

# STEVEN M. HOLLAND

## PROFESSOR

### ADDRESS

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### EDUCATION

- 1985-1990 Doctor of Philosophy, University of Chicago, Chicago, Illinois. Dissertation: Distinguishing eustasy and tectonics in foreland basin stratigraphy: The Upper Ordovician of the Cincinnati Arch and Appalachian Basin, 390 p.
- 1981-1985 Bachelor of Science, Summa cum Laude with High Honors in Geology, University of Cincinnati, Cincinnati, Ohio. Undergraduate Thesis: Taphonomy of *Platystrophia ponderosa* from the Cincinnati of Southwest Ohio: General implications for brachiopod taphonomy

### PROFESSIONAL EXPERIENCE

- 2001-present Professor, Department of Geology and Department of Marine Sciences, University of Georgia. Graduate Faculty, Honors Faculty
- 1996-2001 Associate Professor, Department of Geology and Department of Marine Sciences, University of Georgia. Graduate Faculty, Honors Faculty
- 1993 - 1996 Assistant Professor, Department of Geology and Department of Marine Sciences, University of Georgia. Graduate Faculty, Honors Faculty (1995-present)
- 1991 - 1993 Assistant Professor, Department of Geology, University of Georgia. Graduate Faculty (1992-present)
- 1990 - 1991 Battelle Post-Doctoral Fellow, Department of Geology and Mineralogy, Ohio State University
- 1988 Teaching Assistant for David Jablonski, Biological Evolution
- 1987 Research Assistant for Susan Kidwell, computer modeling of sedimentary cyclicity
- 1984 Archaeological Assistant to Wes Cowan, Cincinnati Museum of Natural History, Ohio
- 1983 Technical Advisor, Exhibits Department, Cincinnati Museum of Natural History, Ohio
- 1981-1985 Volunteer Curator of Paleontology, Cincinnati Museum of Natural History, Ohio

## ADDITIONAL EDUCATION

- 1989 Geological Society of America Short Course: Geological Applications of Hypercard
- 1989 AAPG School: Well Log Analysis
- 1988 School of Oceanography, University of Washington, Seattle, Washington. Visiting Graduate Student. Directed readings in sediment transport and coastal oceanography
- 1987 Geological Society of America Short Course: Quantitative Sedimentary Basin Modeling
- 1987 Geological Society of America Short Course: Current Aspects of Basin Analysis and Sedimentary Geology
- 1986 Friday Harbor Laboratories, University of Washington, Friday Harbor, Washington. Course: Dynamics at the sediment-water interface
- 1984 Miami University, Oxford, Ohio. Field Camp in Wind River Basin, Wyoming. 4 week mapping and sedimentary geology course

## PROFESSIONAL SOCIETIES

American Association for the Advancement of Science  
 American Geophysical Union  
 Geological Society of America  
 Paleontological Society  
 Society for Sedimentary Geology (SEPM)  
 Sigma Xi

## AWARDS & HONORS

- 2008 Teacher of the Year, Department of Geology, University of Georgia
- 2006 Centennial Fellow, Paleontological Society
- 2003 Charles Schuchert Award, Paleontological Society
- 2003 Professor of the Year, Department of Geology, University of Georgia
- 2002 Honorable Mention, Best Paper, Palaios. SEPM (Society for Sedimentary Geology)
- 2000 Honorable Mention, Best Paper, Palaios. SEPM (Society for Sedimentary Geology)
- 2000-2002 Distinguished Lecturer, Paleontological Society
- 2000 James Lee Wilson Award for Excellence in Sedimentary Geology by a Young Scientist. SEPM (Society for Sedimentary Geology)
- 2000 Excellence in Poster Presentation, SEPM (Society for Sedimentary Geology)
- 1998 Teacher of the Year, Department of Geology, University of Georgia

