

**Matthew Ross SALTZMAN**

Address: School of Earth Sciences  
The Ohio State University  
Columbus, OH 43210  
Phone: 614-292-0481  
Fax: 614-292-7688  
Email: saltzman.11@osu.edu

**EDUCATION**

Ph.D., 1996, Geology. University of California, Los Angeles

B.S., 1991, Geology. University of Michigan, Ann Arbor

**ACADEMIC POSITIONS**

Professor, School of Earth Sciences, Ohio State University.

Associate Professor. School of Earth Sciences, Ohio State University. 2006-2011

Assistant Professor. School of Earth Sciences, Ohio State University. 2000-2006

Visiting Assistant Professor. Department of Geoscience, University of Iowa. 1998-2000

**RESEARCH AWARDS**

2008-2011 National Science Foundation, Principal Investigator “Testing the uplift-weathering hypothesis for the Late Ordovician ice age”.

2008-2011 National Science Foundation. Principal Investigator “Foreland basin development and biotic change in Late Ordovician trilobite faunas of eastern North America”.

2007-2010 National Science Foundation, Principal Investigator “The Permian-Triassic transition in Antarctica: Evaluating the rates and variability of carbon isotope fluctuations in terrestrial organic matter”.

2004-2007 National Science Foundation, Principal Investigator, “Collaborative Research: Understanding Carbon Isotope Excursions in the Paleozoic: An Integrated Chemostratigraphic and Modeling Approach”.

2002-2004 National Science Foundation, Co-Principal Investigator, “Extinction and Recovery of Crinoids Resulting from Climatic Change during the Ordovician-Silurian Biotic Crisis”.

2000-2004 National Science Foundation, Principal Investigator, “Carbon isotope stratigraphy of the Carboniferous in the Arrow Canyon Range, southeastern Nevada: Reconstructing carbon cycling during a Greenhouse-Icehouse transition”.

2000-2001 National Science Foundation, Principal Investigator, “SGER: An integrated study of Lower Mississippian (Kinderhookian-Early Osagean) Earth history: Linking faunal turnover, sea-level changes and carbon cycling”.

2001 Faculty Seed Grant, Ohio State University. “Carbon isotope stratigraphy of the Late Paleozoic Greenhouse to Icehouse Transition (350 Million Years Ago)”.

1995 Institute for Cambrian Studies (Boulder, CO), Research Grant.

1994 American Association of Petroleum Geologists, Grant-in-Aid.

1994 Wyoming Geological Association, J. David Love Field Geology Scholarship.

1992-1995 Geological Society of America, Research Grant.

1992 Sigma Xi Scientific Society, Grant-in-Aid.

1991-1992 Center for Study of Evolution and Origin of Life (UCLA), Graduate Fellowship.

1991 National Association of Geological Teachers, Field Geology Scholarship.

## **PUBLICATIONS (\*student advisee):**

### **2012**

**Saltzman, M.R.** and Thomas, E., Carbon isotope stratigraphy, In *A Geologic Time Scale 2012*. Invited paper, Status: Submitted.

### **2011**

**Saltzman, M.R.**, \*Young, S.A., Kump, L.R., Gill, B.C., Lyons, T.W., and Runnegar, B., 2011, A pulse of atmospheric oxygen during the late Cambrian. *Proceedings of the National Academy of Sciences*. v. 108, p. 3876-3881. doi/10.1073/pnas.1011836108

Gill, B.C., Lyons, T.W., \*Young, S.A., Kump, L.R., Knoll, A.H., and **Saltzman, M.R.**, 2011, Geochemical evidence for widespread euxinia in the Later Cambrian ocean, *Nature*, v. 469, p. 80-83.

Elrick, M., Rieboldt, S., **Saltzman, M.**, and McKay, R.M., 2011, Oxygen-isotope trends and seawater temperature changes across the Late Cambrian Steptoean positive carbon-isotope excursion (SPICE event): *Geology*, v. 39, p. 987-990.

### **2010**

\*Young, S.A., **Saltzman, M.R.**, Ausich, W.A., Desrochers, A., and Kaljo, D., 2010, Did changes in atmospheric CO<sub>2</sub> coincide with latest Ordovician glacial-interglacial cycles?, *Palaeogeography, Palaeoceanography, Palaeoclimatology*, v. 296, p. 376-388.

