

Benjamin F. Dattilo

Geosciences Department
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Education

- 1994 **Doctor of Philosophy, Geology**, University of Cincinnati, Cincinnati, Ohio.
Chair: Arnold I. Miller. Committee: David L. Meyer, Wayne A. Pryor. Dissertation:
Stratigraphy and Paleocology of the Miami Shale (Upper Ordovician) in Ohio, Indiana, and Kentucky.
- 1988 **Master of Science, Geology**, Brigham Young University, Provo, Utah.
Chair: J. Keith Rigby. Committee: Lehi Hintze, Wade Miller. Thesis: *Sedimentary petrology, paleoecology and depositional environments of the Fillmore Formation (Lower Ordovician) in western Utah.*
- 1986 **Bachelor of Science, Geology** Brigham Young University, Provo, Utah

Positions Held

Academic Appointments

- 2007- **Assistant Professor**. Geosciences Department, Indiana University Purdue University Fort Wayne, Fort Wayne, Indiana.
- 2005-2007 **Associate Professor**. Division of Science and Mathematics, Alice Lloyd College, Pippa Passes, Kentucky
- 2002-2005 **Visiting Assistant Professor**. Geoscience Department, University of Nevada Las Vegas.
- 1997-2004 **Adjunct Faculty**. Geosciences Department, Weber State University, Ogden, Utah.
- 1995-2007 **Adjunct Faculty**. Park University, Hill AFB, Utah and Parkville, Missouri.
- 1992-1994 **Postdoctoral Assistant** Department of Geology, University of Cincinnati, Cincinnati, Ohio.

Other Research

- 1987 **Field Assistant** Department of Geology, Brigham Young University, Provo, Utah.

Museum Positions

- 1991-1992 **Public Programs Presenter**. Cincinnati Museum of Natural History, Cincinnati, Ohio.
- 1991-1992 **Collections Technician (Paleontology)**. Cincinnati Museum of Natural History, Cincinnati, Ohio.
- 1984-1987 **Fossil Excavator/Preparator (vertebrates)**. Earth Science Museum, Brigham Young University, Provo, Utah.

Consultation Contracts

- 1994 **Research Consultant**. *Distinguishing feline brain tissues using CAT scan techniques—statistical analysis*. Children's Hospital, Cincinnati, Ohio
- 1993 **Museum Exhibits Consultant**. *Locating examples of classic Cincinnati stratigraphy for collection*. US National Museum of Natural History, Washington, D.C.
- 1985-1986 **Antiquities Consultant**. *Locating sensitive fossil occurrences along proposed pipeline route*. Subcontract to BLM and Intermountain Pipeline Project (Wyoming to California, gas)

Government and Industry

- 1995-2002 **Environmental Scientist**. Utah Department of Environmental Quality, Division of Air Quality, Salt Lake City.
- 1991 **Geological Summer Intern**. Amoco Production Company, Houston, Texas

Publications

Refereed Papers (*student coauthor)