- 1997 Teacher of the Year, Department of Geology, University of Georgia
- 1997 Outstanding Honors Professor, Honors Program, University of Georgia
- 1996 Teacher of the Year, Department of Geology, University of Georgia
- 1994 Teacher of the Year, Department of Geology, University of Georgia
- 1992 Teacher of the Year, Department of Geology, University of Georgia
- 1990-1991 Battelle Postdoctoral Fellowship, Ohio State University
- 1985-1989 Century Fellowship, Division of Physical Sciences, The University of Chicago
- 1985-1988 National Science Foundation Graduate Fellowship
- 1985 Phi Beta Kappa
- 1984 National Association of Geology Teachers Field School Scholarship
- 1981-1985 Vorheis full tuition scholarship, University of Cincinnati; Walter & Kathryn Cook Scholarship, Department of Geology, University of Cincinnati; Ohio Board of Regents Scholarship

#### INVITED PRESENTATIONS

- 2008 5-day short course on sequence stratigraphy and the fossil record, Nanjing Institute of Geology and Paleontology
- 2008 9th Annual Ecological Integration Symposium, Texas A&M University
- 2005 Department of Earth and Planetary Sciences, University of Tennessee
- 2005 Department of Geosciences, Virginia Tech. Distinguished Lecturer:
- 2005 Department of Earth and Planetary Sciences, Harvard University
- 2004 Department of Paleobiology, Smithsonian National Museum of Natural History
- 2003 Department of Geoscience, University of Iowa
- 2002 Department of Geology, University of Cincinnati
- 2001 Department of Geophysical Sciences, University of Chicago
- 2000 Department of Geology, Western Michigan University
- 2000 Department of Geology, University of Kansas
- 2000 Department of Geology, University of Alabama
- 1999 Department of Geology, University of Michigan
- 1998 SEPM Carbonate Research Group, Annual Meeting of SEPM / AAPG, Salt Lake City, Utah
- 1998 Earth History and Paleobiology Seminar Series, Harvard University
- 1997 Department of Geology, University of Cincinnati

- 1996 Symposium on “Dimensional scaling and the stratigraphic record of episodic and periodic forcing”, Annual Meeting of Geological Society of America, Denver, Colorado
- 1996 Department of Earth and Space Sciences, University of California at Los Angeles
- 1996 Fossil Fest Conference, Cincinnati Museum of Natural History
- 1995 Department of Geophysical Sciences, University of Chicago
- 1995 School of Oceanography, University of Washington
- 1994 Earth History and Paleobiology Seminar Series, Harvard University
- 1993 Geology Department, Virginia Polytechnic Institute and State University
- 1993 Symposium on “Paleobiologic Approaches to Global Change”, SEPM Meeting "Stratigraphic Record of Global Change", State College, Pennsylvania
- 1993 Symposium on “Analyzing significant biotic trends through stratigraphic data”, Rocky Mountain and Cordilleran Section Meeting of the Geological Society of America, Reno, Nevada
- 1990 Geology Department, University of Georgia
- 1990 Department of Earth and Planetary Sciences, Washington University
- 1990 Geology Department, University of Cincinnati
- 1989 Amoco Production Company
- 1989 ARCO Oil and Gas Company
- 1989 Geology Department, Kansas State University
- 1989 Symposium on “Paleontological Event Horizons”, Northeastern Section of the Geological Society of America, Piscataway, New Jersey

### TEACHING EXPERIENCE

#### GEOL 4500 – Sedimentary Geology

Spring 2003 (9 students), Spring 2004 (11 students), Spring 2005 (7 students), Spring 2006 (9 students), Spring 2007 (12 students), Spring 2008 (13 students)

#### GEOL 4010 – Life, Environments & Ecologies of the Past (co-taught)

Fall 1998 (22 students), Fall 1999 (7 students), Fall 2000 (16 students), Fall 2001 (11 students)

#### GEOL 4270/6270 - Geology Field School

Summer 2006 (15 students, taught one week in Utah), Summer 2007 (19 students, taught one week in Colorado)

