

# 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

- Geological Society of America  
 Paleontological Society  
 Society for Sedimentary Geology (SEPM)

## AWARDS & HONORS

- 2017 Professor of the Year, Department of Geology, University of Georgia
- 2015 Best paper in *Palaeontology* for 2015
- 2014 Professor of the Year, Department of Geology, University of Georgia
- 2013 Teacher of the Year, Department of Geology, University of Georgia
- 2012 Top Referees, Proceedings of the Royal Society B: Biological Sciences
- 2012 Professor of the Year, Department of Geology, University of Georgia
- 2012 Teacher of the Year, Department of Geology, University of Georgia
- 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

- 2017 Department of Earth and Planetary Sciences, Northwestern University
- 2017 Ermine Cowles Case Memorial Lecture, Museum of Paleontology, University of Michigan
- 2016 Department of Earth Sciences, University of Southern California
- 2015 Royal Society discussion meeting on “Dating species divergences using rocks and clocks”.
- 2015 Department of Geological Sciences, University of Florida
- 2013 Department of Geology, Macalester College
- 2012 Weeks Lecture, Department of Geoscience, University of Wisconsin
- 2012 Georgia Climate and Society Initiative, University of Georgia
- 2012 David Meyer retirement celebration, Department of Geology, University of Cincinnati
- 2012 Department of Geology, University of Cincinnati
- 2012 Willson Center for Humanities and Arts, University of Georgia
- 2010 ConocoPhillips School of Geology and Geophysics, University of Oklahoma

2010 Department of Geophysical Sciences, University of Chicago

2009 Department of Marine Sciences, University of Georgia

2009 Department of Geology, College of William & Mary

2008 5-day short course on sequence stratigraphy and the fossil record, Nanjing Institute of Geology and Paleontology

2008 9<sup>th</sup> Annual Ecological Integration Symposium, Texas A&M University

2005 Department of Earth and Planetary Sciences, University of Tennessee

2005 Distinguished Lecturer, Department of Geosciences, Virginia Tech

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

#### Quantitative Biostratigraphy

Half-day short course, taught at Microfossils IV meeting in Houston, Texas. April, 2017.

#### Stratigraphic Paleobiology

One-day short course, taught at 4<sup>th</sup> International Paleontological Convention in Mendoza, Argentina. October, 2014.

#### Field Course in Stratigraphic Paleobiology

Two week field course for graduate students, sponsored by the Paleontological Society, and located in the Tobacco Root Mountains and Missouri Breaks of Montana. Co-taught with Mark Patzkowsky. Summer 2014, Summer 2017.

#### 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 4050/6050: Facies Models and Stratigraphy

Fall 1998 (5 students), Fall 1999 (6 students), Spring 2001 (4 students), Spring 2002 (9 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), Summer 2009 (20 students, taught 1/2 week)

#### 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), Fall 2009 (17 students), Fall 2011 (21 students), Fall 2013 (25 students), Fall 2015 (23 students)

#### GEOL 4500/6500: 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), Spring 2009 (16 students), Spring 2010 (13 students), Spring 2011 (24 students), spring 2012 (29 students), spring 2013 (33 students), spring 2014 (33 students), spring 2015 (28 students), spring 2016 (27 students), spring 2017 (21 students)

GEOL 8060: Advanced Topics in Paleobiology

Fall 2001: Ordovician paleoceanography (2 students)

Fall 2003: Null models in paleobiology (2 students)

Spring 2004: Programming in C (2 students)

Spring 2006: Introduction to R (5 students)

GEOL 8080: Advanced Topics in Sedimentary Geology

Fall 2001: Sedimentology of Sapelo (8 students)

GEOL 8140: Sequence Stratigraphy

Fall 1999 (2 students), Fall 2001 (5 students), Fall 2003 (3 students), Fall 2005 (7 students), Fall 2008 (7 students), Fall 2010 (4 students), Fall 2012 (8 students), Fall 2014 (3 students), Fall 2016 (12 students)

GEOL 8370: Data Analysis in the Geosciences

Fall 2017 (25 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)

### **POST-DOCTORAL FELLOWS**

Sylvia Danise (2015–2016). Supported by a Marie Curie Fellowship from The European Commission.

### **GRADUATE STUDENTS**

Garett Brown, Ph.D. expected Spring 2020.

Pedro Monarrez, Ph.D. expected Spring 2018. Research supported by the Paleontological Society.

Matt Hess, M.S. expected Spring 2019.

Sierra Swenson, M.S. expected Spring 2019.

Sarah Wright, M.S. December 2017. Thesis: The falling-stage progradation of an open-coast tidal flat: UAV-assisted sequence stratigraphy of the Jurassic Windy Hill Sandstone, Wyoming. Research supported by the Geological Society of America, American Association of Petroleum Geologists, Wyoming Geological Association, and Tobacco Root Geological Society

Bolton Howes, M.S. August 2017. Thesis: Sequence Stratigraphic Expression of Flexural Subsidence: Middle Jurassic Twin Creek Limestone, Wyoming, U.S.A. Research supported by the Geological Society of America.

Annaka Clement, M.S. May 2015. Thesis: The sequence stratigraphy of the Middle Jurassic Gypsum Spring and Piper Formations in the eastern Bighorn Basin of Wyoming, U.S.A. Research supported by the Geological Society of America and the Society for Sedimentary Geology (SEPM).

Kristopher Kusnerik, M.S. May 2015. Thesis: Community paleoecology and biogeography of the Jurassic (Bajocian-Oxfordian) Sundance Seaway in the Bighorn Basin of Wyoming and Montana, U.S.A. Research supported by the Geological Society of America and the Theodore Roosevelt Memorial Fund of the American Museum of Natural History.

Chelsea Jenkins, M.S. May 2014. Thesis: Are biogeographic provinces discrete or gradational: a test in the Late Ordovician of Laurentia. Research supported by the Geological Society of America.

Christopher Ginn, M.S. May 2014. Thesis: Sequence stratigraphy of the Silurian Clinch Formation, northeastern Tennessee and southwestern Virginia.

Judi Sclafani, M.S. May 2013. Thesis: Testing the species-area relationship through Hubbell's theta in Late Ordovician marine communities of Laurentia. Research supported by the Geological Society of America, the Paleontological Society, the Theodore Roosevelt Memorial Fund of the American Museum of Natural History, and the Sigma Xi Grants-in-Aid of Research.

- Ally Platsky, M.S. August 2013. Thesis: The effect of eustatic period on changes in Hubbell's theta. Research supported by the Geological Society of America and the Theodore Roosevelt Memorial Fund of the American Museum of Natural History.
- Sharon McMullen, M.S. May 2012. Thesis: The occurrence of vertebrate and invertebrate fossils in a sequence stratigraphic context: The Jurassic Sundance Formation, Bighorn Basin, Wyoming, USA. Research supported by the Geological Society of America and the Paleontological Society.
- Max Christie. M.S. August 2011. Thesis: Contrasting the ecological and taxonomic intensity of extinction. Research supported by the Geological Society of America, the Paleontological Society, and the Theodore Roosevelt Memorial Fund of the American Museum of Natural History.
- Andrew Zaffos. M.S. August 2010. Thesis: Abundance and extinction at the Ordovician/Silurian boundary of the Cincinnati Arch, USA. Research supported by the Geological Society of America, the Paleontological Society, and the Theodore Roosevelt Memorial Fund of the American Museum of Natural History.
- 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. Research supported by a STAR Fellowship from the U.S. Environmental Protection Agency, the Geological Society of America, and the Paleontological Society.
- 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. Research supported by the Geological Society of America, the Paleontological Society, the Theodore Roosevelt Memorial Fund of the American Museum of Natural History, and the Sigma Xi Grants-in-Aid of Research.
- Jessica Allen. M.S. August 2003. Thesis: Facies and sequence stratigraphic analysis of the Harding Sandstone, Colorado. Research supported by the Geological Society of America, and the Colorado Scientific Society.
- Gayle Levy. M.S. June 2002. Thesis: Landmark analysis of the brachiopod *Sowerbyella rugosa*: a test of stasis. Research supported by the Paleontological Society, the Southeastern Section of the Geological Society of America, and the Sigma Xi Grants-in-Aid of Research.
- 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 Grants-in-Aid of Research and the 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 Grants-in-Aid of Research.