- (In Review Submitted April 8, 2011) **Dattilo, B.F.**, C.E. Brett, and *T.J. Schramm. Shelly and muddy phases of Upper Ordovician meter-scale cycles as high frequency basin-scale time-specific facies. Palaeogeography, Palaeoclimatology, Palaeoecology. Manuscript PALAEO6073.
- (In Review Submitted March 31, 2011) *Troost, A.I., *S.D. Rupert, *A.Z. Cyrus, F.V. Paladino, **B.F. Dattilo** and W.S. Peters. What can we learn from confusing *Olivella columellaris* and *O. semistriata* (Olividae, Gastropoda), two key species in tropical Pacific sandy beach ecosystems? *Journal of Marine Biology*. (**note: Author order is reversed from geological usage—this makes me “second” author**)
- (In Review Submitted December 10, 2010) Farlow, J. M. O’Brien, G.J., Kuban, **B.F. Dattilo**, K.T. Bates, P.L. Falkingham, L. Piñuela, A. Rose, A. Freels, C. Kumagai, C. Libben, J. Smith, and J. Whitcraft. Dinosaur tracksites of the Paluxy River Valley (Glen Rose Formation, Lower Cretaceous), Dinosaur Valley State Park, Somervell County, Texas. 5th Jornadas Internacionales sobre Paleontología de Dinosaurios y su Entorno, Salas de los Infantes (full paper version--see also abstracts)
- (In Press Accepted March 21, 2011) Sumrall, C.D., J. Sprinkle, T.E. Guensburg, and **B.F. Dattilo**. Early Ordovician mitrates and a solute (echinodermata) from western Utah, Central and Southern Nevada, and West Texas. *Journal of Paleontology*.
- (In press Accepted February 8, 2011) Feldman, R., C. Schweitzer, **B.F. Dattilo**, and J. Farlow. Remarkable Preservation of a New Genus and Species of Limuline Horseshoe Crab from the Cretaceous of Texas, U.S.A. *Palaeontology Manuscript PALA-10-10-3090-OA*
- (In press Accepted December, 2009) Miller, J.F., K.R. Evans, and **B.F. Dattilo**. The Great American Carbonate Bank in the Miogeocline of Western Central Utah: Tectonic Influences on Sedimentation. **In** J.L. Wilson, J. Derby, W. Morgan, and C. Sternbach (eds) *The Great American Carbonate Bank*. AAPG special Publication.
- Dattilo, B.F.**, DL Meyer, K. Dewing, and *M.R. Gaynor. 2009. Escape traces associated with *Rafinesquina alternata*, an Upper Ordovician strophomenid brachiopod from the Cincinnati region, Ohio, Indiana, and Kentucky. *Palaios* 24(9):578-590.
- Brett, C.E., B.T. Kirchner, C.J. Tsujita, and **B.F. Dattilo**. 2008. Sedimentary Dynamics in a Mixed Siliciclastic-Carbonate System: The Kope Formation (Upper Ordovician), Southwest Ohio and Northern Kentucky: Implications for Shell Beds Genesis in Mudrocks. Pp 73-102 **In** C. Holmden and B.R. Pratt (eds) *Dynamics of Epeiric Seas: Sedimentological, Paleontological and Geochemical Perspectives*. Geological Association of Canada, Special Paper 48.
- Eriksson, M.E., and **B.F. Dattilo**. 2008. First record of *Megaramphoprion* (annelida; polychaeta) in Laurentia. *Journal of Paleontology*. 82(6): 1218-1219.
- Dattilo, BF**, C.E. Brett, P. McLaughlin, and C.J. Tsujita 2008. The Role of Episodic Starvation in the formation of Shell beds of the Cincinnati Ordovician: an Alternative to the Storm-Winning Proximity Model. *Canadian Journal of Earth Sciences*. 45: 243-265.

- Johns, R.A., **B.F. Dattilo**, and B. Spincer. 2007. Neotype and redescription of the Upper Cambrian anthaspidellid sponge, *Wilbernicyathus donegani* Wilson, 1950. *Journal of Paleontology*. 81(3): 435-444.
- Dattilo, B.F.** 2005. A new Angle on Strophomenid Paleocology: Trace-Fossil Evidence of an Escape Response for the Plectambonitoid Brachiopod *Sowerbyella rugosa* from a Tempestite in the Upper Ordovician Kope Formation (Edenian) of Northern Kentucky--Reply. *Palaios*. 20:601-604
- Dattilo, B.F.** 2004. A new Angle on Strophomenid Paleocology: Trace-Fossil Evidence of an Escape Response for the Plectambonitoid Brachiopod *Sowerbyella rugosa* from a Tempestite in the Upper Ordovician Kope Formation (Edenian) of Northern Kentucky. *Palaios*. 19:332-348
- Meyer, D.L., A.I. Miller, S.M. Holland, and **B.F. Dattilo**. 2002. Crinoid distribution and feeding morphology through a depositional sequence: Kope and Fairview Formations, Upper Ordovician, Cincinnati Arch Region. *Journal of Paleontology* 76(3):725-732.
- Miller, A.I., S.M. Holland, D.L. Meyer, and **B.F. Dattilo**. 2001. The use of faunal gradient analysis for inter-regional correlation and assessment of changes in seafloor topography in the type Cincinnati. *Journal of Geology* 109: 603-613
- Holland, S.M., A.I. Miller, and D.L. Meyer, and **B.F. Dattilo**. 2001. The Detection and Importance of Subtle Biofacies in Monotonous Lithofacies: the Upper Ordovician Kope Formation of the Cincinnati, Ohio Region. *Palaios*. 16.3:
- Holland, S.M., A.I. Miller, **B.F. Dattilo**, D.L. Meyer, and S.L. Diekmeyer. 1997. Cycle anatomy and variability in the Storm-Dominated Type Cincinnati (Upper Ordovician): Coming to Grips with Cycle Delineation and Genesis. *Journal of Geology* 105:135-152.
- Miller, A.I., S.M. Holland, **B.F. Dattilo**, and D.L. Meyer. 1997. Stratigraphic Resolution and Perceptions of cycle Architecture: variations in meter-scale cyclicity in the type Cincinnati Series. *Journal of Geology* 105: 737-743.
- Dattilo, B.F.** 1996. A quantitative paleoecological approach to high-resolution cyclic and event stratigraphy: the Upper Ordovician Miami town Shale in the Type Cincinnati. *Lethaia* 29(1): 21-37.
- Dattilo, B.F.** 1993. The Lower Ordovician Fillmore Formation of western Utah: storm-dominated sedimentation on a passive margin. *Brigham Young University Geology Studies* 39:71-100.