#### GEOL 4370/6370 – Data Analysis in the Geosciences

Fall 1998 (14 students), Fall 2000 (6 students), Fall 2002 (14 students), Fall 2004 (7 students), Fall 2007 (8 students)

#### GEOL 4050/6050 – Facies Models and Stratigraphy

Fall 1998 (5 students), Fall 1999 (6 students), Spring 2001 (4 students), Spring 2002 (9 students)

GEOL 8060 – Advanced Topics in Paleobiology

Fall 2001 (2 students), Fall 2003 (2 students), Spring 2004 (2 students), Spring 2006 (5 students)

GEOL 8140 – Sequence Stratigraphy

Fall 1999 (2 students), Fall 2001 (5 students), Fall 2003 (3 students), Fall 2005 (7 students), Fall 2008 (5 students)

HONS 1990H – Darwinism and Christianity

Spring 2002 (13 students)

GEOL 1122H – Earth's History of Global Change

Spring 2003 (22 students)

SCI 208H - Honors Science (co-taught)

Winter 1998 (17 students); Winter 1997 (40 students); Winter 1996 (29 students); Winter 1995 (29 students); Winter 1994 (31 students); Winter 1993 (24 students)

SCI 209H - Honors Science (co-taught)

Spring 1998 (11 students); Spring 1997 (35 students); Spring 1996 (26 students); Spring 1995 (25 students); Spring 1994 (28 students); Spring 1993 (21 students)

GLY 235H- Honors Field Geology Program (co-taught)

Summer 1992 (24 students)

GLY 126 - Historical Geology

Spring 1991 (29 students); Fall 1991 (13 students)

GLY 405/605 - Sedimentation and Stratigraphy

Winter 1998 (15 students); Winter 1997 (22 students); Winter 1996 (17 students); Winter 1995 (21 students); Winter 1994 (21 students); Winter 1993 (17 students); Winter 1992 (8 students)

GLY 427/627 - Geology Field School, Cañon City, Colorado (co-taught)

Summer 1997 (22 students); Summer 1995 (18 students); Summer 1994 (15 students); Summer 1993 (23 students)

GLY 437/637 - Geostatistics

Fall 1996 (8 students); Fall 1994 (11 students)

GLY 802K -Advanced Topics in Stratigraphy

Fall 1993 (5 students)

GLY 805 - Advanced Stratigraphy

Fall 1997 (5 students); Fall 1995 (5 students); Fall 1992 (6 students)

GLY 825 - Plate Tectonics (co-taught)

Fall 1997 (6 students); Fall 1996 (8 students); Fall 1995 (4 students); Fall 1994 (5 students); Fall 1993 (7 students); Fall 1992 (4 students); Fall 1991 (8 students)

### GRADUATE STUDENTS

Andrew Zaffos. M.S. expected Spring 2010.

Noel Heim. Ph.D. August 2008. Dissertation: The spatial structure of biodiversity in the fossil record: contrasting global, continental, and regional responses to climate change.

Karen Layou. Ph.D. June 2007. Dissertation: Paleocommunity response to extinction: an example from the Late Ordovician (Mohawkian) of the Appalachian Basin of the eastern United States.

Jessica Allen. M.S. August 2003. Thesis: Facies and sequence stratigraphic analysis of the Harding Sandstone, Colorado.

Gayle Levy. M.S. June 2002. Thesis: Landmark analysis of the brachiopod *Sowerbyella rugosa*: a test of stasis.

Daniel Hunter. M.S. May 2000. Thesis: Petrographic and geochemical evidence of subaerial exposure at temperate carbonate sequence boundaries, Upper Ordovician, Nashville Dome, Tennessee.

Andrew C. Benson. M.S. March 1998. Thesis: Cause and regional extent of the mid-Ordovician positive  $\delta^{13}\text{C}$  isotope excursion.

Joshua B. Sternberg. M.S. June 1997. Thesis: Testing a Middle Ordovician sequence boundary for chronostratigraphic significance. Research supported by Geological Society of America.

