

David Harp Griffing

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EDUCATION

Ph.D. Geological Sciences (1994) Binghamton University (State University of New York)

M.S. Geological Sciences (1987) University of Idaho, Moscow, Idaho

B.S. Geology (1983) cum laude with special honors, St. Lawrence University, Canton, New York

G429 Field Geology in the Rocky Mountains (1983) Indiana University, Bloomington, Indiana

HARTWICK COLLEGE EXPERIENCE

Professor of Geology and Environmental Sciences

8/17-Present

Associate Professor of Geology and Environmental Sciences

8/08-8/17

Assistant Professor of Geology and Environmental Sciences

8/04-7/08

Teaching Responsibilities

FLP 103 – Our Endangered Oceans* (J'21)

GEOL 107 – Physical Geology w/ Lab

GEOL 109 – The Global Environment w/ Lab (J'06 and F'17; Lab for F'20)

GEOL 110 – Environmental Geology

GEOL 200 – Oceanography*

GEOL 205 – Paleontology w/ Lab

GEOL 208 – Historical Geology w/ Lab*****

GEOL 212/ ENSS 212 – Climate Change (J'25)

GEOL 227 – Experiential Field Studies*

GEOL 274 – Off-campus Field Studies Orientation* (0.5-1 credit prep for GEOL 275)

GEOL 275 – Off-campus Field Studies: Geology and Natural History of Hawaii

GEOL 275 – Off-campus Field Studies: Field Geology of the Desert Southwest (J'14)**

GEOL 275 – Off-campus Field Studies: Geology and Natural History of Caribbean***

GEOL 304 – Tectonics****

GEOL 306 – Mineralogy w/ Lab

GEOL 308 – Earth Materials w/ Lab* (S'25)

GEOL 309 – Stratigraphy and Sedimentation w/ Lab*****

GEOL 311 – Field Geology w/Lab

GEOL 389 – Pre-Thesis Research* (originated this course as GEOL 489)

* Originated this course

** Co-developed and co-taught this course with Dr. Eric Johnson.

*** Co-developed this course with Dr. Eric Johnson and first offered during January 2018. Offered with a new St Lucia itinerary developed by Griffing (with volunteer co-director in January 2022).

**** Resurrected an inactive course and developed new structure and curriculum.

***** Took over this course from Dr. Titus. Reorganized content and began teaching in S'19.

Teaching Outside the Classroom

Senior Thesis Project Instructor/Advisor (last 5 years):

Schaeffer, Alyssa, 2024. Ichnofossils as tools for constraining peak sea-level estimations for the Last Interglacial Highstand and paleoenvironmental response: An example from Eemian strata of West Caicos, Turks and Caicos Islands.

Henry, Morgan, 2023. Scientific Illustration in the Geosciences.

Kehoe, Ariana, 2023. Examination of climate driven sea-level changes on Eemian stage (MIS 5e) coral reefs in the Bahamas.

Ballard, Ronald J., 2020. Petrography and Origin of Concretions in the Aguja Formation of West Texas.

Marion, Brynn, 2020. Origins of marble corestone weathering in Northern New York.

Field Experience Coordinator (last 5 years): – organizing and co-directing the annual GESC Dept./Delta Delta G Club sponsored co-curricular field trip connected to participation in the Annual Meeting of the Geological Society of America):

Geology of Central Colorado (Colorado National Monument, Black Canyon of the Gunnison National Park, Curecanti National Recreational Area, Ruby Mountain, Garden of the Gods and Dinosaur Ridge) – October 2022

Geology of Northern Arizona (Mogollon Rim, Petrified Forest National Park, Grand Canyon National Park, Sunset Crater National Monument, Wupatki National Monument & Montezuma Castle National Monument) – September 2019

Service to the Profession (last 5 years)

Summer 2024 - Manuscript reviewer (unpaid) for professional research paper by Drummond, Carl N., Origins and outcomes of the 1961 SEPM/AAPG Carbonate Rock Classification Symposium. In consideration for publication as an article in the professional journal *Earth Sciences History*.