## UNDERGRADUATE THESES

- Jack Simmons, May 2017. Tectonic provenance and source areas of Jurassic sandstones, Wyoming.
- Austin Poncelet, May 2016. Paleoclimate indicators in Jurassic limestone, Wyoming.
- Sydne Workman, May 2015: Well log correlations of the marine Jurassic, Bighorn Mountains to Black Hills.
- Jason Burwell, May 2015: Well log correlations of the marine Jurassic, Bighorn Mountains to Idaho.
- Daniel Graybeal, May 2014: Jurassic paleogeography of western North America
- Rachel Cheatham, December 2012: Mississippian paleocommunities of Center Hill Lake, Tennessee
- Sean Cameron, May 2012: Sequence architecture and well-log analysis, Sundance Formation, Bighorn Basin, Wyoming
- Jordan Carney, May 2012: Bryozoan associations along the C5 onshore-offshore gradient, Cincinnati Arch, USA
- Leanne Hancock, May 2012: Bryozoan associations along the C5 onshore-offshore gradient, Cincinnati Arch, USA
- Morgan Rosenberg, May 2011: Bryozoans of the Bighorn Dolomite, Wyoming
- Jonathan Primm, May 2011: Bryozoan distribution along an onshore-offshore gradient, Cincinnati Series, Southern Indiana
- Kirk Fraley, May 2010. Depositional environments of cliff-forming Carboniferous sandstones in northwest Georgia
- Joshua Miller, May 2010. Well-log correlations in the Ordovician Bighorn Dolomite in Wyoming and portions of surrounding states
- David DuBose, May 2009. Well-log correlations and interpretations in the Sundance Formation, Bighorn Basin, Wyoming
- Eric Hogan, May 2008. Clay mineralogy of Pennsylvanian deltaic shales from the Breathitt Group, Flat Lick, Kentucky, USA
- Kathryn Hoffmeister, May 2008. Using paleoecology to interpret a deltaic sequence of the Breathitt Group at Flat Lick, eastern Kentucky, USA
- Tori Hanson, June 2003. Testing changes in preferred habitat within marine genera of the North American Ordovician

## SERVICE

- 2016–present University of Georgia, University-level promotion and tenure review committee
- 2016–present Past-President, Paleontological Society
- 2014–2016 President, Paleontological Society
- 2013–2014 Graduate Coordinator; Department of Geology, University of Georgia
- 2012–2014 President-Elect, Paleontological Society
- 2012–present Faculty mentor for Dr. Adam Milewski, Department of Geology, University of Georgia

- 2011–2012 Honorary Member Committee, Society for Sedimentary Geology (SEPM)
- 2010 Interview for WNEG-TV on the explosion of the Deepwater Horizon drilling platform and the subsequent oil spill
- 2010–2013 Paleontological Society, Student Poster Judge
- 2007–2011 Paleontological Society Medal Committee
- 2006–2012 Graduate Coordinator, Department of Geology, University of Georgia
- 2005–2012 Editor, Alumni Newsletter, Department of Geology, University of Georgia
- 2005–2011 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 Chair, Riverbend Relocation Committee, Department of Geology, University of Georgia
- 1998–2013 Associate Editor, *Palaios*
- 1998–2009 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 Chair 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, National Geographic, Natural Sciences and Engineering Research Council of Canada. Manuscript reviewer for Nature, Science, Proceedings of the National Academy of Science, Proceedings of the Royal Society, Ecology Letters, 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, Alcheringa, 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

- 2013 University of Georgia Provost 's Summer Research Grant. Reinterpreting the tempo of an ancient mass extinction using sequence stratigraphy. \$5000
- 2012 University of Georgia Provost 's Summer Research Grant. Enhanced discovery of rare marine vertebrate fossils using sequence stratigraphy \$5000
- 2010–2014 National Science Foundation: Testing a neutral model for the biotic effects of sea-level change. EAR-0948895. \$147,885
- 2009–2010 National Geographic Society: The ecological and sedimentary response of an equatorial marine system to Late Ordovician climate change. \$12,300
- 2008 University of Georgia President's Venture Fund. Funding to participate in the Cocoa Bootcamp, an OS X programming course offered by the Big Nerd Ranch. \$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

- 2013–present Advisory Board, The Paleobiology Database
- 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
- 1998–2005 Associate Member, Penn State Astrobiology Research Center

### PRINCIPAL FIELD EXPERIENCE

- 2012–2016 Sequence stratigraphy of the marine Jurassic of the Bighorn Basin in Wyoming. Nine weeks
- 2011–2015 Paleozoic sequence stratigraphy and stratigraphic paleobiology. Tobacco Root Mountains, Montana. Six weeks

- 2013 Sequence stratigraphy of the Ordovician/Silurian boundary interval, Nevada. One week
- 2006–2010 Sequence stratigraphy and paleoecology of the Upper Ordovician of Wyoming. Ten 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*

- Monarrez, P.M., M. Aberhan, and S.M. Holland, 2017. Regional and environmental variation in escalatory trends during the Jurassic: a western Tethys hot spot for escalation. *Paleobiology*.
- Danise, S., and S.M. Holland, 2017. Faunal response to sea-level and climate change in a short-lived seaway: Jurassic of the western interior, U.S.A. *Palaeontology* doi: 10.1111/pala.12278.
- Clement, A.C., and S.M. Holland. 2016. Sequence stratigraphic context of extensive evaporites: Middle Jurassic Gypsum Spring Formation, Wyoming, U.S.A. *Journal of Sedimentary Research*, v. 86, p. 965–981.
- Patzkowsky, M. E., and S.M. Holland. 2016. Biotic invasion, niche conservatism, and the assembly of regional biotas in deep time: Comparison of donor and recipient regions. *Paleobiology*, v. 58, p. 359–379.
- Jenkins, C.E., and S.M. Holland. 2016. Continental-scale biogeographic variation: provinces versus gradients in the Upper Ordovician of Laurentia. *Paleobiology*, v. 58, p. 410–425.
- Holland, S.M. 2016. The non-uniformity of the fossil record. *Philosophical Transactions of the Royal Society B, Biological Sciences* v. 371, no. 20150130. doi: 10.1098/rstb.2015.0130.

