

## Chelsie Nicole Bowman

Department of Geosciences  
College of Earth and Mineral Science  
Pennsylvania State University  
cvb5950@psu.edu | (904) 386-3884

### EDUCATION

- Ph.D., Geology.** Florida State University 2020  
*The coupled evolution of the biosphere and global marine redox conditions in the late Silurian*  
Advisor: Seth A. Young
- M.S., Geology.** Florida State University 2015  
*Paleodietary reconstruction of late Miocene herbivores from the Dove Spring Formation*  
Advisor: Yang Wang
- B.S., Environmental Science.** Florida State University 2013
- B.A., Environmental Studies.** Florida State University 2013

### PROFESSIONAL EXPERIENCE

- Postdoctoral Scholar** | Pennsylvania State University 2021-present
- Graduate Teaching Assistant** | Florida State University 2013-2020  
(eleven semesters)
- Graduate Research Assistant** | FSU & National High Magnetic Field Laboratory 2013-2020  
(eleven semesters)

### PEER-REVIEWED PUBLICATIONS

mentees are underlined

- CN Bowman**, TR Them II, MD Knight, D Kaljo, O Hints, T Martma, JD Owens, and SA Young, 2021, A multi-proxy approach to constrain reducing conditions in the Baltic Basin during the late Silurian Lau carbon isotope excursion: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 581, doi: 10.1016/j.palaeo.2021.110624
- CN Bowman**, A Lindskog, NP Kozik, JD Owens, CG Richbourg, and SA Young, 2020, Integrated sedimentary, biotic, and paleoredox dynamics from multiple localities in southern Laurentia during the late Silurian (Ludfordian) extinction: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 553, doi: 10.1016/j.palaeo.2020.109799.
- H Fan, SG Nielsen, JD Owens, M Auro, Y Shu, DS Hardisty, TJ Horner, **CN Bowman**, SA Young, and H Wen, 2020, Constraining oceanic oxygenation during the Shuram excursion in South China using thallium isotopes: *Geobiology*, doi: 10.1111/gbi.12379.
- CN Bowman**, SA Young, D Kaljo, ME Eriksson, TR Them II, O Hints, T Martma, and JD Owens, 2019, Linking the progressive expansion of reducing conditions to a stepwise mass extinction event in the late Silurian oceans: *Geology*, v. 47, no. 10, p. 968-972, doi: 10.1130/G46571.1.
- NP Kozik, SA Young, **CN Bowman**, MR Saltzman, and TR Them II, 2019, Middle-Upper Ordovician (Darwilian-Sandbian) paired carbon and sulfur isotope stratigraphy from the Appalachian Basin, USA: Implications for dynamic redox conditions spanning the peak of the Great Ordovician Biodiversification Event: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 520, p. 188-202, doi: 10.1016/j.palaeo.2019.01.032.
- CN Bowman**, Y Wang, X Wang, GT Takeuchi, M Faull, DP Whistler, and S Kish, 2017, Pieces of the puzzle: Lack of significant C<sub>4</sub> in the late Miocene of southern California: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 475, p. 70-79, doi: 10.1016/j.palaeo.2017.03.008.

## MANUSCRIPTS IN PREPARATION/SUBMITTED

mentees are underlined

**CN Bowman**, A Lindskog, E Jarochowska, NP Kozik, JD Owens, and SA Young, *in prep*, Coupling widespread marine reducing conditions to anachronistic carbonate facies during the late Silurian Lau/Kozlowskii extinction: *Facies*.

**CN Bowman**, A Lindskog, J Fryda, LJ Allman, NP Kozik, JD Owens, and SA Young, *in prep*, Reducing conditions in western Laurentia and peri-Gondwana linked to the late Silurian extinction: *Geobiology*.

## CONFERENCE PRESENTATIONS

mentees are underlined

**CN Bowman**, MS Marshall, JD Owens, SA Young, and KV Lau (2021) Paleo-redox conditions of the eastern margin of the Permian Phosphoria Basin, Idaho, USA, *American Geophysical Union*

LJ Allman, JD Owens, **CN Bowman**, J Fryda, NP Kozik, S Newby, and SA Young (2021) A multi-proxy investigation of marine redox conditions in the late Silurian oceans during the Lau extinction event: A peri-Gondwanan perspective, *American Geophysical Union*

C Edwards, SA Young, NP Kozik, **CN Bowman**, and JD Owens (2021) Identifying the causes of early Paleozoic mass extinction using new carbonate geochemical proxies: Local evidence of marine anoxia using I/Ca ratios, *Geological Society of America*