Fall 2018 to Summer 2023 – Co-chairperson of the 3rd Joint Symposium on the Natural History and Geology of the Bahamas, held from June 8th-12th, 2019, Gerace Research Centre, San Salvador Island, Bahamas. Involved in organizing a one-day field trip to the island of Eleuthera (June 7th, 2019) held in tandem with the conference. Acted as co-editor of the related published volume electronically published in June 2023 (paper publication to follow).

College Service (last 5 years)

Faculty coordinator for the Freedman Prizes (May 2024-Present)

Search Committee Member for the Vice President of Strategic Communications (September 2021- January 2022)

Primary faculty coordinator of two Live Chat with STEM Faculty events, held via Zoom on March 6th and April 14th, 2021 (volunteer).

Search Committee Member for the Director of Global Education (January-April, 2021).

Volunteer coordinator of Off-campus J-Term 2022 logistics in absence of Global Education Director and Administrative Assistant (January-March 2021), interviewer for Global Ed Administrative Assistant candidate and counselor to new Global Ed Administrative Assistant until hiring of Global Ed Director (from March-April 2021).

Primary faculty coordinator of “STEM-Day On Campus” admissions event held in February 3rd, 2020 (volunteer).

Off-campus Study Committee Chair (mid-Spring 2013-January 2016; Fall 2016-Jan 2023; July 2023-Present).

Departmental Service (last 5 years)

Department Chair (April 2009-January 2016; July 2016-January 2023; July 2023-April 2024).

Faculty administrator of the departmental website (2004-Present).

Advisor to ΔΔG student club (2004-Present).

Community Service (last 5 years)

Volunteer Lecturer and Fieldtrip leader- Oneonta High School for Earth Science and Geology elective courses taught by Lee Ferrara. Mentor to Ferrara on geology elective curriculum (Fall 2015-Present).

Scientific Advisor: Goodsell Ridge (Natural History) Preserve, Isle LaMotte, Vermont (2006-Present)

- Direct the detailed mapping and interpretation of fossil reef exposures along trail system as conducted by preserve interns and volunteer docents. Guide exhibit design and content for the visitor center museum and external displays.

Grants and Awards Received at Hartwick (last 5 years)

2022 Freedman Prize for collaborative research with Alyssa Schaeffer ('24) – Project Title: *Ichnofossils as tools for constraining peak sea-level estimations for the Last Interglacial Highstand and paleoenvironmental response: An example from Eemian strata of West Caicos, Turks and Caicos Islands.*

2021 Freedman Prize for collaborative research with Arianna Kehoe ('23) – Project Title: *Examination of climate driven sea-level changes on Eemian stage (MIS 5e) coral reefs in the Bahamas.*

2019 Freedman Prize for collaborative research with Brynn Marion ('20) – Project Title: *Origins of marble corestone weathering in northern New York State.*

Current Scholarly Study/Research Interests Summarized (last 5 years)

Carbonate Geology. This includes research into multiple aspects of calcium carbonate sediments and rocks (such as limestone and marble). See below for specific project details.

- ***Evidence for Eemian Sea-level Fluctuations in Pleistocene Reef Deposits in the Bahamas, Caribbean and Hawaii.*** Identifying and interpreting subtle changes in reef development within reef limestone deposits of the last major greenhouse climate period (119-125 thousand years ago), including the replacement of corals by microbial deposits. Important understanding the actual pre-industrial record of global sea-level rise and how nearshore environments respond to sudden sea-level changes. Conducted with Drs. Bosiljka Glumac and H. Allen Curran (Smith College).
- ***Marble Weathering and Influences on Climate and Fault Movement on Landscape Evolution.*** Describing corestone-grus weathering in coarse-grained marble (metamorphosed limestone) - a phenomenon previously overlooked by the scientific community, and evaluating the important roles of solar insolation and terrestrial endolithic biofilms in marble decomposition and landscape development. Original field study locality located on the northern flank of the San Bernardino Mountains, California. New Field localities examined in northern Georgia and northwestern New York. Conducted with Dr. Martha C. Eppes (UNC-Charlotte) and Dr. Zsuzsanna Balogh-Brunstad (Hartwick College).