Alan T. Peoples. M.S. March 1997. Thesis: Application of the parasequence model to the Cretaceous Dakota Group in Cañon City, Colorado.

John F. Jordan. M.S. March 1997. Thesis: Sequence stratigraphy of a carbonate-siliciclastic transition in the Upper Mississippian and Lower Pennsylvanian of the southern Appalachians. Research supported by Sigma Xi and American Association of Petroleum Geologists.

Polly A. Bouker. M.S. June 1996. Thesis: Using multivariate statistics to quantify tempestite proximity: Silurian Red Mountain Formation, Ringgold Gap, Georgia. Research supported by Sigma Xi.

### UNDERGRADUATE THESES

Eric Hogan, May 2008. Thesis: Clay mineralogy of Pennsylvanian deltaic shales from the Breathitt Group, Flat Lick, Kentucky, USA

Kathryn Hoffmeister, May 2008. Thesis: Using paleoecology to interpret a deltaic sequence of the Breathitt Group at Flat Lick, eastern Kentucky, USA

Tori Hanson, June 2003. Thesis: Testing changes in preferred habitat within marine genera of the North American Ordovician

### SERVICE

2007-present Paleontological Society Medal Committee

2006-present Graduate Coordinator, Department of Geology, University of Georgia

- 2005-present Editor, Alumni Newsletter, Department of Geology, University of Georgia
- 2005-present Paleontological Society Fellows Committee
- 2005-2007 Councilor for Paleontology. Society for Sedimentary Geology (SEPM)
- 2005 Session Chair, Partitioning Taxa: Patches, Gradients, and Regions. Annual Meeting of Geological Society of America
- 2003-2006 Honors Advisory Board, University of Georgia
- 2003-2005 Franklin College Promotion and Tenure Committee, University of Georgia
- 2002-2003 Councilor-at-Large (under 40). Paleontological Society
- 2001-2002 Section representative for Paleontological Society to American Association for the Advancement of Science
- 2001 Co-organized Paleontological Society topical session on Stratigraphic Paleobiology with Mark Patzkowsky. Annual Meeting of Geological Society of America
- 1999-2006 Undergraduate Advisor, Department of Geology, University of Georgia
- 1999 Chairman, Riverbend Relocation Committee, Department of Geology, University of Georgia
- 1998-present Associate Editor, *Palaios*
- 1998-present Computing Committee, Department of Geology, University of Georgia
- 1998-2002 Moore Medal Selection Committee, SEPM
- 1998-1999 Technical Program Committee, 1999 Southeastern Sectional Meeting of GSA in Athens, Georgia
- 1998-1999 Councilor, Southeastern Section SEPM
- 1998-1999 Admissions and Awards committee, Department of Geology, University of Georgia
- 1998 Organized symposium on Sequence Stratigraphic Applications to the Appalachians, Southeast GSA meeting, Charleston, West Virginia. Sponsored by the Southeast Section of SEPM and the Southeast Section of the Paleontological Society.
- 1997-1998 President and Councilor-Elect, Southeastern Section SEPM
- 1996-1997 Vice-President, Southeastern Section SEPM
- 1996-1997 Admissions and Awards committee, Department of Geology, University of Georgia
- 1995 Chairman of the ad hoc Committee for Undergraduate Curriculum Revisions, Department of Geology, University of Georgia
- 1992-present Advisory Committees for graduate students
- 1992-present Proposal reviewer for National Science Foundation, American Chemical Society Petroleum Research Fund, Research Council of Norway, Natural Sciences and Engineering Research Council of Canada. Manuscript reviewer for *Nature*, *Science*, *Proceedings of the National Academy of Science*, *Paleobiology*, *Palaios*, *Palaeogeography-Palaeoclimatology-Palaeoecology*, *Journal of Sedimentary*

Research, Sedimentology, Sedimentary Geology, Geology, Geological Society of America Bulletin, Journal of Geology, Earth and Planetary Science Letters, Lethaia, Journal of Foraminiferal Research, SEPM Special Publications, Columbia University Press, Trends in Research in Ecology and Evolution