\*Gouldey, J., **Saltzman, M.R.**, Young S.A., and Kaljo, D., Strontium and carbon isotope stratigraphy of the Llandovery (Early Silurian): Implications for tectonics and weathering, *Palaeogeography, Palaeoceanography, Palaeoclimatology*, v. 296, p. 264-275.

\*Cramer, B.D., Loydell, D.K., Samtleben, C., Munnecke, A., Kaljo, D., Männik, P., Martma, T., Jeppsson, L., Kleffner, M.A., Barrick, J.E., Johnson, C.A., Emsbo, P., Joachimski, M.M., **Saltzman, M.R.**, 2010, Testing the limits of Paleozoic chronostratigraphic correlation via high-resolution (<500 kyr) integrated conodont, graptolite, and carbon isotope (d13C-carb) biochemostratigraphy across the Llandovery-Wenlock (Silurian) boundary: Is a unified Phanerozoic timescale achievable? *Geological Society of America Bulletin*, v. 122, 1710-1719.

Bergström, S.M., Schmitz, B., **Saltzman, M.R.**, and Huff, W.D., 2010, The Upper Ordovician Guttenberg  $\delta^{13}\text{C}$  excursion (GICE) in North America and Baltoscandia: Occurrence, chronostratigraphic significance, and paleoenvironmental relationships: *Geological Society of America Special Paper 466*, p.37-68.

### **2009**

\*Young, S.A., **Saltzman, M.R.**, Foland, K., Linder, J., and Kump, L., 2009, A major drop in seawater  $^{87}\text{Sr}/^{86}\text{Sr}$  during the Middle Ordovician (Darriwilian): Links to volcanism and climate?, *Geology*, v. 37, p. 951-954.

Bergström, S.M., Xu, C., Schmitz, B., Young, S., Rong, J., and **Saltzman, M.R.**, 2009, First documentation of the Ordovician Guttenberg  $\delta^{13}\text{C}$  excursion (GICE) in Asia: chemostratigraphy of the Pagoda and Yanwashan formations in southeastern China, *Geological Magazine*, v. 146, p. 1-11, doi:10.1017/S0016756808005748.

### **2008**

\*Cramer, B.D., **Saltzman, M.R.**, Day, J.E., and Witzke, B.J., 2008, Lithological Expression of global positive carbon isotope excursions in epeiric sea settings: Carbonate production,

organic carbon burial, and oceanography during the late Famennian, in Pratt, B.R. and Holmden, C., eds., *Geological Association of Canada Special Publication 48*, p. 103-118.

- \*Young, S.A., Saltzman, M.R., Bergström, S.M., Leslie, S.A., and Chen X., 2008, Paired  $\delta^{13}\text{C}_{\text{carb}}$  and  $\delta^{13}\text{C}_{\text{org}}$  records of Upper Ordovician (Sandbian-Katian) carbonates in North America and China: Implications for paleoceanographic change, *Palaeogeography, Palaeoceanography, Palaeoclimatology*, v. 207, p. 166-178.

## 2007

- \*Cramer, B.S., and **Saltzman, M.R.**, 2007, Early Silurian paired  $\delta^{13}\text{C}_{\text{carb}}$  and  $\delta^{13}\text{C}_{\text{org}}$  analyses from the Midcontinent of North America: Implications for paleoceanography and paleoclimate, *Palaeogeography, Palaeoceanography, Palaeoclimatology*, v. 256, p. 195-203.
- \*Cramer, B.S., and **Saltzman, M.R.**, 2007, Fluctuations in epeiric sea carbonate production during Silurian positive carbon isotope excursions: A review of proposed paleoceanographic models, *Palaeogeography, Palaeoceanography, Palaeoclimatology*, v. 245, p. 37-45.
- Gill, B.C., Lyons, T.W., and **Saltzman, M.R.**, 2007, Parallel, high-resolution carbon and sulfur isotope records of the evolving Paleozoic marine sulfur reservoir, *Palaeogeography, Palaeoceanography, Palaeoclimatology*, v. 256, p. 156-173.
- Babcock, L.E., Robison, R.A., Rees, M.N., Peng, S.C., and **Saltzman, M.R.**, 2007, The global boundary stratotype section and point (GSSP) of the Drumian stage (Cambrian) in the Drum mountains, Utah, USA, *Episodes*, v. 30, p. 85-95.
- \*Barta, N.C., Bergström, S.M., and **Saltzman, M.R.**, 2007, First Record of the Ordovician Guttenberg  $^{13}\text{C}$  Excursion (GICE) in New York State and Ontario: Local and Regional Chronostratigraphic Implications, *Northeastern Geology and Environmental Sciences*, v. 29, p. 276-298.