**CN Bowman**, A Lindskog, NP Kozik, JD Owens, SA Young (2019) A basinal expression of the late Silurian (Ludfordian) extinction event: Integrated sedimentary, biotic, and paleoredox dynamics in a carbonate platform from southern Laurentia, *Geological Society of America*

**CN Bowman**, SA Young, NP Kozik, and JD Owens (2019) Geochemical evidence of redox changes associated with the late Silurian Lau/Kozlowskii extinction from carbonate facies of Laurentia and Baltica, *Geological Society of America Southeastern Section*

**CN Bowman**, SA Young, CG Richbourg, NP Kozik, and JD Owens (2018) Evidence of oceanic euxinia associated with the late Silurian Lau/Kozlowskii extinction from the Laurentian carbonates of Tennessee and Nevada, *Geological Society of America*

**CN Bowman**, SA Young, D Kaljo, ME Eriksson, TR Them II, O Hints, T Martma, and JD Owens (2018) Thallium isotopic evidence for widespread ocean anoxia associated with the late Silurian Lau extinction event, *Goldschmidt*

**CN Bowman**, CG Richbourg, JD Owens, and SA Young (2018) Geochemical evidence for widespread anoxia-euxinia during the late Silurian Lau extinction event, *Southeastern Biogeochemistry Symposium*

CG Richbourg, **CN Bowman**, and SA Young (2018) New late Silurian (Ludfordian)  $\delta^{13}\text{C}$  and  $\delta^{34}\text{S}$  analyses from western Tennessee: an outer ramp perspective on the Lau CIE and extinction event, *Southeastern Biogeochemistry Symposium*

**CN Bowman**, SA Young, JD Owens, D Kaljo, O Hints, and T Martma (2017) Oceanographic redox changes associated with the late Silurian Lau extinction event: new geochemical evidence from the Priekule-20 drill core, Latvia, *Geological Society of America*

CG Richbourg, **CN Bowman**, and SA Young (2017) New late Silurian (Ludfordian)  $\delta^{13}\text{C}$  and  $\delta^{34}\text{S}$  analyses from western Tennessee: an outer ramp perspective on the Lau CIE and extinction event, *Geological Society of America*

**CN Bowman**, SA Young, and JD Owens (2017) Oceanographic redox changes associated with the late Silurian Lau extinction event: New geochemical evidence from central Tennessee and Latvia, *Southeastern Biogeochemistry Symposium*

**CN Bowman**, SA Young, and JD Owens (2016) Oceanographic redox changes associated with the late Silurian Lau event as evidenced from the Brownsport Formation, Tennessee, *Geological Society of America*

**CN Bowman**, Y Wang, X Wang, GT Takeuchi, and M Faull (2015) Reconstruction of the diets and habitats of late Miocene herbivores of the Dove Spring Formation, southern California, *Geological Society of America Southeastern Section*

## **GRANTS, AWARDS, SCHOLARSHIPS, FELLOWSHIPS**

FSU Congress of Graduate Students Conference Travel Grant	2016-2019
Geological Society of America Southeastern Section Travel Grant	2016-2019
Ken Osmond and William Tanner Fund	2017
Ermine M. Owenby, Jr. Travel Award	2017
Winchester Scholar Research Assistantship	2017
Geological Society of America Southeastern Section Graduate Research Grant <i>Investigation of oceanographic changes associated with the late Silurian Lau Event using isotope and geochemical proxies</i>	2016
Bennet Frank Buie Endowed Scholarship	2015
FSU Teach Fellowship	2013

## **TEACHING ACTIVITIES**

### **Teaching Experience**

GLY2010   Physical Geology Laboratory; one semester responsible for all lab activities and development of lab exams and quizzes, assisted in the facilitation of a field trip to central Alabama	2016
GLY3100   History of Earth Systems Guest Lecturer; one semester	2020
GLY3100   History of Earth Systems Laboratory; one semester responsible for all lab activities, modified lab activities to suit online learning	2020
GLY3200   Mineralogy and Crystallography Laboratory; two semesters responsible for all lab activities, developed part of the lab material	2013-2014
GLY4544   Sedimentation and Stratigraphy Guest Lecturer; three semesters	2017-2019
GLY4544   Sedimentation and Stratigraphy Laboratory; seven semesters responsible for all lab activities, developed new lab activities and lectures, assisted in the facilitation of a field trip to the southern Appalachians *Fall 2016 & 2018 Outstanding Teaching Assistant Award Nominee	2015-2020