- 1992-1995 Graduate Curriculum Committee; Geology Department, University of Georgia
- 1992-1995 Georgia reporter for the Gulf Coast Section of the Society of Economic Paleontologists and Mineralogists
- 1992-1993 Search Committee: Paleontology; Geology Department, University of Georgia
- 1992 Search Committee: Hydrology, Structure, Paleontology; Geology Department, University of Georgia
- 1992 Computer Liaison Committee, Geology Department, University of Georgia

## GRANTS

- 2008 University of Georgia President's Venture Fund. Funding to attend the Cocoa Bootcamp, an OS X programming course. \$2500, with \$500 matching from the UGA Department of Geology.
- 2002-2005 National Science Foundation: REU Supplement to Diversity partitioning during a marine biotic invasion: Middle and Late Ordovician, Cincinnati Arch and Nashville Dome. EAR-0087055. \$11,500.
- 2001-2005 National Science Foundation: Diversity partitioning during a marine biotic invasion: Middle and Late Ordovician, Cincinnati Arch and Nashville Dome. Collaborative research with Mark E. Patzkowsky of Pennsylvania State University. EAR-0087055. Total award: \$110,000. University of Georgia award: \$55,000.
- 1999-2000 National Science Foundation SGER: Hurricane effects on beach-to-reef facies. Co-PI with Sally E. Walker, University of Georgia. EAR-0000894. Total award: \$12,366.
- 1997-2001 National Science Foundation: Modeling the biostratigraphic effects of facies control, depositional sequences, and sampling intensity. Collaborative research with Mark E. Patzkowsky of Pennsylvania State University. EAR-9705732. Total award: \$100,000; University of Georgia award: \$35,965
- 1993-1995 Petroleum Research Fund Class G Grant, American Chemical Society: Sequence stratigraphy of the Middle and Upper Ordovician of the Nashville Dome, Tennessee. 26381-G8. Total award: \$20,000
- 1992-1994 National Science Foundation: High-resolution event stratigraphy of the Kope-Corryville interval in the type Cincinnati. Collaborative Research with Arnold I. Miller and David L. Meyer of the University of Cincinnati. EAR-9204445. Total award: \$175,000; University of Georgia award: \$17,800
- 1985-1988 National Science Foundation Graduate Fellowship
- 1988 Geological Society of America Research Grant
- 1988 Sigma Xi Grant-in-Aid of Research

1987 Geological Society of America Research Grant

### **GROUP RESEARCH INITIATIVES**

- 2005-2006 Steering Committee, The Paleobiology Database.
- 2003 Participant in workshop, New Directions in Sedimentary Geology, sponsored by National Science Foundation
- 2001-2004 Advisory Board, The Paleobiology Database.
- 1998-2000 Participant, A Sampling-Standardized Analysis of Phanerozoic Marine Diversification and Extinction, sponsored by National Center for Ecological Analysis and Synthesis
- 1999 Participant in workshop, Geobiology and the Earth Sciences in the Next Decade, sponsored by National Science Foundation
- 1998-present Member, Penn State Astrobiology Research Center

### **PRINCIPAL FIELD EXPERIENCE**

- 2006-2008 Sequence stratigraphy and paleoecology of the Upper Ordovician of Wyoming. Five weeks.
- 2000-2004 Sequence stratigraphy and biofacies of the Upper Ordovician of the Cincinnati Arch of Ohio, Indiana, and Kentucky. Nine weeks.
- 2000 Geologic effects of Hurricane Floyd, San Salvador, The Bahamas. Two weeks.
- 1999 Ordovician stratigraphy and paleontology, southern Appalachians and Missouri. Two weeks.
- 1992-1997 Sequence stratigraphy and biofacies of the Upper Ordovician of the Nashville Dome. Four months.
- 1995 Sequence stratigraphy of a lowstand bypass channel in the Mancos Shale; Book Cliffs, Utah. One week.
- 1992-1993 Parasequence stratigraphy and event bed correlation in the Upper Ordovician Kope and Fairview Formations of the Cincinnati, Ohio area. Two months.
- 1987-1989 Sequence stratigraphy and foreland basin evolution of the Middle and Upper Ordovician of the Cincinnati Arch and central Appalachian Basin. 7 months.
- 1989 Holocene shell beds and stratigraphy of the Texas continental shelf. R/V Gyre. 3 weeks.
- 1985 Archeological field survey and excavations in Great Miami River Valley, Southwestern Ohio. 3 months.

