

Michelle E. Chrpa

Dept. of Earth Sciences
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Education

Texas A&M University, College Station, TX

Ph.D., Geology, 2023

Dissertation: Well-preserved crinoids as a proxy for Mg/Ca ratios of the Late Pennsylvanian Midcontinent Sea: A high-resolution approach to paleo-seawater reconstructions,
Advisor: Anne Raymond

Florida Atlantic University, Boca Raton, FL

M.S., Geology, 2013

Thesis: Morphological variability of *Astarte borealis* (Mollusca, Bivalvia) in the Camden Bay, northern Alaska, Advisor: Anton Oleinik

B.S., Geology, 2008

Minor in Biology; Harbor Branch Oceanographic Institute – Semester by the Sea
Certificate in Geographic Information Systems

Research Interests

Invertebrate Paleontology, Carbonate Sedimentology, Stratigraphy, Geologic Mapping

Publications

Chrpa, M.E., Raymond, A., Lamb, W.M., and Laya, J.C., A marine origin of coal balls in the Midland and Illinois basins, USA. *Communications Earth & Environment*, 4(1), pp.1-12.

Chrpa, M.E. and Oleinik, A.E., 2015. Shell shape variation within a population of *Astarte borealis* (Schumacher, 1817) (Bivalvia: Astartidae) from Camden Bay, northern Alaska: a study using elliptical Fourier analysis: *Nautilus*, Vol. 129, No.1, pp. 23-30.

Experience

University of Delaware, Newark, DE

Assistant Professor (January 2023 – current)

Texas A&M University, College Station, TX

Graduate Assistant Lecturer (January 2020 – August 2020; August 2021 – August 2022)

Graduate Assistant for Department Communications/Web Tech (June 2022 – December 2022)

Graduate Student Technician (July 2018 – December 2018)

Graduate Teaching Assistant (August 2014 – August 2019, Fall 2022)

Indiana University of Pennsylvania, Indiana, PA

Lecturer (August 2020 – December 2021)

University of Missouri, Columbia, MO

Graduate Teaching Assistant (Summer 2018; Summer 2019)

Florida Atlantic University, Boca Raton, TX

Graduate Teaching Assistant (May 2010 – August 2012)

Teaching

Assistant Professor

- Spring 2023 *University of Delaware*
GEOL 105 Geological Hazards and their Human Impact – traditional 1 section,
250 students, 3 credit hours
GEOL 113 Earth Science – traditional 1 section, 182 students, 4 credit hours

Instructor

- Summer 2022 *Texas A&M University*
GEOL 102 Principles of Geology Laboratory – asynchronous online 2 sections; 43
students; 1 credit hour, student rating: 4.67/5.0
- Spring 2022 GEOL 101 Principles of Geology – asynchronous online 1 section, 300 students; 3
credit hours, student rating: 4.65/5.0
- Fall 2021 GEOL 101 Principles of Geology – asynchronous online 1 section, 200 students; 3
credit hours, student rating: 4.51/5.0
- Fall 2021 *Indiana University of Pennsylvania*
GEOS 104 Oceanography and Atmospheres Laboratory – asynchronous online 3
sections, 70 students; 1 credit hour
- Spring 2021 GEOS 103 Oceanography and Atmospheres Earth Science – hyflex 1 section, 123
students; 3 credit hours
GEOS 104 Oceanography and Atmospheres Earth Science Laboratory – hyflex 4
sections, 76 students; 1 credit hour
- Fall 2020 GEOS 101 The Dynamic Earth – hyflex 1 section, 99 students; 3 credit hours,
student rating: 3.88/5.0
GEOS 102 The Dynamic Earth Laboratory – asynchronous online 3 sections, 72
students; 1 credit hour, student rating: 4.25/5.0
GEOS 104 Oceanography and Atmospheres Earth Science Laboratory – hyflex 2
sections, 48 students; 1 credit hour, student rating: 4.33/5.0
- Summer 2020 *Texas A&M University*
GEOL 207 Dinosaur World and Lab – hyflex 1 section, 22 students; 3 credit hours
- Spring 2020 GEOL 207 Dinosaur World and Lab – traditional/online 3 sections, 49 students; 3
credit hours

Capstone Field Course

- 2020, 2019,
2017, 2015 *Texas A&M University*
GEOL 350 Summer Field Geology
Brent Miller; 3 weeks Virtual Field Camp
Brent Miller; 3 weeks in Dillion, MT
Mike Heaney; 5 weeks in Moab & Manti, UT and Dillion, MT
Mike Pope; 6 weeks in Dillon, MT
- 2019, 2018 *University of Missouri*
GEOL 4992 Geology Field Camp
Miriam Barquero-Molina; 6 weeks in Lander, WY
- 2012 *Florida Atlantic University*
GLY 4790 Geology Summer Field Camp
Anton Oleinik; 6 weeks in Durango, CO and southwest US (NV, AZ, NM, UT)