Guidebooks and Charts

- Holland, SM, A.I. Miller, D.L. Meyer, **B.F. Dattilo** and S. St. Louis-Diekmeyer. 2006. Stratigraphic Column of the Kope and Fairview Formation, Kentucky 445, Brent, Kentucky. Map and Chart 92, Series XII, Kentucky Geological Survey, University of Kentucky, Lexington.
- Evans, K.R., J.F. Miller and **B.F. Dattilo**. 2003. Sequence stratigraphy of the Sauk Sequence: 40th anniversary field trip in western Utah. IN (Swanson, T.W., ed.) *Western Cordillera and adjacent areas*. Geological Society of America Field Guide 4, p. 17-35.
- Dattilo, B.F.** 1992. The Miami town Shale: Stratigraphic and Historic Context (Upper Ordovician, Cincinnati, Ohio Region. p. 69-85 IN: (R.A. Davis and R.J. Cuffey, eds.). *Sampling the Layer Cake that isn't: The Stratigraphy and Paleontology of the Type-Cincinnati*. Ohio Division of Geological Survey Guidebook Series 13:315 pp.
- Algeo, T. J. and **B. F. Dattilo**. 1992. Upper Ordovician (Cincinnati Series) Kope, Fairview and Bellevue formations; storm-dominated carbonate-ramp deposits. *Beloit, WI, Beloit Coll.*, 114 pp.

Abstracts (*student coauthor)

- Schramm, T.J., C.E. Brett, **B.F. Dattilo** and B.B. Ellwood. 2011. Eliminating the Mosaic: Using Fine Scale Sequence Stratigraphic Correlations to Decode Sedimentary Facies in the Cincinnati, Maysvillian Stage. Submitted for 2011 NCNE Meeting of the Geological Society of America. http://gsa.confex.com/gsa/2011NE/finalprogram/abstract_186200.htm
- Dattilo, B.F.**, R.L. Freeman, *B.A. Utesch, S. Felton, and J. Pojeta Jr. 2011. **Paper No. 13-19** An unusual association of *Pseudolingula* and *Rafinesquina* from the Upper Ordovician of Ohio. NCNE Meeting of the Geological Society of America. http://gsa.confex.com/gsa/2011NE/finalprogram/abstract_186401.htm