## PUBLICATIONS

### *Peer-Reviewed Journals and Volumes*

- Pope, M.C., S.M. Holland, and M.E. Patzkowsky, in press, The Cincinnati Arch: a stationary peripheral bulge during the Late Ordovician. *Perspectives in Carbonate Geology: A Tribute to the Career of Robert Nathan Ginsburg*, IAS Special Publication 41.
- Holland, S.M., and M.E. Patzkowsky, in press, Stratigraphic architecture of a tropical carbonate platform and its effect on the distribution of fossils: Ordovician Bighorn Dolomite, Wyoming, USA. *Palaios*.
- Brett, C.E., S.M. Holland, P.I. McLaughlin, and A.I. Miller, 2008. Preface: "Stratigraphic Renaissance" in the study of the Upper Ordovician of the Cincinnati Arch: New approaches utilizing sequence, cycle and event stratigraphy, paleoecology and paleobiology. In P.I. McLaughlin, C.E. Brett, S.M. Holland, and G.W. Storrs, eds., *Stratigraphic Renaissance in the Cincinnati Arch: Implications for Upper Ordovician Paleontology and Paleoecology*, Cincinnati Museum Center Scientific Contributions No. 2, p. 1-5.
- McLaughlin, P.I., C.E. Brett, S.T. McLaughlin, and S.M. Holland, 2008. Upper Ordovician (Chatfieldian-Edenian) strata from central Kentucky to southern Ohio: facies gradients, event beds, and depositional sequences. In P.I. McLaughlin, C.E. Brett, S.M. Holland, and G.W. Storrs, eds., *Stratigraphic Renaissance in the Cincinnati Arch: Implications for Upper Ordovician Paleontology and Paleoecology*, Cincinnati Museum Center Scientific Contributions No. 2, p. 8-37.
- Holland, S.M., and A.I. Miller, 2008. Biofacies and sequence stratigraphic architecture of the C1 sequence (Kope and lowermost Fairview Formations), Cincinnati, Ohio area. In P.I. McLaughlin, C.E. Brett, S.M. Holland, and G.W. Storrs, eds., *Stratigraphic Renaissance in the Cincinnati Arch: Implications for Upper Ordovician Paleontology and Paleoecology*, Cincinnati Museum Center Scientific Contributions No. 2, p. 44-57.
- Holland, S.M., 2008. Climate-driven storm cyclicity: A non-eustatic mechanism for generating offshore meter-scale cycles. In P.I. McLaughlin, C.E. Brett, S.M. Holland, and G.W. Storrs, eds., *Stratigraphic Renaissance in the Cincinnati Arch: Implications for Upper Ordovician Paleontology and Paleoecology*, Cincinnati Museum Center Scientific Contributions No. 2, p. 166-173.
- Holland, S.M., 2008. The type Cincinnati Series: An overview. In P.I. McLaughlin, C.E. Brett, S.M. Holland, and G.W. Storrs, eds., *Stratigraphic Renaissance in the Cincinnati Arch: Implications for Upper Ordovician Paleontology and Paleoecology*, Cincinnati Museum Center Scientific Contributions No. 2, p. 174-184.
- Alroy, J., M. Aberhan, D.J. Bottjer, M. Foote, F.T. Fürsich, P.J. Harries, A.J.W. Hendy, S.M. Holland, L.C. Ivany, W. Kiessling, M.A. Kosnik, C.R. Marshall, A.J. McGowan, A.I. Miller, T.D. Olszewski, M.E. Patzkowsky, S.E. Peters, L. Villier, P.J. Wagner, N. Bonuso, P.S. Borkow, B. Brenneis, M.E. Clapham, L.M. Fall, C.A. Ferguson, V.L. Hanson, A.Z. Krug, K.M. Layou,, E.H. Leckey, S. Nürnberg, C.M. Powers, J.A. Sessa, C. Simpson, A. Tomašových, C.C. Visaggi, 2008, Phanerozoic trends in the global diversity of marine invertebrates. *Science* v. 321, p. 97-100.
- Holland, S.M., and M.E. Patzkowsky, 2007, Gradient ecology of a biotic invasion: biofacies of the type Cincinnati Series (Upper Ordovician), Cincinnati, Ohio region, USA. *Palaios* v. 22, p. 392-407.
- Patzkowsky, M.E., and S.M. Holland, 2007, Diversity partitioning of a Late Ordovician marine biotic invasion: controls on diversity in regional ecosystems. *Paleobiology* v. 33, p. 295-309.

