanari, A., Koerbel, C., 2004, Spectral analysis of multiple geochemical climate proxies from the mid-Miocene of the Conero Riviera, Italy: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 211, p. 325-344.

L.C. Cleaveland, J. Jensen, S. Goese, D.M. **Bice**, A. Montanari, 2002, Cyclostratigraphic analysis of pelagic carbonates at Monte dei Corvi (Ancona, Italy) and astronomical correlation of the Serravallian-Tortonian boundary: *Geology*; v. 30; no. 10; p. 931–934.

Montanari, A., **Bice**, D., Capo, R., De Paolo, D., Coccioni, R., Deino, A., Renard, M., Zevenboom, D., Monechi, S., 1997, Integrated stratigraphy of the Chattian to mid-Burdigalian pelagic sequence of the Contessa valley (Gubbio, Italy), in *Miocene stratigraphy : an integrated approach* / edited by A. Montanari, G.S. Odin, R. Coccioni, Amsterdam, New York : Elsevier, 1997.

Clymer, A.K., **Bice**, D.M., Montanari, A., 1996, Shocked quartz from the late Eocene: Impact evidence from Massignano, Italy, *Geology*, v. 24; p. 483-486.

**Bice**, D., Newton, C., McCauley, S., Reiners, P., McRoberts, C., 1992, Shocked quartz at the Triassic-Jurassic boundary in Italy, *Science*, vol. 235, p. 443-446.

**Bice**, D.M., 1991 Computer simulation of carbonate platform and basin systems, in, E.K. Franseen, W.L. Watney, C.G. St. C. Kendall, and W. Ross (eds.), *Sedimentary modeling: Kansas Geological Survey Bulletin 233*, p. 431-499.

**Bice**, D. M. and Stewart, K. G., 1990, The formation and drowning of isolated carbonate seamounts: tectonic and ecologic controls in the Northern Apennines: in, M.E. Tucker, J.L. Wilson, P.D. Crevello, J.R. Sarg, and J.F. Read (eds.), *Carbonate platforms: facies, sequences, and evolution: International Association of Sedimentologists Special Publication 9*, p. 145-169.

**Bice**, D.M., 1988, Synthetic stratigraphy of carbonate platform and basin systems: *Geology*, v. 16, p. 703-706.

## **Recent Grants:**

### **NASA NSPIRES**

*Enhancing climate change education through online interactive modeling of climate system dynamics coupled with investigations of NASA satellite data. (2009; 3 years) PI: D. Bice*

Co-PIs: T. Bralower, J. Kasting, S. Anandakrishnan, E. Richardson, D. Jones (Harvard), A. Kar (Fort Valley State University)

### **NSF OEDG**

**Collaborative Project: Enhancing diversity in the geosciences through the AfricaArray Educational Alliance (2009; 5 years)**

PI: S. Bililign, NCAT

Co-PIs: A Nyblade, T Bralower, K Freeman, D Bice, K Schimmel NCA&T