- Dattilo, B.F.** and *S.C. Howald. 2011. **Paper No. 13-17** Stop clinging! –how the Ordovician brachiopod (fka *Platystrophia*) *Vinlandostrophia ponderosa* outgrew its mid-life attachment crisis. Submitted for 2011 NCNE Meeting of the Geological Society of America 8:00 AM-12:00 PM, Sunday, 20 March 2011. http://gsa.confex.com/gsa/2011NE/finalprogram/abstract_186236.htm
- Dattilo, B.F.**, T.M. Del Valle, D.L. Meyer and *A. Morse. 2011. Gape, feeding currents and valve snapping in *Thecidellina meyeri* from Curaçao, Netherlands Antilles: biomechanical analogue for trace-making Paleozoic strophomenates? Submitted for 2011 NCNE Meeting of the Geological Society of America. http://gsa.confex.com/gsa/2011NE/finalprogram/abstract_185630.htm
- Schramm, T. J., C.E. Brett, and **B.F. Dattilo**. 2010. Facies mosaics vs. sequence stratigraphy: using fine scale stratigraphic correlations to decode sedimentary facies in the Cincinnati, Maysvillian Stage. Geological Society of America Abstracts with Programs 42(5): 544.
- Farlow, J.O, M. O'Brien, G.J. Kuban, **B.F. Dattilo**, L. Piñuela, K.T. Bates, P. Falkingham, A. Rose, A. Freels, C.J. Kumagai, C. Libben, J. Smith, and J. Whitcraft. 2010. Dinosaur tracksites of the Paluxy River (Glen Rose Formation, Lower Cretaceous), Dinosaur Valley State Park, Somervell County, Texas, USA. 5th Jornadas Internacionales sobre Paleontología de Dinosaurios y su Entorno, Salas de los Infantes, Burgos, Spain, pp. 15-16.
- B.F. Dattilo**, P.I McLaughlin and C.E. Brett. 2010. Facies and biotic events in the type Cincinnati (Upper Ordovician): differentiating environmental from climatic-oceanographic signals. Third International Paleontological Congress Programme and Abstracts, S26:138. <http://www.ipc3.org/docs/ProgrammeAbstractsfull.pdf>
- B.F. Dattilo**, A. Argast, J.O. Farlow, and *C.A. Libben. 2010. How long did dinosaur tracks accumulate on a single bed? Sequence and timing of deposition, burrowing, track making, and lithification in the main tracklayer of the Paluxy River, Lower Cretaceous lower Glenn Rose formation, Glen Rose, Texas. Geological Society of America Abstracts with Programs 42(2): 94
- B.F. Dattilo**, *P. Bremer, and *N. Flores. 2010. Growth rate and reaction to sedimentation events of the Upper Ordovician head-forming coral *Cyathophylloides* from southeastern Indiana. Geological Society of America Abstracts with Programs 42(2): 73
- B.F. Dattilo**, *T.J. Schramm, C.E. Brett, *N. Flores. 2010. Life before the Richmondian Invasion: stratigraphically restricted fossil occurrences in the type Maysvillian of the Cincinnati area and their implications for pre-Richmondian ecological stability. Geological Society of America Abstracts with Programs 42(2): 73
- M. Harrison, **B.F. Dattilo**, A.M. House, and J Smith. 2010. Ecologic and taphonomic setting for high-fidelity calcite replacement of molluscan aragonite: a closer look at the unusually-preserved mollusks of the Marble Hill Bed in the Upper Ordovician of northern Kentucky. Geological Society of America Abstracts with Programs 42(2): 72
- B.F. Dattilo**, D.L. Meyer, and *M. Harrison. 2009. Shales and shell beds, storms and starvation, substrate and fossils: exploring the ecological and evolutionary impact of mud sedimentation in the Cincinnati Ordovician. 9th North American Paleontological Convention, Cincinnati, Ohio. Session 13: 10:30 – 10:45 AM
- B.F. Dattilo**, *S.L. Mosser, *N. Flores, *M. Harrison, and *J. Moffett. 2009. The importance of peritidal muds and siliciclastic phase reversal in understanding Cincinnati cyclogenesis. Geological Society of America Abstracts with Programs 41(4): 26
- *Flores, N, **B.F. Dattilo**, *S.L. Mosser, J. Mosser, *P. Bremer, *J.C. Moffett, and *M. Harrison. 2009. Stratigraphy, paleoenvironments, and correlation of the Upper Ordovician Tate Member of the Ashlock Formation at Point Leavell, Kentucky. Geological Society of America Abstracts with Programs 41(4):28.
- *S.L. Mosser, **B.F. Dattilo**, *N. Flores, *J.C. Moffett, *J. Mosser, *P. Bremer, and K.V. Bulinski. 2009. Stratigraphy, paleoenvironments and correlation of the lower part (C2-C3 boundary) of an outcrop of Upper Ordovician rocks near Fredericktown, Kentucky. Geological Society of America Abstracts with Programs 41(4):28.
- Dattilo, B.F.**, D.L. Meyer, and K. Dewing. 2008. New Insights into Autecology of the Ordovician Strophomenid Brachiopod *Rafinesquina* from Ichnology, Epibionts, and Biomechanics. Geological Society of America Abstracts with Programs 40 paper 183-10
- Dewing, K, **B.F. Dattilo**, and D.L. Meyer. 2008. Open wide! How much is known about the gape angle in strophomenid brachiopods? 18th Canadian Paleontology Conference 2008, Winnipeg, Manitoba on September 20