Professional Development (last 5 years)

- Conference participant and presenter (U&W) – International Association of Sedimentologists Conference: Dubrovnik, Croatia – June 2023 (in-person presenter)
- Conference participant and presenter (U&W) – Annual Meeting of the Geological Society of America: Anaheim, CA – September 2024 (in-person presenter)
Denver, CO – October 2022 (in-person presenter)
Portland, OR – October 2021 (remote presenter)
Phoenix, AZ – September 2019 (in-person presenter)
- Conference participant and presenter – 3rd Symposium on the Natural History and Geology of the Bahamas, Gerace Research Centre, San Salvador, Bahamas (June 8-12 2019)

OTHER COLLEGE EXPERIENCE

Lecturer/Lab Coordinator: UNC-Charlotte, Charlotte, North Carolina

8/99-7/04

Prepared and taught the following courses:

GEOL 1200 - Physical Geology & GEOL 1200L - Physical Geology Lab

GEOL 1210 - Earth History & GEOL 1210L - Earth History Lab

GEOL 3140 – Paleontology

GEOL 4000/5000 – Special Topics: Field Geology and Oceanography in the Bahamas (originated course)

LBST 2213 – Science, Technology & Society: Earth Sciences Revealed (originated this course)

Supervisor of: GEOL 4800 – Individual Study in Geology: Practicum in Paleontology (Spring 2000); ESCI 6800 – Individual Study in the Earth Sciences: Applied Paleoecology (Summer 2003).

Graduate Faculty/ M.S. in Earth Sciences committee member - Ian Eckardt – May 2004.

Developed new lab content and rewriting lab manuals for introductory Physical Geology, Earth History and Earth Science-Physical Geography lab courses. Also responsible for policy, scheduling, and coordinating the instruction for approximately 30 introductory geology and 16 physical geography lab sections per semester. Created field guides and instructional materials for both introductory and upper-level geology courses.

Visiting Assistant Professor of Geology: St. Lawrence University, Canton, New York

8/97-6/99

Prepared and taught the following courses: GEOL 120 Roadsides and Rivercuts (a field-based version of introductory physical geology)
GEOL 104 Evolving Earth (= Historical Geology)
GEOL 206 Invertebrate Paleontology
GEOL 216 Sedimentology
GEOL 248F Geology of the Bahamas (originated this course)
GEOL 315 Sedimentary Petrology
GEOL 323 Fluvial Geology
GEOL 381H Special Topics: Devonian System (originated this course)
GEOL 408 Stratigraphy

Senior Honors Thesis committee member for David Waugh - May 1999.

1998-1999 Organizer for the Susan Ferguson Memorial Lecture Series. SLU Geology Club Advisor 1997-1999.

Instructor: IAAY, The Johns Hopkins University, Baltimore, Maryland 6/97-7/97;7/98-8/98

- Created and taught Introductory Geology and Paleobiology courses to gifted students in the Institute for the Academic Advancement of Youth (IAAY) middle school program (CAA) and the high school program (CTY).

Scientific Illustrator and Consultant: Cornell Media Services, Ithaca, New York 2/97-6/97

- Created illustrations for *Lasting Impressions* by Karen Edelstein (1999) ISBN:1-57753-182-5, an activity-based book that stresses use of fossils to teach science. Also provided technical expertise in development of classroom activities.

Director of Education: Paleontological Research Institution (PRI), Ithaca, New York 10/94-12/96

Outreach

- Developed and conducted school/field outreach programs for more than 9,000 area K-16 students.
- Designed and distributed series of educational leaflets in response to written requests from over 800 students worldwide.
- Developed training program for PRI tour guides.

Educator Training

- Co-developed innovative educator workshops that stress inquiry-based methods of Earth science education.
- Conducted workshops and field trips for 300+ teachers.
- Developed and administered a two-week pilot teacher training program, the *Summer Earth Science Institute*, which stressed inclusion of field-based research into classroom curricula.