- Theiling, B.P., L.B. Railsback, S.M. Holland, and D.E. Crowe, 2007, Heterogeneity in geochemical expression of subaerial exposure in limestones, and its implications for sampling to detect exposure surfaces. *Journal of Sedimentary Research* v. 77, p. 159-169.
- Allulee, J.L., and S.M. Holland, 2005. The sequence stratigraphic and environmental context of primitive vertebrates: Harding Sandstone, Upper Ordovician, Colorado, USA. *Palaios* v. 20, p. 518-533.
- Holland, S.M., 2005. The signatures of patches and gradients in ecological ordinations. *Palaios*, v. 20, p. 573-580.
- Holland, S.M., A.I. Miller, D.L. Meyer, B.F. Dattilo, and S.C. St. Louis Diekmeyer, 2005, Stratigraphic column of the Kope and Fairview Formations, Kentucky Highway 445 (K445), Brent, Kentucky. Kentucky Geological Survey Map & Chart Series XII.
- Holland, S.M., and M.E. Patzkowsky, 2004. Ecosystem structure and stability: middle Upper Ordovician of central Kentucky, USA. *Palaios* v. 19, p. 316-331.
- Harris, R.S., M.F. Roden, P.A. Schroeder, S.M. Holland, M.S. Duncan, and E.F. Albin, 2004. An upper Eocene impact horizon in east-central Georgia. *Geology* v. 32, p. 717-720.
- Railsback, L.B., S.M. Holland, D.L. Hunter, M. Jordan, J. Diaz, and D.E. Crowe, 2003. Controls on geochemical expression of subaerial exposure in Ordovician limestones from the Nashville Dome, Tennessee, U.S.A. *Journal of Sedimentary Research*, v. 73, p. 790-805.
- Holland, S.M., 2003. BIOSTRAT: a program for simulating the stratigraphic occurrence of fossils. *Computers & Geosciences*, v. 29, p. 1119-1125.
- Patzkowsky, M.E., and S.M. Holland, 2003. Lack of saturation in ecological communities at the beginning of the Paleozoic plateau: the dominance of regional over local processes. *Paleobiology*, v. 29, p. 545-560.
- Holland, S.M., 2003. Confidence limits on fossil ranges that account for facies changes. *Paleobiology* v. 29, p. 468-479.
- Herrmann, A.D., M.E. Patzkowsky and S.M. Holland, 2003. BIOMODULE: a Java program to help model and interpret the stratigraphic record. *Computers & Geosciences* v. 29, p. 99-105.
- Walker, S.E., S.M. Holland, and L. Gardiner, 2003. *Coenobichnus currani* (new ichnogenus and ichnospecies): fossil trackway of a land hermit crab, Early Holocene, San Salvador, Bahamas. *Journal of Paleontology*, v. 77, p. 576-582.
- Kidwell, S.K., and S.M. Holland, 2002. The quality of the fossil record: implications for evolutionary analyses. *Annual Reviews of Ecology and Systematics*, v.33, p. 561-588.
- 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*, v. 76, p. 725-732.
- Holland, S.M., and M.E. Patzkowsky, 2002. Stratigraphic variation in the timing of first and last occurrences. *Palaios*, v. 17, p. 134-146.
- Miller, A.I., S.M. Holland, D.L. Meyer, and B.F. Dattilo, 2001. The use of faunal gradient analysis for intraregional correlation and assessment of sea-floor topography in the type Cincinnati. *Journal of Geology*, v. 109, p. 603-614.