### **Mentorship Experience**

#### Graduate Students

Lindsay Allman shale geochemistry of the late Silurian Lau carbon isotope excursion and extinction, assisted with field sampling of Silurian carbonates *presented at GSA and AGU	2019-2021
---	-----------

#### Undergraduate Students

Chandler Gladwin preparation of Silurian carbonate samples, chemical processing of Permian shale samples	2020-2021
---	-----------

Westly Owings	2019-2020
preparation of Ordovician and Silurian carbonate and shale samples	
Jane Wadhams	2019
chemical processing and analysis of pyrite sulfur isotopes of Paleozoic & Cenozoic shales, assisted with field sampling of Silurian carbonates	
John Khawam	2019
preparation of Silurian carbonate and shale samples	
Haley Hallyburton	2018-2019
preparation and chemical processing of Silurian carbonate samples, assisted with scouting and sampling of additional field sites	
Lindsy Allman	2018-2019
preparation and chemical processing of Silurian carbonate samples, assisted with scouting and sampling of additional field sites	
Claudia Richbourg	2017-2018
preparation, chemical processing, and analysis of Silurian carbonate and shale samples for paired carbon and sulfur isotopes	
*presented at GSA and the Southeastern Biogeochemical Symposium	
Hilary Davis	2016
collection and description of field samples, preparation and chemical processing of Silurian carbonate samples for carbon isotope analysis	
Janine Giambalvo	2014
preparation, processing, and analysis of Miocene fossil enamel samples for carbon and oxygen isotopic analysis	
National Science Foundation Research Experience for Teachers Participants	
Shayla Lightfoot-Brown & Gary Boulier	2019
preparation, chemical processing, and analysis of Silurian carbonate samples for carbon isotopes and iodine-to-calcium ratios	
Mark Dignan & Jorge Natal	2015
preparation, chemical processing, and analysis of Pleistocene fossil enamel samples for carbon and oxygen isotopic analysis	
Jorge Natal & Hilary Denis	2014
preparation, chemical processing, and analysis of Miocene fossil enamel samples for carbon and oxygen isotopic analysis	

## FIELD EXPERIENCE

Southern Idaho, <i>Permian Phosphoria Formation shale geochemistry</i>	2021
Czech Republic, <i>Silurian carbonate geochemistry and stratigraphy</i>	2019
Central Nevada, <i>Silurian carbonate geochemistry and sedimentology</i>	2016-2018
Estonia, <i>Silurian shale geochemistry</i>	2016
Eastern Tennessee, <i>Ordovician carbonate geochemistry and sequence stratigraphy</i>	2016-2017
Central Tennessee, <i>Silurian carbonate geochemistry and sedimentology</i>	2015-2019
Alabama, Tennessee, <i>early Paleozoic carbonate stratigraphy and paleontology</i>	2015-2019
Northern New Mexico, <i>field mapping and stratigraphy</i>	2014
Southern California, <i>Miocene paleontology and stratigraphy, modern plant collection</i>	2013

## **PROFESSIONAL SERVICES & ACTIVITIES**

### **Diversity, Equity, & Inclusion**

Penn State Geosciences Diversity, Equity, & Inclusion committee, member	2021
Penn State Rainbow Science Network, member	2021
Diversity and Inclusion in Geosciences Seminar, participant	2021
Hollaback! Bystander Intervention Workshop, participant	2021
Unlearning Racism in Geoscience, participant	2021
Safer People, Safer Places – LGBTQ+ Foundations Workshop, participant	2021
Transgender & Gender Inclusion 101 Workshop, participant	2021

### **Scientific Outreach**

Lincoln High School Research Discussion Panel	2019
Chaires Elementary Science Night – Fossils/Geology demonstration	2018-2020
Pineview Elementary Science Day – Fossils & Extinctions demonstration	2018
National High Magnetic Field Laboratory Open House	2014-2020

### **Peer Reviewer**

Chemical Geology, Earth-Science Reviews, Geochimica et Cosmochimica Acta, Estonian Journal of Earth Sciences

### **Scientific Meeting Convener/Session Chair**

SE-NE GSA Sectional Meeting – technical session co-chair (canceled due to COVID-19)	2020
Southeastern Biogeochemistry Symposium – student organizer	2018

### **Professional Memberships**

Geological Society of America  
Sigma Gamma Epsilon  
Geochemical Society  
American Geophysical Union  
National Association of Geoscience Teacher