- Holland, S.M., and M.E. Patzkowsky. 2015. The stratigraphy of mass extinction. *Palaeontology*, v. 58, p. 903–924. *Awarded best paper in Palaeontology for 2015*.
- Holland, S.M., and J. Sclafani. 2015. Phanerozoic diversity and neutral theory. *Paleobiology*, v. 41, p. 369–376.
- McMullen, S.K., S.M. Holland, and F.R. O'Keefe. 2014. The occurrence of vertebrate and invertebrate fossils in a sequence stratigraphic context: the Jurassic Sundance Formation, Bighorn Basin, Wyoming, USA. *Palaios* v. 29, p. 277–294.
- Christie, M., S.M. Holland, and A.M. Bush, 2013. Contrasting the ecological taxonomic consequences of extinction. *Paleobiology*, v. 39, p. 538–559.
- Holland, S.M., and M. Christie, 2013. Changes in area of shallow siliciclastic marine habitat in response to sediment deposition: implications for onshore-offshore paleobiologic patterns. *Paleobiology* v. 39, p. 511–524. *Featured Article for the Fall 2013 Issue*.
- Holland, S.M., 2013, Relaxation time and the problem of the Pleistocene. *Diversity* v. 5, p. 276–292.
- Sclafani, J.A., and S.M. Holland, 2013, The species-area relationship in the Late Ordovician: A test using neutral theory. *Diversity* v. 5, p. 240–262.
- Railsback, L.B., K.M. Layou, N. A. Heim, S. M. Holland, M.L. Trogdon, M.B. Jarrett, G. M. Izsak, D. E. Bulger, E. J. Wysong, K. J. Trubee, J.M. Fiser, J. E. Cox, and D. E. Crowe, 2012, Geochemical evidence for meteoric diagenesis and cryptic surfaces of subaerial exposure in Upper Ordovician peritidal carbonates from the Nashville Dome, central Tennessee, U.S.A. S. Morad, M. Ketzer, and L.F. de Ros, eds., *Linking Diagenesis to Sequence Stratigraphy*. IAS Special Publication 45, p. 257–270.
- Holland, S.M., 2012, Sea-level change and the area of shallow marine habitat: Implications for marine biodiversity. *Paleobiology* v. 38, p. 205–217.
- Holland, S.M., and M.E. Patzkowsky, 2012. Sequence architecture of the Bighorn Dolomite, Wyoming, USA: Transition to the Late Ordovician icehouse. *Journal of Sedimentary Research* v. 82, p. 599–615.
- Hoffmeister, K.E., E.G. Hogan, and S.M. Holland, S.M., 2012, Depositional environments and sequences stratigraphy of a Breathitt Group exposure, U.S. Highway 25E, Flat Lick, Kentucky. Kentucky Geological Survey Information Circular 24.
- Zaffos, A., and S.M. Holland, 2012, Abundance and extinction in Ordovician–Silurian brachiopods, Cincinnati Arch, Ohio and Kentucky. *Paleobiology* v. 38, p. 278–291.
- Holland, S.M., and A. Zaffos, 2011, Niche conservatism along an onshore–offshore gradient. *Paleobiology*, v. 37, p. 270–286.
- Holland, S.M., 2010, Additive diversity partitioning in paleobiology: revisiting Sepkoski's question. *Palaeontology*, v. 53, p. 1237–1254.
- Holland, S.M., and M.E. Patzkowsky, 2009, The stratigraphic distribution of fossils in a tropical carbonate succession: Ordovician Bighorn Dolomite, Wyoming, USA. *Palaios* v. 24, p. 303–317.
- Pope, M.C., S.M. Holland, and M.E. Patzkowsky, 2009, 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.
- 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 Paleocology, 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 Paleocology, 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 CI 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 Paleocology, Cincinnati Museum Center Scientific Contributions No. 2, p. 44–57.
- Holland, S.M., 2008. Climate-driven storm cyclicality: 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 Paleocology, 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 Paleocology, 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.
- Holland, S.M., A.I. Miller, D.L. Meyer, B.F. Dattilo, and S.C. St. Louis Diekmeyer, 2006. Stratigraphic column of the Kope and Fairview Formations, Kentucky 445, Brent, Kentucky. Kentucky Geological Survey Map & Chart 92, Series XII.
- 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., 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 10<sup>th</sup> Symposium on the Geology of the Bahamas and Other Carbonate Regions*. Gerace Research Center: San 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.
- Holland, S.M., 1997. Recognizing artifactually generated coordinated stasis: implications of numerical models and strategies for field tests. *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 127, p. 147–156
- Holland, S.M., and M.E. Patzkowsky, 1996. Sequence stratigraphy and long-term paleoceanographic change in the Middle and Upper Ordovician of the eastern United States. in B.J. Witzke, G.A. Ludvigsen, and J.E. Day (eds.). *Paleozoic sequence stratigraphy: Views from the North American craton*. Geological Society of America Special Paper 306, p. 117–130.
- Patzkowsky, M.E., and S.M. Holland, 1996. Extinction, invasion, and sequence stratigraphy: patterns of faunal change in the Middle and Upper Ordovician of the eastern United States. in B.J. Witzke, G.A. Ludvigsen, and J.E. Day (eds.). *Paleozoic sequence stratigraphy: Views from the North American craton*. Geological Society of America Special Paper 306, p. 131–142.
- Holland, S.M., 1995. The stratigraphic distribution of fossils. *Paleobiology*, v. 21, p. 92–109.
- Patzkowsky, M.E., and S.M. Holland, 1993. Biotic response to a Middle Ordovician paleoceanographic event in eastern North America. *Geology*, v. 21, p. 619–622.
- Sahagian, D.L., and S.M. Holland, 1993. On the thermo-mechanical evolution of continental lithosphere. *Journal of Geophysical Research*, v. 98, p. 8261–8274.

- Holland, S.M., 1993. Sequence stratigraphy of a carbonate-clastic ramp: the Cincinnati Series (Upper Ordovician) in its type area. *Geological Society of America Bulletin*, v. 105, p. 306–322.
- Sahagian, D.L., and S.M. Holland, 1991. Eustatic sea-level curve based on a stable frame of reference: preliminary results. *Geology*, v. 19, p. 1209–1212.
- Kidwell, S.M., and S.M. Holland, 1991. Field description of coarse bioclastic fabrics. *Palaios*, v. 6, p. 426–434.
- Holland, S.M. 1988. Taphonomic effects of sea-floor exposure on an Ordovician brachiopod assemblage. *Palaios*, v. 3, p. 588–597.

### **Books**

- Patzkowsky, M.E., and S.M. Holland, 2012, *Stratigraphic Paleobiology: Understanding the Distribution of Fossil Taxa in Time and Space*. The University of Chicago Press.

### **Edited Books**

- McLaughlin, P.I., C.E. Brett, S.M. Holland, and G.W. Storr, eds., 2008, *Stratigraphic Renaissance in the Cincinnati Arch: Implications for Upper Ordovician Paleontology and Paleoecology*. Cincinnati Museum Center Scientific Contributions No. 2, Cincinnati, Ohio, 280 p.