Distance Learning

- Created original 180-page website that featured virtual field trips & collection drawers (www.englilb.cornell.edu/pri/)

Public Education

- Coordinated and advertised all education events open to the general public, including monthly openhouses, field trips, lectures and workshops.
- Personally conducted 7 field trips with a total attendance of more than 200 of the general public.
- Created guide materials for all public programs and exhibits.

Exhibits

- Designed and constructed total of 24 temporary and 6 long-term exhibits at both the PRI and satellite locations, which were seen by an estimated 200,000 people.

Research Scientist: National Museum of Natural History, Smithsonian Institution, Washington, DC 4/94-4/96

Adjunct Research Faculty: Binghamton University, Binghamton, New York

Contract funding from Scholarly Studies Grant #1233S40G under the supervision of Dr. Francis Hueber, Dept. of Paleobiology, NMNH. Responsible for high-resolution stratigraphic analysis of the sedimentary facies, ichnofacies and invertebrate paleoecology of fossil plant-bearing beds in the Lower Devonian of Gaspé, Canada, as part of research project on early land plants and early terrestrial environments with Drs. Francis Hueber and Carol Hotton at NMNH and Drs. John Bridge and William Stein at Binghamton University.

Instructor: Science and Technology Entry Program (STEP), Binghamton University, New York 1989-1990

Created and conducted field-based program to introduce high school students to college-level study in Earth Science.

PAPERS PRESENTED AT MEETINGS WITH PUBLISHED ABSTRACTS (last 5 years)

Glumac, B., Curran, H.A. and **Griffing, D.** (2024). Distribution of microbial encrustation on Pleistocene corals from the Bahamas and the Turks and Caicos. Geological Society of America Annual Meeting, Anaheim, California, September 22-25. GSA Abstracts with Programs. v. 56 no. 6. (talk)

Schaeffer, A., **Griffing, D.H.**, Glumac, B., Curran, H.A. (2024). Ichnofossils as a tool for constraining peak sea levels of the Last Interglacial Highstand: An example from Eemian strata, West Caicos, Turks and Caicos Islands. Geological Society of America Annual Meeting, Anaheim, California, September 22-25. GSA Abstracts with Programs. v. 56 no. 6. (poster)

Smith, D., Goshgarian, C., Glumac, B., Curran, H.A. and **Griffing, D.** (2024). First documentation of thick microbial encrustations on Pleistocene corals from Turks and Caicos Islands. Geological Society of America Annual Meeting, Anaheim, California, September 22-25. GSA Abstracts with Programs. v. 56 no. 6. (poster)

Griffing, D.H., Glumac, B., and Curran, H.A. (2023). Development of reef microbialites from Eemian portions of the Grotto Beach Formation, San Salvador Island, Bahamas. 36th International Association of Sedimentologists Conference, Dubrovnik, Croatia. June 12-16. (Poster)

Griffing, D.H., Glumac, B., and Curran, H.A. (2022). Insights into development of reef microbialites from detailed examination of outcrops and core in Eemian (MIS 5e) parts of the Cockburn Town Member (Grotto Beach Fm) San Salvador Island, Bahamas. Geological Society of America Annual Meeting, Denver, Colorado, October 9-12. GSA Abstracts with Programs. v. 54, no. 6. (poster)