Teaching Assistant

- 2014–2019, ***Texas A&M University***
2022
GEOL 101 Physical Geology Lab; Fall 2014
GEOL 106 Historical Geology Lab; Fall 2015; Spring 2018
GEOL 150 Introduction to the Solid Earth Lab; Fall 2022
GEOL 202 Geological Writing; Summer 2016
GEOL 305 Paleobiology Lab; Spring 2015, Spring 2016, Fall 2016; Spring 2017
GEOL 309 Field Methods (4-day field trip, Llano, TX); Spring 2017 & Fall 2017
- 2010–2012 ***Florida Atlantic University***
ESC 2000 The Blue Planet; Summer 2010
GLY 2010 Evolution of the Earth Lab; Fall 2010, Spring 2011, Summer 2011
GLY 2100 History of Earth and Life; Fall 2011, Spring 2012
GLY 4500 Stratigraphy & Sedimentation Lab Fall 2011
GLY 4750 Field Methods (9-day field trip, GA, SC, NC, TN, KY); Spring 2011 & Spring 2012
GLY 4822 Hydrogeology Lab; Spring 2012

Campus Talks

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- Chrpa, M.E., February 2, 2023, Mg/Ca ratios in echinoderms and early carbonate cement support a marine origin for some coal-balls, University of Delaware.
- Chrpa, M.E., April 18, 2019, Morphological Variability of *Astarte borealis* Northern Alaska & Mg/Ca Ratios of Echinoderm Ossicles in Pennsylvanian Coal Balls, Sam Houston State University.
- Chrpa, M.E., March 21, 2019, Mg/Ca Ratios of Echinoderm Ossicles in Pennsylvanian Coal Balls: presented at 11th Annual GGGSC Student Research Symposium, College Station, TX.
- Chrpa, M.E., April 4, 2019, Mg/Ca Ratios of Echinoderm Ossicles in Pennsylvanian Coal Balls: presented at 20th Annual Ecological Integration Symposium, College Station, TX.
- Chrpa M.E., September 2, 2017, Multivariate Ordination in R, Open Source for Open Science (OSOS 2017) – an EEB Summer Workshop, College Station, TX.
- Chrpa, M.E., March 24, 2016, The Relationship Between Intertidal Forested Wetlands and Crabs: Can Modern Mangrove Systems Be Used as Analogues to Past Environments?: presented at 18th Annual Ecological Integration Symposium, College Station, TX.

Conference Presentations

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- Chrpa, M.E. and Raymond A., 2022, A Granular Approach to Seawater Mg/Ca Ratios of the Late Pennsylvanian Midcontinent Sea: GSA Abstracts with Programs. Vol 52, No. 6.
- Chrpa, M.E. and Raymond A., 2021, Plant Taphonomy in Coal Balls that contain Marine Invertebrates, The 29th International Workshop on Plant Taphonomy Virtual Meeting in Maine, USA, and Bonn, Germany, Nov. 4 and 5, 2021
- Chrpa, M.E., Raymond, A. and Lamb, W., 2020, Opening the Coal Ball Window: Reconstructing Mg/Ca Ratios of Pennsylvanian Seawater Using Mg/Ca Ratios of Crinoid Columnals in Pennsylvanian Coal Balls: GSA Abstracts with Programs. Vol 52, No. 6.
- Raymond, A., Neely, S. and Chrpa, M.E., 2020, A Depth and Environmental Model for Cordaitan Coal–Ball Formation based on Plant Constituents: GSA Abstracts with Programs. Vol 52, No. 6.
- Chrpa, M.E., Raymond, A. and Lamb, W., 2019, Mg/Ca Ratios of Echinoderm Ossicles in Pennsylvanian Coal Balls: Implications for Reconstructing Mg/Ca Ratios of Pennsylvanian Seawater: GSA Abstracts with Programs. Vol. 51, No. 5.