- Holland, S.M., A.I. Miller, 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*, v. 16, p. 205-217.
- Walker, S.E., S.M. Holland, and L. Gardiner, 2001. Cockburn Town fossil reef: A summary of effects from Hurricane Floyd. In B.J. Greenstein and C.K. Carney, eds., *Proceedings of the 10th Symposium on the Geology of the Bahamas and Other Carbonate Regions*. Gerace Research Center: Sal Salvador, the Bahamas, p. 13-19.
- Alroy, J., C.R. Marshall, R.K. Bambach, K. Bezusko, D. Carlson, M. Foote, F.T. Fürsich, T.A. Hansen, S.M. Holland, L.C. Ivany, D. Jablonski, D.K. Jacobs, M.A. Kosnik, S. Lidgard, S. Low, A.I. Miller, P.M. Novack-Gottshall, T. Olszewski, M.E. Patzkowsky, D.M. Raup, K. Roy, J.J. Sepkoski, Jr., M.G. Sommers, P.J. Wagner, III, and A. Webber, 2001. Effects of sampling standardization on estimates of Phanerozoic marine diversification. *Proceedings of the National Academy of Sciences*, v. 98, p. 6261-6266.
- Holland, S.M., 2000. The quality of the fossil record: a sequence stratigraphic perspective. In D.H. Erwin and S.L. Wing, eds., *Deep Time: Paleobiology's Perspective*. Lawrence, Kansas: The Paleontological Society, p. 148-168.
- Holland, S.M., D.L. Meyer, and A.I. Miller, 2000. High-resolution correlation in apparently monotonous rocks: Upper Ordovician Kope Formation, Cincinnati Arch. *Palaios*, v. 15, p. 73-80.
- Holland, S.M., 1999. The New Stratigraphy and its promise for paleobiology. *Paleobiology*, v. 25, p. 409-416.
- Patzkowsky, M.E., and S.M. Holland, 1999. Biofacies replacement in a sequence stratigraphic framework: Middle and Upper Ordovician of the Nashville Dome, Tennessee, USA. *Palaios*, v. 14, p. 301-323.
- Holland, S.M., and M.E. Patzkowsky, 1999. Models for simulating the fossil record. *Geology*, v. 27, p. 491-494.
- Holland, S.M., and M.E. Patzkowsky, 1998. Sequence stratigraphy and relative sea-level history of the Middle and Upper Ordovician of the Nashville Dome, Tennessee. *Journal of Sedimentary Research*, v. 68, p. 684-699.
- Miller, A.I., S.M. Holland, B.F. Dattilo, D.L. Meyer, 1997. Stratigraphic resolution and perceptions of cycle architecture: variations in meter-scale cyclicity in the type Cincinnati Series. *Journal of Geology*, v. 105, p. 737-743.
- Patzkowsky, M.E., and S.M. Holland, 1997. Patterns of turnover in Middle and Upper Ordovician brachiopods of the eastern United States: a test of coordinated stasis. *Paleobiology*, v. 23, p. 420-443.
- Holland, S.M., A.I. Miller, D.L. Meyer, B.F. Dattilo, and S. 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*, v. 105, p. 135-152.
- Holland, S.M., and M.E. Patzkowsky, 1997. Distal orogenic effects on peripheral bulge sedimentation: Middle and Upper Ordovician of the Nashville Dome. *Journal of Sedimentary Research*, v. 67, p. 250-263.
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