- Dewing, K, **B.F. Dattilo**, and D.L. Meyer. 2008. Open wide! How much is known about the gape angle in strophomenid brachiopods? Geological Society of America Abstracts with Programs 40(5): 84
- Meyer, D.L., **B.F. Dattilo** and J Kallmeyer. 2008. Living on the edge: epizoan encrustation and alternative life orientations of the Upper Ordovician strophomenid brachiopod *Rafinesquina* from the Cincinnati Arch region. Geological Society of America Abstracts with Programs 40(5):84
- Dattilo, B.F.**, D.L. Meyer, *M.R. Gaynor and K. Dewing. 2007 Sediment avoidance and escape traces associated with *Rafinesquina alternata*, an Upper Ordovician Strophomenid Brachiopod from the Cincinnati region, Ohio and Kentucky. Geological Society of America Abstracts with Programs 39(3):9
- Brett, C.E., P. Mclaughlin, C. Tsujita, and **B.F. Dattilo** 2006. Shell Bed Genesis in Mudrocks: Sedimentary Dynamics and Taphonomic Feedback in a Mixed Siliciclastic-Carbonate Foreland Basin System (Upper Ordovician, Southwest Ohio And Northern Kentucky). Abstract 166-10. Geological Society of America Abstracts with Programs 38(7):403
- Thompson, M.F. and **B.F. Dattilo**, 2006. Brecciation and Deformation in Exposures and Core at Jephtha Knob, Kentucky: a Possible Impact Structure. Abstract 119-131. Geological Society of America Abstracts with Programs 38(7):299
- Dattilo, B.F.** 2004 Where are the Fair-Weather Shales of the Cincinnati? Testing the Storm-Winning Model for the Origin of Interbedded Limestone and Shale. Abstract 103-1. Geological Society of America Abstracts with Programs 36(5):250
- *Livingston, T.D. and **B.F. Dattilo**. 2004 Middle Miocene Lacustrine Strata and Fossil Killifish in a Volcanic Setting: The Rocks of Pavits Spring, Nevada Test Site, Nye County, Nevada. Abstract 119-9. Geological Society of America Abstracts with Programs 36(5): 286
- Dattilo, B.F.**, *Hlohowskyj, S., Ripperdan, R.L., Miller, J.F., and Shapiro, R. 2004. Stratigraphic Setting of an Upper Cambrian Metazoan Reef between the Nopah Formation to Goodwin Formation Transition in Southern Nevada Abstract 154-10. Geological Society of America Abstracts with Programs 36(5): 368
- Dattilo, B.F.**, K.R. Evans, J.F. Miller, and R.L. Ripperdan. 2003. Mixed Siliciclastic and Carbonate Sequences of the Lower Ordovician Fillmore Formation at Ibex, Western Utah. Abstract 223-8. Geological Society of America Abstracts with Programs 35(6):544
- *Mrozek, S., **B.F. Dattilo**, *M Hicks, and J.F. Miller. 2003. Metazoan Reefs from the Upper Cambrian of the Arrow Canyon Range, Clark County, Nevada. Abstract 204-38. Geological Society of America Abstracts with Programs 35(6):500
- Miller, J.F., K.R. Evans, and **B.F. Dattilo**. 2003. Anatomy of Lowstand deposits in the Sauk III Supersequence, House Range-Ibex Area, Western Utah. Abstract 223-7 Geological Society of America Abstracts with Programs 35(6):544
- Evans, K.R., J.F. Miller, and **B.F. Dattilo**. 2003. Repetitive Patterns of Sedimentation during the Sauk Sequence in Western Utah. Abstract 223-3. Geological Society of America Abstracts with Programs 35(6):543
- Dattilo, B.F.** 2002. Carbonate Sponge-algal Buildups in the First Sequence of the Fillmore Formation (Lowermost Ordovician) of Western Utah; a Key to Unraveling Stratigraphic Sequence. Geological Society of America Abstracts with Program.
- Dattilo, B.F.** K. Evans, and J.F. Miller. 2001. Sequence Stratigraphy of the Fillmore Formation (Lower Ordovician), West-central Utah. Geological Society of America Abstracts with Programs 33(6):77
- Evans, K.R., **B.F. Dattilo**, and J. Cutler. 2001. Deposition and Gamma-ray Stratigraphy of the Fillmore Formation (Lower Ordovician), West-central Utah. Geological Society of America Abstracts with Programs 33(6):77
- Meyer, D.L., A.I. Miller, **B.F. Dattilo** and S.M. Holland. 1998. Crinoid Morphology across a Sequence Boundary: Kope to Fairview Formations, Upper Ordovician, Cincinnati Arch Region. GSA Abstracts with Programs
- Dattilo, B.F.**, S.M. Holland, A.I. Miller, D.L. Meyer and S.L. Diekmeyer. 1997. Ecostratigraphic Cycle Anatomy in the Type Cincinnati (Upper Ordovician): the Relationship between Lithologic and Faunal Cyclicity. Geological Society of America Abstracts with Programs 29: 116.
- Holland, S.M., A.I. Miller, **B.F. Dattilo**, and D.L. Meyer. 1996. Variations in Cyclicity within the Cincinnati Kope Formation: Stratigraphic Resolution and Perceptions of Cycle Architecture. Geological Society of America Abstracts with Programs 28:236