## 2006

- \*Cramer, B.D., Kleffner, M.A., and **Saltzman, M.R.**, 2006, The Late Wenlock Mulde positive carbon isotope excursion in North America, *GFF*, v. 128, p. 85-90.
- \*Cramer, B.D., **Saltzman, M.R.**, Kleffner, M.A., 2006, Spatial and Temporal Variability in Organic Carbon Burial during Global Positive Carbon Isotope Excursions: New Insight from High Resolution carbon isotope Stratigraphy from the Type Area of the Niagaran Provincial Series, *Stratigraphy*, v. 2, no. 4, p. 327-340.
- Bergström, S.M., **Saltzman, M.R.**, and Schmitz, B., 2006, First record of the Hirnantian (Upper Ordovician)  $\delta^{13}\text{C}$  excursion in the North American midcontinent and its regional implications: *Geological Magazine*, v. 143, p. 657-678.
- Albanesi GL, Carrera MG, Canas FL, **Saltzman M.R.**, 2006, A proposed Global Boundary Stratotype Section and Point for the base of the Middle Ordovician series: The Niquivil section, Precordillera of San Juan, Argentina: *Episodes*, v. 29, p. 1-15.

## 2005

- Saltzman, M.R.**, 2005, Phosphorus, nitrogen, and the redox evolution of the Paleozoic oceans: *Geology*, v. 33, p. 573-576.
- Saltzman, M.R.** and \*Young, S.A., 2005, A long-lived glaciation in the Late Ordovician?: Isotopic and sequence stratigraphic evidence from western Laurentia: *Geology*, v. 33, p. 109-112.
- \*Cramer, B.D., and **Saltzman, M.R.**, 2005, Sequestration of  $^{12}\text{C}$  in the deep ocean during the early Wenlock (Silurian) positive carbon isotope excursion, *Palaeogeography, Palaeoceanography, Palaeoclimatology*, v. 219, p. 333-349.

\*Young, S.A., **Saltzman, M.R.**, and Bergström, S.A., 2005, Late Ordovician (Mohawkian) carbon isotope ( $\delta^{13}\text{C}$ ) stratigraphy in Eastern and Central North America: regional expression of a perturbation of the global carbon cycle, *Palaeogeography, Palaeoceanography, Palaeoclimatology*, v. 222, p. 53-76.

Cowan, C., Fox, D.L., Runkel, A.C., and **Saltzman, M.R.**, 2005, Terrestrial-marine carbon cycle coupling in ~500 million year-old phosphatic brachiopods, *Geology*, v. 33, p. 661-664.

## 2004

**Saltzman, M.R.**, Groessens, E., and Zhuravlev, A.V., 2004, Carbon cycle models based on extreme changes in  $\delta^{13}\text{C}$ : An example from the Lower Mississippian: *Palaeogeography, Palaeoceanography, Palaeoclimatology*, v. 213, p. 351-369.

**Saltzman, M.R.**, Runkel, A.C., Cowan, C.A., Runnegar, B., Stewart, M.C., and Palmer, A.R., 2004, The upper Cambrian SPICE ( $\delta^{13}\text{C}$ ) event and the Sauk II-Sauk III regression: New evidence from Laurentian basins in Utah, Iowa and Newfoundland: *Journal of Sedimentary Research*, v. 74, p. 366-377.

Peng, S., Babcock, L.E., Robison, R.A., Huanling, L., Rees, M.N. and **Saltzman, M.R.**, 2004, Global Standard Stratotype-Section And Point for the Furongian Series and Paibian Stage (Cambrian), *Lethaia*, v. 37, p.365-378.

Bergström, S.M., Huff, W.D., **Saltzman, M.R.**, Kolata, D.R., and Leslie, S.A., 2004, The greatest volcanic ash falls in the Phanerozoic: Trans-Atlantic relations of the Ordovician Millbrig and Kinnekulle K-bentonites: *Sedimentary Record*, v.2 (4), p.4-8.

## 2003

**Saltzman, M.R.**, 2003, Organic carbon burial and phosphogenesis in the Antler foreland basin: An out of phase relationship during the Lower Mississippian: *Journal of Sedimentary Research*, v. 73, p. 844-855.