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- Chrpa, M.E., Raymond, A. and Lamb, W., 2018, Mg/Ca Ratios of Echinoderm Ossicles in Pennsylvanian Coal Balls: Implications for Reconstructing Mg/Ca Ratios of Pennsylvanian Seawater: GSA with Programs. Vol. 50, No. 6.
- Chrpa, M.E., 2017, Echinoderm Ossicles in Pennsylvanian Coal Balls: A Proxy for Seawater Mg/Ca Ratios: GSA Abstracts with Programs. Vol. 49, No. 6.
- Chrpa, M.E., 2015, Evaluating Changes in Morphometry and Paleoecology of Family Trigoniidae (Mollusca: Bivalvia): GSA Abstracts with Programs. Vol. 47, No. 7.
- Chrpa, M.E. and Oleinik, A.E., 2013, Morphometric Analysis of *Astarte borealis* (Mollusca: Bivalvia) of Camden Bay, Northern Alaska: GSA Abstracts with Programs. Vol. 45, No. 7.
- Chrpa, M.E. and Oleinik, A.E., 2012, Morphological Variability of *Astarte borealis* (Mollusca, Bivalvia) in the Camden Bay, Northern Alaska: GSA Abstracts with Programs. Vol. 44, No. 7.

Professional Development

- Keep Calm and Teach On (Winter 2023, UD)
- G.R.A.D. Aggies Professional Development Certificate (Spring 2022, TAMU)
- PASSHE Brightspace Professional Development: Teaching Online Certificate Course – 3-week online course provides instructors with a student’s perspective, guidance on designing an online course, and instructions for using the various D2L tools. (Sept 7 – 28, 2020; IUP)
- Creating Community for at-risk Students in an Online Environment Workshop – teaching and learning needs for high-risk students in a virtual environment (Dec 14 – 18, 2020; IUP)
- STEM Teaching Professional Development – College Classroom Teaching: Integration of Research, Teaching, and Learning (Spring 2019, TAMU)
- Implicit Bias Seminar (2018; TAMU)
- Green Dot Bystander Intervention (2017; TAMU)

Departmental/University Service

- Liberal Studies IMPROVE Data Collection, EUSLO – mapped SLOs for Geos 101/102 (2021; IUP)
- Library Committee (2020 – 2021; IUP)
- College of Geosciences Dean Search Committee – Graduate Student Member (2018; TAMU)
- College of Geosciences Graduate Instruction & Curriculum Committee – Student Member (2017 – 2018; TAMU)
- Department of Geology & Geophysics Faculty Search Committee – Graduate Student Member (2016 – 2017; TAMU)

Extracurricular University Service

- Geology and Geophysics Graduate Student Council – Texas A&M University, 2015 – 2020
Symposium Chair, Vice President, G&G Faculty-Student Rep, Treasurer, Seminar Co-Chair
- Sigma Gamma Epsilon, Eta Theta Chapter – Florida Atlantic University, 2010 – 2012
Vice President, Secretary

Grants, Honors, And Awards

- 2022 Geology & Geophysics Harold J. Haynes Scholarship for Analytical Research (\$1750)
- 2020 Geology & Geophysics Chevron Field Camp Teaching Fellowship (\$2000)
- 2020 Geology & Geophysics Conoco/Phillips Departmental Fellowship (\$1000)
- 2019 Geological Society of America Energy Geology Division Antoinette Lierman Medlin Scholarship for Analytical Research (\$2500)
- 2019 College of Geosciences J. M. & F. N. Oswald Graduate Fellowship in Geology (\$5000)
- 2018 Geological Society of America Graduate Student Research Grant (\$1210)
- 2018 Geology & Geophysics Graduate Student Award for Service (\$1000)
- 2017 Ecology & Evolutionary Biology Teaching Award –Open Source for Open Science Workshop (\$500)
- 2016 Geology & Geophysics Graduate Student Scholarship (\$2000)
- 2012 Best Research in Geosciences – College of Sciences Annual Research Symposium (\$250)

Outreach, Community Service, and Volunteering

TAMU G&G Aggieland Saturday (2019, 2021)

TAMU GGGSC STEAM Nights at River Bend Elementary, Rock Prairie Elementary (2020)

TAMU GGGSC Boy Scout Webelos Earth Rocks! Adventure Event (2019)

TAMU GGGSC Texas Reds Festival (2018, 2019)

GSA Annual Meeting Student Volunteer (2012 – 2019)

FAU SGE Science in the Park (2010 – 2013)

Related Skills

Cameca SXFive Electron Microprobe & PeakSight

Phenom XL Desktop SEM w/ EDS

Statistical analysis software: R, SHAPE ver. 1.3, PAST

Database: Specify 6, iMIS

Certifications and Training

Wilderness First Aid Training

Center for the Integration of Research, Teaching, and Learning (CIRTL) Practitioner

Professional Memberships/Affiliations

Geological Society of America

Paleontological Society

Society for Sedimentary Geology

Earth Science Women's Network

Association for Women Geoscientists

National Association of Geoscience Teachers

Sigma Gamma Epsilon, The National Honor Society for the Earth Sciences