- Dattilo, B.F.**, A.I. Miller, S.M. Holland, D.L. Meyer and S. Diekmeyer. 1993. Methods of high-resolution chronostratigraphy and their application in the type Cincinnatian. *GSA Abstracts with Programs* 25(6): 338.
- Holland, S.M., **B.F. Dattilo**, A.I. Miller, D.L. Meyer and S. Diekmeyer. 1993. Anatomy of a mixed carbonate-clastic depositional sequence: Kope Formation (Upper Ordovician; Edenian) of the Cincinnati Arch. *GSA Abstracts with Programs* 25(6): 338.
- Dattilo, B.F.** 1992. Criteria for the Recognition of an Isochronous Epibole: an Example from the Type Cincinnatian. *GSA Abstracts with Programs* 24(7): 320.
- Dattilo, B.F.** 1992. Unraveling Cincinnatian Stratigraphy: High-Resolution Ecologic and Bio-Event Stratigraphy of the Miamitown Shale (Ordovician). *GSA Abstracts with Programs* 24(4): 11.
- Dattilo, B.F.** 1991. The Miamitown Shale (Upper Ordovician): A facies after all. *GSA Abstracts with Programs* 23(3): 9.
- Dattilo, B.F.** 1988. Flat-pebble conglomerate formation and depositional environments of the Fillmore Formation (Lower Ordovician) of western Utah. *GSA Abstracts with Program* 20(3): 154.

Courses Taught

Traditional (course numbers if taught at IPFW)

Introductory Geology Earthquakes and Volcanoes, Physical Geography, Astronomy, Geology of National Parks, Physical Geology (**G100**), Physical Geology Lab (**L100**), Earth Science Materials and processes (**G103**), Earth Science and Evolution of the Earth (**G104**), Elementary Field Geology (**G319**) Sedimentology and Stratigraphy (**G334**), Paleontology, , and Undergraduate Research in Geology (**G410**), Regional Geology Fieldtrip (**G420**) Additional classes include College Algebra, Remedial College Math, Trigonometry, and Introductory Biology

Online

Physical Geology, Physical geography (developed and taught, Park U.); Earthquakes and Volcanoes (developed and taught, Weber State U.); Environmental Science (taught, Park U.)