**Saltzman, M.R.**, 2003, The Late Paleozoic Ice Age: Oceanic gateway or  $p\text{CO}_2$ ? *Geology*, v. 31 , p. 151-154.

## 2002

**Saltzman, M.R.**, 2002, Carbon isotope ( $\delta^{13}\text{C}$ ) stratigraphy across the Silurian-Devonian transition in North America: Evidence for a perturbation of the global carbon cycle: *Palaeogeography, Palaeoceanography, Palaeoclimatology*, v. 187, p. 83-100.

**Saltzman, M.R.**, 2002, Carbon and oxygen isotope stratigraphy of the Lower Mississippian (Kinderhookian-early Osagean), western United States: Implications for seawater chemistry and glaciation: *Geological Society of America Bulletin*, v. 114, p. 96-108.

## 2001

**Saltzman, M.R.**, 2001, Silurian  $\delta^{13}\text{C}$  stratigraphy: A view from North America, *Geology*, v. 29, p. 671-674.

Denniston, R.F., Gonzalez, L.A., Asmerom, Y., Polyak, V., Reagan, M.K., and **Saltzman, M.R.**, 2001, A high-resolution speleothem record of climatic variability at the Allerød-Younger Dryas transition in Missouri, central United States: *Palaeogeography, Palaeoceanography, Palaeoclimatology*, v. 176, p. 147-155.

## 2000

**Saltzman, M.R.**, Brasier, M.D., Ripperdan, R.L., Ergaliev, G.K., Lohmann, K.C., Robison, R.A., Chang, W.T., Peng, S. and Runnegar, B., 2000, A global carbon isotope excursion during the

Late Cambrian: Relation to trilobite extinctions, organic-matter burial and sea level, *Palaeogeography, Palaeoceanography, Palaeoclimatology*, v. 162, p. 211-224.

**Saltzman, M.R.**, Gonzalez, L.A. and Lohmann, K.C., 2000, Earliest Carboniferous cooling step triggered by the Antler Orogeny?, *Geology*, v. 28, p. 347-350.

#### **1999**

**Saltzman, M.R.**, 1999, Upper Cambrian carbonate platform evolution, *Elvinia* and *Taenicephalus* trilobite zones, northwestern Wyoming. *Journal of Sedimentary Research*, v. 69, p. 926-938.

#### **1998**

**Saltzman, M.R.**, Runnegar, B. and Lohmann, K.C., 1998, Carbon-isotope stratigraphy of the Pterocephaliid Biomere in the eastern Great Basin: Record of a global oceanographic event during the Late Cambrian. *Geological Society of America Bulletin*, v. 110, p. 285-297.

#### **1995**

**Saltzman, M.R.**, Davidson, J.P., Holden, P., Lohmann, K.C. and Runnegar, B., 1995, Sea level-driven changes in ocean chemistry at an Upper Cambrian extinction horizon, western United States. *Geology*, v. 23, p. 893-896.

#### **Conference Proceedings (peer-reviewed) and Comment-Reply (editor-reviewed):**

Saltzman, M.R., Bergström, S., Huff, W., and Kolata, D., 2003, Conodont and graptolite biostratigraphy and the Ordovician (early Chatfieldian, middle Caradocian)  $\delta^{13}\text{C}$  excursion in North America and Baltoscandia: Implications for the interpretation of the relations between the Millbrig and Kinnekulle K-bentonites, *Proceedings of the 9<sup>th</sup> International Ordovician Symposium, San Juan, Argentina*, p. 41-47.

Albanesi, G.L., Carrera, M.G., Cañas, F.L. and Saltzman, M.R., 2003, The Niquivil section, Precordillera of San Juan, Argentina, Proposed GSSP for the Lower/Middle Ordovician boundary, *Proceedings of the 9<sup>th</sup> International Ordovician Symposium, San Juan, Argentina*, p. 41-47.

Saltzman, M.R., 2001, Earliest Carboniferous cooling step triggered by the Antler Orogeny? — Reply, *Geology*, v. 29, p. 92-93.

#### **Technical Reports and Guidebooks:**

Shanchi, P., Babcock, L.E., Robison, R.A., Huanling, L., Rees, M.N. and Saltzman, M.R., 2001, Proposed Global Standard Stratotype-Section And Point for the Paibian Stage and Furongian Series (Upper Cambrian), IUGS Cambrian Subcommittee on Stratigraphy.