### **Book Chapters**

- Holland, S.M., 2009. Paleogeography and paleoenvironment, in D.L. Meyer and R.A. Davis, *A Sea without Fish*, Indiana University Press, Bloomington, p. 214–226.
- Holland, S.M., 2001. Fossils in sequence stratigraphy, in D.E.G. Briggs and P.R. Crowther, eds., *Palaeobiology II*, Blackwell, p. 548–553.
- Holland, S.M., in press. Ordovician Period (and shorter related contributions). Submitted to *Encyclopaedia Britannica*. Invited Contribution.
- Holland, S.M., 1999. Fossil. In C. Moore et al., eds., *McGraw-Hill Yearbook of Science and Technology*, p. 176–180.
- Holland, S.M., 1997. Using time-environment analysis to recognize faunal events in the Upper Ordovician of the Cincinnati Arch. in Carlton E. Brett (ed.), *Paleontological Event Horizons: their stratigraphic, ecological, and evolutionary implications*, Columbia University Press, p. 309–334.
- Holland, S.M., 1995. Depositional sequences, facies control, and the distribution of fossils. in B.U. Haq (ed.), *Sequence stratigraphy and depositional response to tectonic, eustatic, and climatic forcing*. Kluwer Academic Press: Dordrecht, Netherlands, p. 1–23.

### **Invited Commentaries**

- Holland, S.M., 2016. Ecological disruption precedes mass extinction. *Proceedings of the National Academy of Sciences, USA*.
- Holland, S.M., 2013. A history of give and take. *Nature* v. 493, p. 308–309.
- Bennington, J. B., W.A. Dimichele, C. Badgley, R.K. Bambach, P.M. Barrett, A.K. Behrensmeier, R. Bobe, R.J. Burnham, E.B. Daeschler, J. Van Dam, J.T. Eronen, D.H. Erwin, S. Finnegan, S.M. Holland, G. Hunt, D. Jablonski, S.T. Jackson, B.F. Jacobs, S.M. Kidwell, P.L. Koch, M.J. Kowalewski, C.C. Labandeira, C.V. Looy, S.K. Lyons, P.M. Novack-Gottshall, R. Potts, P.D. Roopnarine, C.A.E. Strömberg, H.D. Sues, P.J. Wagner, P. Wilf, and S.L. Wing, 2009. Critical issues of scale in paleoecology. *Palaios*, v. 24, p. 1–4.

Holland, S.M., and J. Allen, 2008. The habitat of primitive vertebrates: The need for sedimentary geology in paleontology. *The Sedimentary Record*, v. 6, no. 4, p. 4–7.

Holland, S.M., 2007. Coupling of predation intensity and global diversity over geologic time. *Proceedings of the National Academy of Sciences* v. 104, p. 14885–14886.

### ***Field Trip Guidebooks***

Allen, J.A., M.S. Duncan, and S.M. Holland, 2009. Late Eocene sequence stratigraphy of the upper Coastal Plain, Georgia. In M.S. Duncan and R.L. Kath, *Fall line geology of east Georgia: with a special emphasis on the Upper Eocene*. Georgia Geological Society Guidebook v. 29, p. 17–24.

Duncan, M.S., S.M. Holland, R.S. Harris, A. Martin, and M. Jarrett, 2009. Stop 4, KaMin Eastern Mine - sequence stratigraphy, impact stratigraphy, trace fossils, and paleoclimate research. In M.S. Duncan and R.L. Kath, *Fall line geology of east Georgia: with a special emphasis on the Upper Eocene*. Georgia Geological Society Guidebook v. 29, p. 83–87.

Holland, S.M., and M.E. Patzkowsky, 2009. The Richmondian Invasion: Understanding the faunal response to climate change through stratigraphic paleobiology. 9<sup>th</sup> North American Paleontological Convention.

McLaughlin, P.I., C.E. Brett, and S.M. Holland, 2008. Road Log 1: Upper Mohawkian (Chatfieldian) to basal Cincinnatian (Edenian) in central Kentucky–Lexington Limestone-Kope Formation outcrops, Kentucky Route 127 to I-75, Frankfort-Lexington region. 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. 202–227.

Brett, C.E., T.J. Algeo, S.M. Holland, and P.I. McLaughlin, 2008. Road Log 2: Upper Mohawkian to Maysvillian in northern Kentucky–Point Pleasant - Kope - Fairview outcrops, Ohio River area from Fort Thomas to Maysville. 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. 228–259.

Holland, S.M., and M.E. Patzkowsky, 2008. Road Log 3: Cincinnatian (Maysvillian–Richmondian) strata and fossils in southern Ohio and Indiana. 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. 260–280.

Holland, S.M., 1999. Carbonate facies, parasequences and stacking patterns in the Middle Ordovician of central and eastern Tennessee. In T.M. Chowns, S.M. Holland, and W.C. Elliot, eds., *An introduction to sequence stratigraphy: Illustrations from the Valley and Ridge Province in Georgia and Alabama*. Georgia Geological Society Guidebook, v. 19, p. 27–36.

Holland, S.M., 1999. Stop 4. Recognition of sequences and parasequences in Middle Ordovician limestones. In T.M. Chowns, S.M. Holland, and W.C. Elliot, eds., *An introduction to sequence stratigraphy: Illustrations from the Valley and Ridge Province in Georgia and Alabama*. Georgia Geological Society Guidebook, v. 19, p. 46–48.

Holland, S.M., A.I. Miller, and D.L. Meyer, 1999. Sequence stratigraphy of the Kope–Fairview interval (Upper Ordovician, Cincinnati, Ohio area). In T.J. Algeo and C.E. Brett, eds., *Sequence, cycle & event stratigraphy of Upper Ordovician & Silurian strata of the Cincinnati Arch region*. Field Trip Guidebook, Great Lakes Section SEPM, October 8–10, 1999, p. 93–102.

- Holland, S.M., 1998. Sequence stratigraphy of the Cincinnati Series. 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 No. 13, p. 135–151.
- Davis, R.A., S.C. Diekmeyer, L.I. Goldman, B.F. Dattilo, S.M. Holland and R.J. Cuffey, 1998. Appendix A: Type-Cincinnati localities. 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 No. 13, p. 152–166.

### **Book Reviews**

- Holland, S.M., 2005, Review of *High-Resolution Approaches to Stratigraphic Paleontology*: P. Harries (editor), Dordrecht: Kluwer Academic Publishers, 2003. *Palaios*, v. 20, p. 96–97.
- Holland, S.M., 2001, Review of *Sedimentary Responses to Forced Regressions*: Geological Society Special Publication No. 172, D. Hunt and R.L. Gawthorpe (Editors), London: Geological Society, 2000. *GSA Today*, v. 11, no. 2, p. 17.
- Holland, S.M., 2000, Review of *Numerical Experiments in Stratigraphy: Recent Advances in Stratigraphic and Sedimentologic Computer Simulations*: SEPM Special Publication No. 62, John W. Harbaugh, W. Lynn Watney, Eugene C. Rankey, Rudy Slingerland, Robert H. Goldstein, and Evan K. Franseen (Editors), Tulsa, Oklahoma: SEPM, 1999. *Palaios*, v. 15, p. 581–582.
- Holland, S.M., 1991, Review of *Quantitative Dynamic Stratigraphy*, T.A. Cross (Editor), Englewood Cliffs, New Jersey: Prentice Hall, 1990. *Journal of Geology*, v. 99, p. 786.

### **Discussions & Replies**

- Miller, A.I., S.M. Holland, M.L. Droser, and M.E. Patzkowsky, 1998. Dynamics of the Ordovician Radiation (a comment on Westrop and Adrain). *Paleobiology* v. 24, p. 524–528.
- Holland, S.M., 1993. Reply to Discussion of Sequence stratigraphy of a carbonate-clastic ramp: the Cincinnati Series (Upper Ordovician) in its type area. *Geological Society of America Bulletin*, v. 105, p. 1639–1640.
- Patzkowsky, M. E., and S.M. Holland. 1988. Discussion on Upper Devonian Catskill Delta margin cyclic sedimentation: Brallier, Scherr, and Foreknobs formations of Virginia and West Virginia. *Geological Society of America Bulletin*, v. 100, p. 993.