Current Research

- 2004- *Shell Bed Genesis in the Cincinnatian Ordovician*
The interbedded shales and limestones of the Cincinnatian stratigraphic sequence are enigmatic. The long-standing explanation of this unlikely combination is that shell beds and muds were formed secondarily by storm winnowing of a primary undifferentiated shell-rich mud. Recently **Carl Brett** (University of Cincinnati) has proposed that the basal Cincinnatian Kope Formation shell beds formed as biological buildups during periods of siliciclastic sediment starvation. My observations of the slightly younger Miamitown Shale also support this mode of genesis; so we are working together. Brett's paper on the Kope Formation is in press, my paper on the Miamitown Shale is in preparation. Future work may include testing of sedimentation rates using geochemical techniques.
- 2002- *Paleoecology of Strophomenid Brachiopods*
Strophomenid Brachiopods were an abundant but enigmatic extinct group. These brachiopods had a convex valve and a concave valve which fit tightly together. The ongoing debates about how these brachiopods might have lived (e.g. convex up or convex down) are heated. I recently described specimens of trace fossils associated *Sowerbyella rugosa* that demonstrate completely unexpected locomotion abilities; causing some controversy. **Dave Meyer** (University of Cincinnati) and I are preparing a description of similar trace fossils associated with *Rafinesquina alternata*. This occurrence suggests that such abilities were widespread, and helps explain them biomechanically.
- 2000- *Evolution of the Cambro-Ordovician anthaspidellid reefs of the Great Basin and Laurentia*
The anthaspidellid sponges of the Late Cambrian - early Ordovician were the first reef-building metazoans after the extinction of the archeocyathids. As such they mark the

beginning of the reef evolution that led to the great Paleozoic reefs. These sponges were rare in the Late Cambrian and most Middle to Late Cambrian reefs were constructed solely by microbes. This long-term research project focuses on the initial radiation of the Laurentian anthaspidellids from the Late Cambrian through the Early Ordovician. Several abstracts have been presented, a paper on the Cambrian sponge *Wilbernicyathus donegani* is in press, and additional papers with **Steve Rowland** (University of Nevada Las Vegas) and **J. Keith Rigby** (Brigham Young University) are in preparation.

Funding

Grants

External

Testing Depositional Models across an Upper Ordovician Facies Transition in Kentucky, Ohio, and Indiana. Funded by:

American Chemical Society Petroleum Research Fund, 9/1/2010 through 8/31/2012
(PRF# 50242-UNI8, Ref# 00022895) 2010

Paleoecology, Depositional Environments and Spatial Faunal Variation in the Miamitown Shale (Upper Ordovician) of Ohio, Indiana, and Kentucky; funded by:

Sigma Xi Grant-In-Aid of Research, 1991
Paleontological Society/Margaret C. Wray Trust Award, 1991.
Geological Society of America Research Grant, 1990, 1991.
Cincinnati Museum of Natural History Paleontological specimen Acquisition grant, 1990.

Internal (Purdue)

Did Hurricanes Cause Sediment Cycles in Ancient Continental Seas? Funded by:

2009-IPFW Summer Grant for Research for faculty
2009-IPFW Grant-in-Aid of Research
2008-Purdue Research Foundation Summer Faculty Grant for Research
2008-IPFW Grant-in-Aid of Research

Internal

Sedimentary petrology, paleoecology and depositional environments of the Fillmore Formation (Lower Ordovician) in western Utah; funded by:

Associated Students of Brigham Young University Research Grant, 1987.

Awards/Fellowships

1992 ***Outstanding Student Paper***, Geological Society of America, North-Central Section Meeting.

1990-1991 ***Fennemen Fellowship***, University of Cincinnati.

1990 ***University Research Council Student Summer Research Fellowship***, University of Cincinnati.

1987-1988 ***Glen Nielson Fellowship***, Brigham Young University.

1986-1987 ***H.J. Bissel Fellowship***, Brigham Young University.

1985-1986 ***Union Oil Undergraduate Award***, Brigham Young University.

1981 ***Gordon B. Hinckley Scholarship***, Brigham Young University.

1981 ***Hoosier Scholar***, State of Indiana.

Professional Service

Field trip leader: ***Depositional Environments and Paleoecology in a Sequence Stratigraphic Context: Upper Ordovician Strata in the Classic Cincinnati Arch Area.*** June 19-20, 2009. North American Paleontological Convention, 2009

Field trip leader: *Sequence stratigraphy of the Sauk Sequence: 40th anniversary field trip in western Utah*. October 30-31, 2003. Geological Society of America Annual Meeting (see also Guidebooks)

Manuscript Reviews for: *Palaios, Paliobiology, BYU Geology Studies*

Grant Proposal Reviews for: *Petroleum Research Fund (ACS), National Science Foundation (NSF)*

Textbook reviews for: *Thompson Learning, Blackwell Publishing*

Memberships

Paleontological Society (2008 North Central Section Chair)

Geological Society of America

National Center for Science Education