Runkel, A. C., McKay, R. M., Cowan, C. A. and Saltzman, M. R., 2000, Relative sea level changes across the Marjumiid-Pterocephaliid biomere boundary as recorded in the siliciclastic strata of the central midcontinent in Stratigraphy and sedimentology of Cambrian strata in west-central Wisconsin and southeastern Minnesota, Guidebook for the 30<sup>th</sup> annual field conference, Great Lakes Society SEPM, p. 35-40.

Saltzman, M.R., 1999, Trilobite mass extinction events in the southern Gallatin Range, Yellowstone National Park. In: Santucci, V.L. (ed), *National Park Service Paleontological Research Volume*, Geologic Resource Division Technical Report NPS/GRDTR-98/01, Denver, 12 p.

#### **ABSTRACTS (past few years only) (\*graduate student advisee; \*\*undergraduate student advisee):**

Leslie, S.A., **Saltzman, M.R.**, Repetski, J.E., Bergström, S.M., Seward, A.M., Bancroft, A.M., \*\*Howard, A., Blessing, R.R., 2011, Conodont biostratigraphy and strontium isotope stratigraphy

- across the Knox-Beekmantown unconformity in the central Appalachians, *Geological Society of America (GSA) section meeting*, Pittsburgh, PA.
- \*Cramer, B.D., Day, J.E., **Saltzman, M.R.**, and Witzke, B.J., 2011, The uppermost Famennian Hangenberg excursion in North America and the search for the base of the Carboniferous System, *Geological Society of America (GSA) section meeting*, Pittsburgh, PA.
- \*\*Howard, A., **Saltzman, M.R.**, \*Sedlacek, A.R.C., \*\*Sedlak, C., Foland, K.A., and Linder, J.S., Leslie, S.A., and Young, S.A., 2010, Strontium and neodymium isotope stratigraphy of the middle Ordovician and weathering of the Appalachian Mountains, *Geological Society of America (GSA) meeting*, Denver, CO.
- \*Sedlacek, A.R.C., and **Saltzman, M.R.**, 2010, Evidence for an earliest Triassic microbialite from the Confusion Range, UT: *Geological Society of America (GSA) meeting*, Denver, CO.
- Runnegar, B., **Saltzman, M.R.**, Kouchinsky, A., Young, S.A., Kump, L.R., Gill, B., Lyons, T., and Young, E.D., 2010, Cambrian SPICE (Steptoean Positive Carbon Isotope Excursion) as a model for comparable Proterozoic high-amplitude isotopic events, *Geological Society of America (GSA) meeting*, Denver, CO.
- \*Sedlacek, A.R.C., **Saltzman, M.R.**, and Linder, J.S., 2009, Carbon and Strontium isotope stratigraphy across the Permian-Triassic boundary in the western United States: *Geological Society of America (GSA) meeting*, Portland, OR.
- Saltzman, M.R.**, 2009, The Late Ordovician glaciation and mass extinction: Links to climate and volcanism, *Geological Society of America (GSA) meeting*, Portland, OR.
- \*Tierney, K., **Saltzman, M.R.**, Henderson, C., Davydov, V., and Cramer, B.D., 2009, A new Permian carbon isotope composite curve from Nevada and China: *Geological Society of America (GSA) meeting*, Portland, OR.
- \*Cramer, B.D., Munneke, A., Schofield, D.I., **Saltzman, M.R.**, and Haase, K., 2009, New Wenlock-Ludlow (Silurian) Sr isotope data and a revised Silurian Sr curve: Implications for the Silurian timescale, *Geological Society of America (GSA) meeting*, Portland, OR.
- Brenneka, G., Herrmann, A.D., **Saltzman, M.R.**, and Anbar, A., 2009, Using U-isotopes in carbonates as a paleoredox indicator: Variations across the Permian-Triassic boundary, *Geological Society of America (GSA) meeting*, Portland, OR.
- Elrick, M., Rieboldt, S., **Saltzman, M.R.**, McKay, R., and Runkel, A.C., 2009, Oxygen isotope trends and interpreted paleoclimate changes across the Late Cambrian positive carbon isotope excursion (SPICE event), *Geological Society of America (GSA) meeting*, Portland, OR.
- \*Sedlacek, A.R.C., **Saltzman, M.R.**, and Linder, J.S., 2008, The Permian-Triassic boundary in the western United States: *Geological Society of America (GSA) meeting*, Houston.
- \*Tierney, K., **Saltzman, M.R.**, Henderson, C., Davydov, V., and Cramer, B.D., 2008, An integrated carbon and strontium isotope study of the Permian period in Nevada and China: *Geological Society of America (GSA) meeting*, Houston.
- \*Tierney, K., **Saltzman, M.R.**, Henderson, C., Davydov, V., and Cramer, B.D., 2008, Permian carbon and strontium isotope stratigraphy of Nevada and China: Implications for the Late Paleozoic ice age: *American Association of Petroleum Geologists (AAPG) meeting*, San Antonio.
- Saltzman, M.R.**, 2008, Evolution of the Paleozoic carbon cycle, *International Geological Correlation Program meeting*, Lille, France.
- Gill, B., Lyons, T., **Saltzman, M.R.**, Young, S.A., and Kump, L., 2008, A Late Cambrian oceanic anoxic event, *Geological Society of America (GSA) meeting*, Houston.
- Saltzman, M.R.**, Young, S.A., Gill, B., Lyons, T., and Kump, L., 2007, Increased carbon isotopic fractionation across the Late Cambrian SPICE event, *Geological Society of America (GSA) meeting*, Denver.
- Gill, B., Lyons, T., **Saltzman, M.R.**, Young, S.A., and Kump, L., 2007, A Late Cambrian oceanic anoxic event, *Geological Society of America (GSA) meeting*, Denver.
- Bergstrom, S.M., Xu, C., Young, S.A., Schmitz, B., and **Saltzman, M.R.**, 2007, The first record of the Ordovician Guttenberg  $\delta^{13}\text{C}$  excursion (GICE) in Asia, *Geological Society of America (GSA) meeting*, Denver.
- \*Young, S.A., **Saltzman, M.R.**, Ausich, W.A., and Kaljo, D., 2007, A global change in  $\delta^{13}\text{C}$  of organic matter during the Late Ordovician Hirnantian, *Geological Society of America (GSA) meeting*, Denver.