### **ABSTRACTS (\*INVITED)**

- Holland, S.M. 2017. Reconsidering the predicted effects of plate tectonic processes on regional and global diversity: new insights from neutral theory. *Geological Society of America Abstracts with Program* v. 50.
- Wright, S.N., and S.M. Holland. 2017. Alternating progradational and degradational regimes in an open-coast tidal flat: the Jurassic Redwater–Windy Hill–Morrison transition, Wyoming, USA. *Geological Society of America Abstracts with Program* v. 50.
- Danise, S, and S.M. Holland. 2017. Environmental and faunal change in the Jurassic Sundance Seaway, western United States: a stratigraphic palaeobiological approach. *European Geophysical Union Annual Meeting*.
- Simmons, J.C., and S.M. Holland. 2017. Sandstone provenance in the Jurassic Sundance Seaway, Wyoming, USA. *Geological Society of America Abstracts with Program* v. 49.

- Holland, S.M. 2016. The large-scale structure of the fossil record. Geological Society of America Abstracts with Program v. 48.
- Danise, S., Kusnerik, K.M., and S.M. Holland. 2016. Opening and closing of a short-lived (13 m.y.) seaway: faunal response to sea level and climate change. Geological Society of America Abstracts with Program v. 48.
- Monarrez, P.M., M. Aberhan, and S.M. Holland. 2016. Regional and environmental tests of the escalation hypothesis during the Jurassic: a Tethyan origin to escalation? Geological Society of America Abstracts with Program v. 48.
- Poncelet, A., S.M. Holland, and S. Danise. 2016. Jurassic carbonates of northern Wyoming: possible evidence of climate change in the Sundance seaway. Geological Society of America Abstracts with Program v. 48.
- Wright, S., and S.M. Holland. 2016. Drone-based measurement of stratigraphic columns and cross-sections. Geological Society of America Abstracts with Program v. 48.
- Kusnerik, K.M., and S.M. Holland. 2015. Biogeography of the Jurassic Sundance Seaway of western North America: a test of the single northern entrance. Geological Society of America Abstracts with Program v. 47.
- Dattilo, B.F., C.E. Brett, D.L. Meyer, R.L. Freeman, B.R. Hunda, S.M. Holland, A.L. Stigall, B. Deline, C.D. Sumrall, and M.A. Wilson. 2015. Non-academic paleontologists are essential to the survival of paleontology: lessons from the Cincinnati school. Geological Society of America Abstracts with Program v. 47.
- Holland, S.M., and M.E. Patzkowsky. 2015. The stratigraphy of mass extinction. Geological Society of America Abstracts with Program v. 47.
- \* Holland, S.M. 2015. The stratigraphy of mass extinction. European Geophysical Union Annual Meeting.
- Workman, Sydne A., Jason M. Burwell, and Steven M. Holland, 2015. Regional variability in the stratigraphy of the marine Jurassic of northern Wyoming: evidence from resistivity and gamma logs. Geological Society of America Abstracts with Program v. 47.
- Kusnerik, Kristopher M., and Steven M. Holland, 2015. Community paleoecology of the Jurassic (Bajocian-Oxfordian) Sundance Seaway in the Bighorn Basin of Wyoming and Montana, United States. Geological Society of America Abstracts with Program v. 47.
- Jarochowska, E., A. L. Keller, J. Kimmig, E. Larina, R. J. LaVine, Katharine M. Loughney, E. A. Orzechowski, N. D. Pierrehumbert, A. Rojas, J. A. Sclafani, A. Singer, J. A. Yager, M. Christie, S. K. McMullen, S. M. Holland, and M. E. Patzkowsky, 2014. Sequence stratigraphic control over biofacies distribution and ecological gradients in the Mississippian Lodgepole Formation, Montana. Palaeontological Association Annual Meeting.
- Clement, A.M., S.M. Holland, and D. Graybeal, 2014. Sequence stratigraphy of the Middle Jurassic Gypsum Spring and Piper Formations in the eastern Bighorn Basin of Wyoming. Geological Society of America Abstracts with Program v. 46.
- Lavine, R.J.I., E.A. Orzechowski, N.D. Pierrehumbert, A. Rojas, J.A. Sclafani, J.A. Yager, M. Christie, S.K. McMullen, S.M. Holland, and M.E. Patzkowsky, 2014. Ecological gradient structure in the Mississippian Lodgepole Formation, southwest Montana. Geological Society of America Abstracts with Program v. 46.

- Loughney, K.M., E. Jarochowska, A.L. Keller, J. Kimmig, E. Larina, A. Singer, S.K. McMullen, M. Christie, S.M. Holland, and M.E. Patzkowsky, 2014. Sequence stratigraphic architecture drives biofacies distribution of the Mississippian Lodgepole Formation in south-central Montana. Geological Society of America Abstracts with Program v. 46.
- \* Holland, S.M., 2014. The stratigraphic paleobiology of marine vertebrates. North American Paleontological Convention, Gainesville, Florida.
- Jenkins, C., and S.M. Holland, 2014. Initiation of provinciality across Laurentia during the Ordovician. North American Paleontological Convention, Gainesville, Florida.
- \* Patzkowsky, M.E., and S.M. Holland, 2014. Stratigraphic paleobiology and the origin of regional biotas. North American Paleontological Convention, Gainesville, Florida.
- Holland, S.M., and J.A. Sclafani, 2013. Phanerozoic increase in Hubbell's theta: Linking diversity from the alpha level to the provincial level. Geological Society of America Abstracts with Program v. 45.
- Sclafani, J.A., A.L. Platsky, C. Jenkins, and S.M. Holland, 2013. Applying neutral theory to the fossil record: guidelines for estimating Hubbell's theta. Geological Society of America Abstracts with Program v. 45.
- Holland, S.M., 2012. Geologically rapid biotic response times to changes in habitat area: evidence from a neutral ecological model. Geological Society of America Abstracts with Program v. 44.
- Christie, M., S.M. Holland, and A.M. Bush, 2012. Contrasting taxonomic and ecological change across the Mid-Late Devonian interval. Geological Society of America Abstracts with Program v. 44.
- McMullen, S.K., S.M. Holland, and J.W. Primm, 2012. Incised valley fills in the Jurassic Sundance Formation, Bighorn Basin, Wyoming, USA. Geological Society of America Abstracts with Program v. 44.
- Sclafani, J.A., and S.M. Holland, 2012. Using Hubbell's neutral theory to test the species-area relationship in the Late Ordovician of Laurentia. Geological Society of America Abstracts with Program v. 44.
- Carney, J.A., L. Hancock, and S.M. Holland, 2012. Developing a key for identifying trepostome bryozoans from the Cincinnati Series of the Cincinnati Arch. Geological Society of America Abstracts with Program v. 44.
- Hancock, L., J.A. Carney, and S.M. Holland, 2012. Depth-related bryozoan associations within the C5 sequence (Late Ordovician, Richmondian) of the Cincinnati Arch. Geological Society of America Abstracts with Program v. 44.
- Cameron, S., S.K. McMullen, and S.M. Holland, 2012. Well-log correlations and sequence stratigraphic interpretations of the Jurassic Sundance Formation, northwest Wyoming. Geological Society of America Abstracts with Program v. 44.
- Holland, S.M., and M. Christie, 2011. Deposition-driven changes in habitat area: The shoreface as a diversity factory. Geological Society of America Abstracts with Program v. 43, n. 5, p. 542.
- Christie, M., and S.M. Holland, 2011. Does ecological change scale with percent extinction? Quantifying the difference between taxonomic loss and functional ecology. Geological Society of America Abstracts with Program v. 43, n. 5, p. 542.
- McMullen, S.K., R.F. O'Keefe, and S.M. Holland, 2011. The occurrence of vertebrate and invertebrate fossils in a sequence stratigraphic context: The Jurassic Sundance Formation, Bighorn Basin, Wyoming, USA. Geological Society of America Abstracts with Program v. 43, n. 5, p. 602.