- Glumac, B., Haff, R.K., Curran, H.A., and **Griffing, D.** (2022). Comparative porosity analysis of carbonate coral reef deposits with thick microbial encrusters: New insights from X-Ray Computed Tomography (CT) imaging of core segments from Pleistocene (Eemian, MIS 5e) Cockburn Town Member, Grotto Beach Formation on San Salvador Island, Bahamas. Geological Society of America Annual Meeting, Denver, Colorado, October 9-12. GSA Abstracts with Programs. V. 54, No. 6. (talk)
- Griffing, D.H.**, Glumac, B., and Curran, H.A. (2021) Preliminary core stratigraphy of Pleistocene (MIS5) Cockburn Town Member reef deposits, San Salvador Island, Bahamas. Geological Society of America Annual Meeting, Portland, Oregon, October 10-13. GSA Abstracts with Programs. v. 53, no. 6. (poster)
- Boardman, M., Weirens, S., Glumac, B., Curran, H.A., and **Griffing, D.** (2021). Modification of Pleistocene carbonate reef deposits by bioerosion of corals: Insights from new core data, San Salvador Island, Bahamas. Geological Society of America Abstracts with Programs. V. 53, no. 6. (poster)
- Glumac, B., Lu, Kristine, P., George, M., Victoire R., Curran, H.A. and **Griffing, D.** (2021). Multifaceted approach for evaluating reservoir properties of Pleistocene carbonate rocks from the Bahamas: Preliminary insights from a new core on San Salvador Island. Geological Society of America Abstracts with Programs. V. 53, no. 6. (talk)
- Weirens, S., Boardman, M., Hansen, O., Beckham, A., Mannucci, A., Glumac, B., Curran, H.A. and **Griffing, D.** (2021). Encrusters on Pleistocene corals from the Bahamas: New data from a core on San Salvador and comparison with outcrop observations from Great Inagua and San Salvador Islands. Geological Society of America Abstracts with Programs. Vol 53, No. 6. (poster)
- Griffing, D.H.**, Glumac, B., and Curran, H.A. (2020) Dissecting the Cockburn Town Member reefs (Grotto Beach Formation) on San Salvador Island, Bahamas: What microbial bindstone facies and bedding patterns tell us about Mid-Eemian sea-level variations. SEPM – International Sedimentary Geological Conference in Flagstaff, AZ. April 2020 (poster planned for conference presentation prior to COVID 19-related conference cancellation – the abstracts for conference published in 2021).

PUBLICATIONS (complete list)

- Griffing, D.H.**, Glumac, B., Curran, H.A., In preparation. Distribution and development of skeletal and microbialite encrustations in Bahamian reef carbonates of the Eemian (MIS 5e) Last Interglacial Highstand. *Palaeos*.
- Griffing, D.H.**, Curran, H.A., Glumac, B., Cooney, H., In preparation. Origin of the enigmatic tubular fossils from the Cockburn Town Member (Pleistocene, Grotto Beach Formation) San Salvador Island, Bahamas. *Ichnos*.
- Griffing, D.**, Kuhlmann, M., and Dexter, T. (eds.). *Proceedings of the 3rd Joint Symposium on the Natural History and Geology of the Bahamas – June 2019*. Gerace Research Centre, University of the Bahamas, San Salvador, Bahamas. 161 p., 2023.
- Griffing, A.H., **Griffing, D.H.**, Lesmond, S., Gamble, T., 2022. Establishment of the Common House Gecko, *Hemidactylus frenatus* Duméril & Bibron, on Saint Lucia. *Caribbean Herpetology*, 83, 1–3.
- Fowler, A. and **Griffing, D.H.**, 2012. Health and taphonomy of Telephone Pole Reef (San Salvador Island, Bahamas) in 2008: A model for recognizing rapid reef transitions preserved in the fossil record. in Gamble, D. and Kindel, P.(eds) *Proceedings of the 15th Symposium on the Geology of the Bahamas and Other Carbonate Regions*, Gerace Research Centre, San Salvador, Bahamas, p.41-60.
- Mehrtens, C.J., **Griffing, D.H.**, and Chrapowitzky, L., 2011 Comparison of the Day Point, Crown Point and Valcour Formation (Middle Ordovician Chazy Group) reef horizons, northern Champlain Valley, Vermont. in West, D. (ed.) *Guidebook of the Annual Meeting of the New England Intercollegiate Geological Conference (NEIGC)*, Sept.30-October 2, 2011, A4, p.1-24.
- Eppes, M.C. and **Griffing, D.H.**, 2010. Granular disintegration of marble in nature: a thermal-mechanical origin for a grus and corestone landscape. *Geomorphology*, 117: 170-180.
- Diemer, J.A., Tyrrell, W.W., Jr., and Bell, G.L., Jr., and **Griffing, D.H.**, 2006. The bentonite-bearing Manzanita Limestone Member, Cherry Canyon Formation, exposed in Patterson Hills road cut, Culberson County, Texas. in Raatz, W., (ed.), *New Mexico Geological Society Field Trip Guide, Socorro, New Mexico*, p.75-77.