\*Gouldey, J., **Saltzman, M.R.**, Foland, K.A., and Linder, J.S., 2007, Strontium isotope stratigraphy of the early Silurian (Llandovery), *Geological Society of America (GSA) meeting*, Denver.

### **INVITED TALKS**

Indiana University, Department of Geological Sciences (3/10)  
University of New Mexico, Department of Geology (12/08)  
University of Lille, France (8/08)  
Virginia Tech, Department of Geology (2/08)  
Northwestern University, Department of Earth and Planetary Sciences (2/07)  
University of Kentucky, Department of Geological Sciences (4/06)  
University of Oklahoma, Department of Geology (3/06)  
Syracuse University, Department of Geology (2/06)  
Miami (Ohio) University, Department of Geology (11/05)  
Byrd Polar Research Center, Ohio State University (6/05)  
Harvard University, Department of Earth and Planetary Sciences (4/05)  
Ohio University, Department of Geology (5/05)  
Denison University, Department of Geology (11/04)  
Indiana University-Purdue University at Indianapolis, Department of Geology (9/03)  
University of North Carolina–Wilmington, Department of Geology and Geography (2/03)  
University of Cincinnati, Department of Geology (11/02)  
Oberlin College, Department of Geology (11/02)  
University of Kansas, Department of Geology (3/02)  
University of Saskatchewan, Department of Geology (12/01)  
Case Western Reserve University, Department of Geological Sciences (4/01)  
Wright State University, Department of Geology (1/01)  
Pennsylvania State University, Department of Geosciences (10/00)  
Northwestern University, Department of Geology and Geophysics (7/00)  
University of Missouri-Columbia, Department of Geology (4/99)  
University of Chicago, Department of Geophysical Sciences (5/97)  
Boston College, Department of Geology and Geophysics (1/97)  
University of New Hampshire, Department of Geology (1/97)

### **PROFESSIONAL SERVICE**

*Geological Society of America*, Co-organized SEPM-sponsored GSA Theme Session:

“Ocean chemistry through the Precambrian and Paleozoic” (Denver, 2004)

*Co-Editor for special volume of Palaeogeography, Palaeoceanography,*

*Palaeoclimatology on Ocean Chemistry during the Precambrian and Paleozoic*

(with Mike Pope, Julie Bartley, Tom Algeo)

*National Science Foundation*, Participant in NSF workshop: “*Chronos: Geochemical Cycles*” (San Antonio, 2004)

*Geological Society of America*, Representative on North American Committee on Stratigraphic Nomenclature, Four-year term

*Geologic Time Scale 2010 Committee*: Invited to write chapter on carbon isotope stratigraphy for the entire 4.5 billion years of Earth history.