- Patzkowsky, M., and S.M. Holland, 2011, Biotic invasion and the assembly of regional ecosystems in deep time. Geological Society of America Abstracts with Program v. 43, n. 5, p.541.
- Holland, S.M., 2010, The common-cause hypothesis: initial predictions of habitable area from simple geometric models. Geological Society of America Abstracts with Program v. 42, n. 5, p.138.
- Christie, M., and S.M. Holland, 2010, The contrasting effects of extinction on taxonomic and ecological composition: initial results of numerical experiments. Geological Society of America Abstracts with Program v. 42, n. 5, p.255.
- Zaffos, A., and S.M. Holland, 2010, Brachiopod abundance and extinction in the Late Ordovician and Early Silurian: background effects during a mass extinction. Geological Society of America Abstracts with Program v. 42, n. 5, p.481.
- Liow, L.H., and S. M. Holland, 2010, Changing tides and times: ecological and sampling influences on occupancy in Ordovician seas. Evolution 2010, Portland, Oregon.
- \* Holland, S.M., 2009, Additive diversity partitioning in paleobiology: revisiting Sepkoski's question. Palaeontological Association Annual Meeting. (plenary talk)
- Holland, S.M., and A. Zaffos, 2009, Testing the importance of incumbency: the conservation of ecological response curves along an onshore-offshore gradient. 9<sup>th</sup> North American Paleontological Convention.
- Holland, S.M., and M.E. Patzkowsky, 2008, Stratigraphic distribution of fossils in a tropical carbonate succession: Ordovician Bighorn Dolomite, Wyoming, USA. Geological Society of America Abstracts with Program v. 39, n. 7.
- Holland, S.M., 2007, Moving beyond bias: a model for the common cause of evolutionary and stratigraphic patterns, based on Hubbell's unified theory. Geological Society of America Abstracts with Program v. 38, n. 7.
- Patzkowsky, M.E., and S.M. Holland, 2006, The ecology of taxonomic turnover: changes in the local abundance and spatial distribution of taxa through time. Geological Society of America Abstracts with Program v. 38, n. 7, p. 86.
- Holland, S.M., and M.E. Patzkowsky, 2006, Reevaluating the utility of detrended correspondence analysis and non-metric multidimensional scaling for ecological ordination. Geological Society of America Abstracts with Program v. 38, n. 7, p. 88.
- \* Layout, K., S.M. Holland, and M.E. Patzkowsky, 2006, Lasting effects of extinction and invasion on community structure: a deep-time perspective, Geological Society of America.
- Holland, S.M., and M.E. Patzkowsky, 2005, Gradient ecology during a marine biotic invasion: Upper Ordovician of the Cincinnati Arch. Geological Society of America Abstracts with Program v. 37, n. 7, p. 460.
- Patzkowsky, M.E., and S.M. Holland, 2005, Additive partitioning of a marine biotic invasion: Upper Ordovician of the Cincinnati Arch. Geological Society of America Abstracts with Program v. 37, n. 7, p. 461.
- Layout, K.M., and S.M. Holland, 2005, Bringing up beta: examining the effects of extinction on diversity with an additive partitioning model. Geological Society of America Abstracts with Program v. 37, n. 7, p. 461.
- Purdin, B., L.B. Railsback, S.M. Holland, D.E. Crowe, 2005, Significance of  $\delta^{13}\text{C}$  and  $\delta^{18}\text{O}$ , and strontium content in the identification of surfaces of subaerial exposure in Ordovician

- limestones of the Nashville Dome, Tennessee, U.S.A. Geological Society of America Abstracts with Program v. 37, n. 7, p. 356.
- Layout, K.M., and S.M. Holland, 2005, Examining the effects of extinction on diversity with null models: bringing up beta. Earth Systems Processes 2, Calgary.
- Heim, N.A. and S.M. Holland, 2005. A null biogeographic model for quantifying the role of migration in shaping taxonomic richness and similarity patterns. Seventh North American Paleontological Convention. Dalhousie, Nova Scotia. PaleoBios 25, supplement to no. 2, p 59.
- Harris, R.S., L.B. Railsback, M.F. Roden, and S.M. Holland, 2005, Sedimentary petrology of Upper Eocene ejecta-bearing sands from the southeastern coastal plain. SEPM Annual Meeting.
- Purdin, B.L., L.B. Railsback, S.M. Holland, and D. Crowe, 2005, Significance and variation in  $\delta^{13}\text{C}$  and  $\delta^{18}\text{O}$  across surfaces of subaerial exposure in Ordovician limestones of the Nashville Dome, TN. Geological Society of America Abstracts with Program v. 37, n. 2, p. 11.
- Heim, N.A. and S.M. Holland, 2004, A null biogeographic model for quantifying the role of dispersal in shaping taxonomic richness and similarity patterns. 48<sup>th</sup> Palaeontological Association Annual Meeting Abstracts with Programme, Palaeontological Association Newsletter v. 57, p. 122.
- Holland, S.M., and M.E. Patzkowsky, 2004, A new method for comparing species ecology in time and space: evaluating faunal stability during the Late Ordovician, Cincinnati Arch. Geological Society of America Abstracts with Program v. 36, n. 5, p. 312.
- Patzkowsky, M.E., and S.M. Holland, 2004, Alpha, beta, and gamma: Diversity partitioning during a marine biotic invasion, Upper Ordovician, Cincinnati Arch. Geological Society of America Abstracts with Program v. 36, n. 5, p. 312.
- Heim, N.A., K.M. Layout, L.B. Railsback, S.M. Holland, J.E. Cox, and D.E. Crowe, 2004, Geochemical evidence of subaerial exposure at parasequence boundaries in Upper Ordovician limestones from the Nashville Dome, Tennessee, U.S.A. Geological Society of America Abstracts with Program v. 36, n. 5, p. 76.
- Layout, K.M. and S.M. Holland, 2004, A quantitative null model of expected changes in ecological community structure following an extinction. Geological Society of America Abstracts with Program v. 36, n. 5, p. 312.
- Allullee, J.L. and S.M. Holland, 2004, The habitat of early pteraspidomorph agnathans: Upper Ordovician Harding Sandstone, Colorado. Geological Society of America Abstracts with Program v. 36, n. 5, p. 381.
- Allen, J.A., M.S. Duncan, and S.M. Holland, 2004. Sequence stratigraphy of the late Eocene Dry Branch Formation in the Georgia Coastal Plain. Geological Society of America Abstracts with Program v. 36, n. 2, p. 90.
- Holland, S.M., 2003. The signatures of patches and gradients in ecological ordinations. Geological Society of America Abstracts with Program v. 35, n. 7, p. 589.
- Roden, Michael, and S.M. Holland, 2003. Principal component analysis of bulk compositions of Eocene tektites from eastern North America. Clay Minerals Society Meeting, Abstracts.
- Levy, G.M., and S.M. Holland, 2002. Using ecological ordination to test for ecophenotypic and evolutionary change in the brachiopod *Sowerbyella rugosa* from the Upper Ordovician Kope Formation of northern Kentucky. Geological Society of America Abstracts with Program v. 34, n. 6, p. 399.