- Diemer, J.A., Tyrrell, W.W., Jr., and Bell, G.L., Jr., and **Griffing, D.H.**, 2006. A Patterson Hills section of the bentonite-bearing Manzanita Limestone Member of the Cherry Canyon Formation, Culberson County, Texas. in Hinterlong, G., (ed.), *Basinal Facies of the Uppermost Guadalupian: Applicability to Exploration and Development Projects*, 2006 Permian Basin Section of the Society of Economic Paleontologists and Mineralogists Field Trip Guide Book, SEPM Publication 2006-46:52-58.
- Diemer, J.A., Tyrrell, W.W., Jr., and Bell, G.L., Jr., and **Griffing, D.H.**, 2006. The Manzanita Limestone Member, Cherry Canyon Formation, northern Delaware Basin, New Mexico and west Texas. in Hinterlong, G., (ed.), *Basinal Facies of the Uppermost Guadalupian: Applicability to Exploration and Development Projects*, 2006 Permian Basin Section of the Society of Economic Paleontologists and Mineralogists Field Trip Guide Book, SEPM 2006 Publication 2006-46:1-38.
- Tyrrell, W.W., Diemer, J.A., Bell, G.L., Jr., and **Griffing, D.H.** 2004. Subsurface sequence stratigraphy of the Manzanita Limestone Member, Cherry Canyon Formation, Northern Delaware Basin, New Mexico and West Texas. in Trentham, R.C. (ed.), *Banking on the Permian Basin*. West Texas Geological Society Publication No. 04-112, p. 125-156.
- Hotton, C.L., Hueber, F.M., **Griffing, D.H.** and Bridge, J.S., 2001. Early terrestrial plant environments: An example from the Emsian of Gaspé, Canada. in Gensel, P.G., and Edwards, D.(eds.), *Plants Invade the Land: Evolutionary and Environmental Considerations*, Columbia University Press, New York, p.179-212.
- Griffing, D.H.**, Bridge, J.S., and Hotton, C.L., 2000. Coastal-fluvial paleoenvironments and plant paleoecology of the Lower Devonian (Emsian), Gaspé, Quebec, Canada. in Friend, P.F., and Williams, B.J.P. (eds.) *New Perspectives on the Old Red Sandstone*, Geological Society, London, Special Publications 180:61-84.
- Griffing, D.H.**, and Allmon, W.D., 1996. Fossils in the Field: Real and “Virtual” Experiences, in Scotchmoor, J. and McKinney, F.K. (eds.), *Learning from the Fossil Record*, Paleontological Society Special Papers v. 2, p. 53-57. (presented at the Paleontological Society workshop by DHG)
- Allmon, W.D., and **Griffing, D.H.**, 1996. “Round Rocks”: Teaching the Principles of Earth Science and Paleontology, in Scotchmoor, J. and McKinney, F.K. (eds.) *Learning from the Fossil Record*, Paleontological Society Special Papers v. 2, p.137-146.
- Ver Straeten, C. A., **Griffing, D. H.**, and Brett, C. E., 1994. The lower part of the Middle Devonian Marcellus "Shale", Central to Western New York State. *New York State Geological Association Guidebook*, 66th Annual Meeting, University of Rochester, p. 271-321.
- Griffing, D. H.**, and Ver Straeten, C. A., 1991. Stratigraphy and depositional environments of the lower part of the Marcellus Formation (Middle Devonian) in eastern New York State. N.Y. State Museum Science Service Contribution 700, published in *New York State Geological Association Guidebook*, 63rd Annual Meeting, SUNY College at Oneonta, p. 205-249.