*International Subcommission on Ordovician Stratigraphy*, Voting member, Eight-year term

*International Subcommission on Cambrian Stratigraphy*, Voting member, Eight-year term and Chair of isotope chemostratigraphy working group

*International Subcommittee on Carboniferous Stratigraphy*, Corresponding member and participant in Viséan-Serpukhovian boundary working group

### **GRADUATE STUDENTS AT OHIO STATE**

*PhD students* (3 completed, 2 current)

- 2008 Seth A. Young “An integrated chemo-, bio-, and sequence stratigraphic investigation of the Late Ordovician Greenhouse-Icehouse transition”; Seth is currently a *Postdoctoral Research Associate at Indiana University*.
- 2009 Bradley D. Cramer “High-resolution Silurian astrochronology using sequence stratigraphy, biostratigraphy, and stable isotope studies” Brad is currently a *National Science Foundation Earth Sciences Postdoctoral Fellow at the University of Kansas and Kansas Geological Survey*.
- 2010 Kate E. Tierney “Permian climate, sea level and carbon cycling: An integrated bio-, sequence and chemostratigraphic study” Kate is an *Assistant Professor at Denison University*.
- 2012 (expected) Alexa R.C. Sedlacek: The Permian-Triassic boundary in the western United States: Evidence for stratigraphic completeness and changes in oceanic redox state
- 2014 (expected) Cole Edwards, Topic to be determined.

*MS Students* (7 completed)

- 2003 Seth A. Young “A Late Middle Ordovician carbon isotope excursion in central and eastern North America: sequence stratigraphic, biostratigraphic, and K-bentonite event stratigraphic relations”
- 2004 Bradley D. Cramer “Glaciation, CO<sub>2</sub>, and organic carbon burial during the early Silurian: carbon isotope stratigraphy from the mid-continent of North America”
- 2004 Nathaneal Barta “Investigation of the correlation of the lower Chatfieldian (upper Middle Ordovician) strata of New York, Ontario and Pennsylvania using the Guttenberg carbon isotope excursion”
- 2004 Matthew J. Williams “Carbon isotope chemostratigraphy and ocean chemistry analysis within the Helderberg group: Silurian-Devonian, Appalachian Basin”
- 2005 Kate E. Tierney “Carbon isotopic response to oceanographic changes at Milankovitch scale periodicity in Pennsylvanian aged limestones from Arrow Canyon, Nevada”
- 2006 Lisa Fay, “Carbon cycling in the Devonian Onondaga Formation of New York: Paleogeographic implications”
- 2008 Jeremy Gouldey, “Strontium and carbon isotope stratigraphy of the Silurian: Implications for tectonics and weathering”

### **TEACHING AT OHIO STATE**

*Honors and Awards*

- 2002 Distinguished Teaching Award, Department of Geological Sciences
- 2009 Distinguished Teaching Award, School of Earth Sciences

*Courses Taught*

ES 100: Earth Systems I: The Geologic Environment (*undergraduate enrollment ~200*)  
ES 122: Earth through Time (*undergraduate enrollment ~50*)  
ES H122: Earth through Time (Honors) (*undergraduate enrollment ~25*)  
ES 581/582: Field Geology (taught in Ephraim, UT) (*undergraduate major enrollment ~10-20*)  
ES 601.02: Petrology of Carbonates and Shales (*graduate enrollment ~10*)  
ES 604: Sequence stratigraphy (*graduate enrollment ~10*)  
ES 605: Biogeochemical Evolution of the Oceans (*graduate enrollment ~10*)  
ES 618: Advanced Historical Geology (*graduate and undergraduate enrollment ~10*)  
ES 670: Field Geology of the Guadalupe Mountains and Big Bend National Park  
ES 670: Field Geology of the Death Valley region of the southern Great Basin  
ES 670: Field Geology of the central Great Basin  
ES 694: Orogeny: Igneous, Metamorphic, Sedimentary Records (with Mike Barton)  
ES 800: Field Seminar in Appalachian Basin Stratigraphy  
ES 800: Seminar in Stratigraphy: Earth's Climate: Past and Future  
ES 888: Colloquium in Geological Sciences