- Harris, R.S., M.S. Duncan, S.M. Holland, M.F. Roden, and P.A. Schroeder, 2002. Probable shocked quartz as evidence for an Upper Eocene impact horizon in coastal plain strata, Warren County, Georgia, U.S.A. Geological Society of America Abstracts with Program v. 34, n. 6, p. 402.
- Schroeder, P.A., R.S. Harris, M.F. Roden, M.S. Duncan, and S.M. Holland, 2002. X-ray diffraction evidence for shocked quartz in an Upper Eocene sand deposit, Warren County, Georgia, U.S.A. Geological Society of America Abstracts with Program v. 34, n. 6, p. 544.
- Levy, G.M., and S.M. Holland, 2002. The influence of environmental change: the brachiopod *Sowerbyella rugosa* in the Upper Ordovician Kope Formation of the Cincinnati, Ohio area. Geological Society of America Abstracts with Program v. 34, n. 2, p. A116.
- Holland, S.M., 2001. Confidence limits on fossil ranges that account for sequence architecture. Geological Society of America Abstracts with Program v. 33, n. 6, p. A31.
- Patzkowsky, M.E., and S.M. Holland, 2001. Stratigraphic controls on regional diversity in the Late Ordovician: Correcting for the effects of facies availability and sampling intensity. Geological Society of America Abstracts with Program v. 33, n. 6, p. A31.
- Webber, A., A.I. Miller, and S.M. Holland, 2000. High-resolution chronostratigraphy in the type Cincinnati: a quantitative approach to correlation over a broad geographic area. Geological Society of America Abstracts with Program v. 32, n. 7, p. A154-155.
- Holland, S.M., and A.I. Miller, 2000. The detection and importance of subtle environmental controls on the stratigraphic distribution of fossils. Geological Society of America Abstracts with Program v. 32, n. 7, p. A96.
- Cerajewski, R.J., R.E. Crisp, J.A. Kucinskis, L.M. Baldini, F.E. Stroik, K.R. Summers, H.L. Xiao, L.B. Railsback, and S.M. Holland, 2000. Evidence for meteoric diagenesis and subaerial exposure at the Trenton Transgression flooding surface, Middle Ordovician, Carthage, Tennessee. Geological Society of America Abstracts with Program v. 32, n. 7, p. A178-179.
- Walker, S.E., S.M. Holland, and L. Gardiner, 2000. Hurricane Floyd's effect on the Cockburn Town fossil reef site. 10<sup>th</sup> Symposium on the geology of the Bahamas and other carbonate regions.
- Herrmann, A.D., M.E. Patzkowsky, and S.M. Holland, 1999. Evaluating graphic correlation with simulated data. Geological Society of America Abstracts with Program v. 31, n. 7, p. A468.
- Patzkowsky, M.E., and S.M. Holland, 1999. Were Paleozoic marine communities saturated with species?: the influence of local and regional processes on local diversity of fossil assemblages. Geological Society of America Abstracts with Program v. 31, n. 7, p. A335.
- Holland, S.M., and M.E. Patzkowsky, 1999. Simulating the first and last occurrences of fossils: implications for paleobiology and biostratigraphy. Geological Society of America Abstracts with Program v. 31, n. 7, p. A41.
- Hunter, D.M., S.M. Holland, and L.B. Railsback, 1999. Testing for subaerial exposure at five Upper Ordovician sequence boundaries, Nashville Dome, Tennessee. Geological Society of America Abstracts with Program v. 31, n. 7, p. A290.
- Pope, M.C., S.M. Holland, and M.E. Patzkowsky, 1999. The Cincinnati Arch-A stationary peripheral bulge during the Middle and Late Ordovician: implications for flexural models of foreland basin development. Geological Society of America Abstracts with Program v. 31, n. 7, p. A425.
- Marshall, C.R., J. Alroy, and the NCEAS Phanerozoic Diversity Working Group, 1999. Towards a sample-standardized Phanerozoic diversity curve. Geological Society of America Abstracts with Program v. 31, n. 7, p. A336.

- Herrmann, A., Patzkowsky, M. E., and Holland, S. M., 1999, Evaluating graphic correlation with numerical models: 19<sup>th</sup> Regional European Meeting of Sedimentology Abstracts, p. 110.
- Holland, S.M., and M.E. Patzkowsky, 1999. Depositional sequences and biostratigraphy: the role of sequence architecture in the timing of first and last appearances, AAPG Annual Meeting Official Program v. 8, p. 61-62.
- Holland, S.M., and M.E. Patzkowsky, 1999. An unusual occurrence of sponges from the Upper Ordovician of the Nashville Dome, Tennessee. Geological Society of America Abstracts with Program v. 31, n. 3, p. 21.
- Hunter, D.L., S.M. Holland, and L.B. Railsback, 1999. Testing for subaerial exposure at five Upper Ordovician sequence boundaries, Nashville Dome, Tennessee. Geological Society of America Abstracts with Program v. 31, n. 3.
- Smith, J.L., S.M. Holland, and J.F. Jordan, 1998. Recognition and distribution of biofacies within a third-order depositional sequence from the Bangor-Pennington interval, Chesterian (Mississippian) of Southeastern Tennessee. Geological Society of America Abstracts with Program v. 30, n. 7, p. 32.
- Patzkowsky, M.E., and S.M. Holland, 1998. Biofacies replacement and guild structure within an ecologic-evolutionary unit: Middle and Upper Ordovician of the Nashville Dome, Tennessee. Geological Society of America Abstracts with Program v. 30, n. 7, p. 40.
- Holland, S.M., N.C. Hughes, and A.I. Miller, 1998. Using "facies fossils" to constrain high-resolution cyclic correlations in the Kope Formation (Upper Ordovician), Cincinnati, Ohio area. Geological Society of America Abstracts with Program v. 30, n. 7, p. 117.
- Baldini, J.U.L., J.T. Elkins, L.S. Gardiner, D.M. Hunter, L.B. Railsback, and S.M. Holland, 1998. Petrographic and geochemical evidence for meteoric diagenesis at a Type I sequence boundary in Ordovician limestones near Pulaski, Tennessee. Geological Society of America Abstracts with Program v. 30, n. 7, p. 332.
- Holland, S.M., M.E. Patzkowsky, 1998. Depositional sequences and the stratigraphic distribution of fossils: Isolating the effects of condensation, AAPG Annual Meeting.
- Holland, S.M., and M.E. Patzkowsky, 1998. Carbonate parasequences and stacking patterns in the Chickamauga Group (Middle Ordovician) of eastern Tennessee. Geological Society of America Abstracts with Programs v. 30, n. 4, p. 17.
- Benson, A.C., and S.M. Holland, 1998. Geochemical and sequence stratigraphic evidence of subaerial exposure at the M5 sequence boundary (Middle Ordovician) at Hagan, Virginia. Geological Society of America Abstracts with Programs v. 30, n. 4, p. 3.
- Smith, J., J.F. Jordan, and S.M. Holland, 1998. Sequence biostratigraphy of the Bangor-Pennington interval (Chesterian, Mississippian) near Monteagle, Tennessee. Geological Society of America Abstracts with Programs v. 30, n. 4, p. 60.
- Meyer, D.L., A.I. Miller, B.F. Dattilo, and S.M. Holland, 1998. Crinoid morphology across a sequence boundary: Kope to Fairview Formations. Geological Society of America Abstracts with Programs v. 30, n. 2, p. 61.
- Dattilo, B.F., A.I. Miller, S.M. Holland, and D.L. Meyer, 1997. Ecostratigraphic cycle anatomy in the type Cincinnati (Upper Ordovician): the relationship between lithologic and faunal cyclicity, Geological Society of America Abstracts with Programs, v. 29.

- Holland, S.M., and M.E. Patzkowsky, 1997. Changing expressions of sequence architecture on an active peripheral bulge: Middle and Upper Ordovician of the Nashville Dome, Tennessee, Geological Society of America Abstracts with Programs, v. 29.
- Patzkowsky, M.E., and S.M. Holland, 1996. Lack of coordinated stasis in Middle and Upper Ordovician articulate brachiopods of the eastern United States, Geological Society of America Abstracts with Programs, v. 28, p. 291.
- Roden, M., D. Kamola, S. Holland, D. Crowe, C. Fleisher, and J. Sternberg, 1996. Punctuated equilibrium: the case for thematic and extended field trips during a 6 week field school, Geological Society of America Abstracts with Programs, v. 28, p. 328.
- \* 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, v. 28, p. 236.
- Kamola, D.L., and S.M. Holland, 1996. Lowstand submarine bypass surfaces and their implications for detached lowstand deposition, Mancos Shale, Book Cliffs, Utah. AAPG Annual Meeting.
- Holland, S.M., 1996. Guidelines for interpreting the stratigraphic record of extinctions: distinguishing pattern from artifact, Sixth North American Paleontological Convention Abstracts of Papers, Paleontological Society Special Publication No. 8, p. 174.
- Patzkowsky, M.E., and S.M. Holland, 1996. Patterns of persistence and turnover in Middle and Upper Ordovician marine benthic assemblages: stratigraphic artifact or biologic signal?, Geological Society of America Abstracts with Programs, v. 28, p. 90.
- Bouker, P.A., and S.M. Holland, 1996. Quantifying tempestite proximity using multivariate statistics: Silurian Red Mountain Formation, Ringgold Gap, Georgia, Geological Society of America Abstracts with Programs, v. 28, p. 4.
- Holland, S.M., and M.E. Patzkowsky, 1995. Muddy carbonates of the Nashville Dome: Tectonic, oceanographic and sedimentologic effects of the Ordovician Taconic orogeny, Geological Society of America Abstracts with Programs, v. 27, p. A450.
- Holland, S.M., 1994. Strategies for field tests of coordinated stasis: implications of stochastic models, Geological Society of America Abstracts with Programs, v. 26.
- Patzkowsky, M.E., and S.M. Holland, 1994. Paleooceanographic model for Ordovician organic-rich facies in eastern North America: local or global causes? AAPG Annual Meeting.
- Holland, S.M., B.F. Dattilo, A.I. Miller, D.L. Meyer, and S.C. Diekmeyer, 1993. Anatomy of a mixed carbonate-clastic depositional sequence, Geological Society of America Abstracts with Programs, v. 25, p. A338.
- Dattilo, B.F., S.M. Holland, A.I. Miller, D.L. Meyer, and S.C. Diekmeyer, 1993. Methods of high-resolution chronostratigraphy and their application in the type Cincinnati, Geological Society of America Abstracts with Programs, v. 25, p. A338.
- Patzkowsky, M.E., and S.M. Holland, 1993. Ecological and environmental patterns of extinction: Comparisons of Late Cambrian and Middle Ordovician extinctions, Geological Society of America Abstracts with Programs, v. 25, p. A332.
- Holland, S.M., 1993. Stochastic modeling of the stratigraphic distribution of fossils in depositional sequences, SEPM Annual Meeting.
- Patzkowsky, M.E., and S.M. Holland, 1993. Sea level change and faunal turnover in the Paleozoic, SEPM Annual Meeting.

- \* Holland, S.M., and M.E. Patzkowsky, 1993. A mid-Ordovician regional extinction produced by a major paleoceanographic event, *Geological Society of America Abstracts with Programs*, v. 25, p. A53.
- Sahagian, D.L., and S.M. Holland, 1993. On the thermo-mechanical evolution of continental lithosphere, *Geophysical Abstracts in Press*, v. 3, p. 14.
- Holland, S.M., 1992. True and apparent paleontologic patterns produced by stratigraphic sequences, *Fifth North American Paleontological Convention Abstracts and Program*, Paleontological Society Special Publication No. 6, p. 130.
- Holland, S.M., and M.E. Patzkowsky, 1992. Sequence stratigraphy of the Middle and Upper Ordovician of the eastern United States, *Geological Society of America Abstracts with Programs*, v. 24, p. 21.
- Patzkowsky, M., and S.M. Holland, 1992. Faunal extinction, migration, and stratigraphic sequences: Middle and Late Ordovician of North America, *Geological Society of America Abstracts with Programs*, v. 24, p. 59.
- Sahagian, D.L., J.D. Collinson and S.M. Holland, 1991. Foreland basin evolution: Antarctic evidence for constant basin width during thrust front advance. *Eos*, v. 72, p. 502.
- Holland, S.M., 1991. Paleobiologic and biostratigraphic implications of sequence stratigraphy. *Geological Society of America Abstracts with Programs*, v. 23, p. A403.
- Holland, S.M., D.L. Sahagian and J.L. Isbell. 1990. Thermal modeling of the Transantarctic Foreland Basin: comparison with field data. *Eos*, v. 71, p. 1599.
- Sahagian, D.L., and S.M. Holland, 1990. A eustatic curve based on a stable frame of reference: preliminary results. *Eos*, v. 71, p. 1614.
- Holland, S.M. 1989. Sequence-based correlations: sorting through the complicated stratigraphy of the eastern U.S. Ordovician. *Geological Society of America Abstracts with Programs*, v. 21, p. A80.
- \* Holland, S.M. 1989. Shoaling cycles, depth-dependent fossil assemblages, and epiboles in the Upper Ordovician of the Cincinnati Arch. *Geological Society of America Abstracts with Programs*, v. 21, p. 23.
- Kidwell, S.M., and S.M. Holland. 1989. Bioclastic fabrics: field categories and genetic implications. *Geological Society of America Abstracts with Programs*, v. 21, p. A332.
- Holland, S.M. 1988. Distinguishing tectonic and eustatic controls on foreland basin stratigraphy. *Geological Society of America Abstracts with Programs*, v. 20, p. A328.
- Holland, S.M., and M. E. Patzkowsky. 1988. Sedimentary cyclicity: a stopwatch with error bars. *Geological Society of America Abstracts with Programs*, v. 20, p. A179.
- Holland, S.M. 1987. Effects of sea-floor exposure on the preservation of an Ordovician brachiopod assemblage. *Geological Society of America Abstracts with Programs*, v. 19, p. 705.
- Holland, S.M. 1985. Biogenic and physical sedimentation inside the Maysvillian brachiopod *Platystrophia ponderosa*: biostratigraphic implications. *Ohio Journal of Science*, v. 85, p. 20.