

PETER M. CHUTCHARAVAN, PhD

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EDUCATION**University of Florida, Gainesville FL****August 2020**

PhD in Geology
Advisor: Dr. Andrea Dutton

"Ice sheet histories and sea-level change during the Last Interglacial and Termination I inferred from fossil corals: an interdisciplinary approach"

University of Michigan, Ann Arbor MI**May 2014**

Bachelor of Science in Geological Sciences with Honors
Phi Beta Kappa

RESEARCH INTERESTS

- (1) **Paleoceanography/paleoclimatology**, with an emphasis on using geologic archives (corals, speleothems, etc.) to reconstruct late Quaternary sea-level change
- (2) **Isotope geochemistry**, specializing in uranium-series geochronology and isotope systematics
- (3) **Geochemical tracers** of continental weathering processes on glacial-interglacial timescales and the effects of such weathering on marine geochemical cycles

POSITIONS HELD**Postdoctoral Associate****2022-present**

University of Minnesota – Twin Cities, Department of Earth and Environmental Sciences

Honorary Research Fellow *(courtesy appointment)***2022-present**

University of Bristol, School of Geographical Sciences

Visiting Assistant Professor**2021-2022**

Oberlin College, Department of Geology

Research Associate**2020-2021**

University of Wisconsin – Madison, Department of Geoscience

Graduate Assistant**2014-2020**

University of Florida, Department of Geological Sciences

Undergraduate Research Assistant**2011-2014**

University of Michigan, Department of Earth and Environmental Sciences

TEACHING EXPERIENCE

Oberlin College	Fall 2021 – Present
GEOL 115H: <i>Coral Reefs</i> , GEOL 120: <i>Earth's Environments Lab</i> , GEOL 161: <i>Oceanography</i> , GEOL 245: <i>Paleoclimatology</i> (w/ lab)	
Guest Lecturer	Fall 2018, Spring 2019
University of Florida <i>Topics: The marine carbon and oxygen cycles</i>	
Guest Lecturer	Summer 2018
Broward College <i>Topics: Geologic time, coral reefs, Florida geology</i>	
Geochemical Oceanography	Fall 2016, 2018
Teaching Assistant	
Honors 135: The Geochron (Instructor)	Fall 2013
First year seminar for incoming University of Michigan honors students.	
Environ 223: Introduction to Oceanography	Fall 2011
Led weekly tutoring session to receive honors credit for course.	

RESEARCH FUNDING

NSF Ocean Sciences Postdoctoral Fellowship (\$299,181)	2022-present
<u>2126662 OCE-PRF: Constraints on sea-level change over four glacial cycles through uranium-series dating of submerged Bahamian cave deposits</u>	
H.H. Powers Travel Grant (\$3800)	2022
Oberlin College – competitive institutional travel grant that funded a visit to Bristol, UK to initiate a new research collaboration	
SEPM Student Research Grant (\$800)	2016
Society for Sedimentary Geology	
GSA Graduate Student Research Grant (\$1875)	2016
Geological Society of America	

MENTORING

Undergraduate Mentoring (Oberlin College)	2022-present
Mentored one (1) undergraduate student compiling a database of radiocarbon-dated sea-level indicators	
Graduate Mentoring (UW Madison)	2020-2021
Mentored one (1) PhD student compiling a database of Last Interglacial sea-level indicators from the Bahamas and Florida	
Undergraduate Mentoring (University of Florida)	2015-2019
Mentored (3) undergraduates compiling legacy data for coral U-series and ¹⁴ C geochronology databases and (1) in clean lab chemistry protocols	

HONORS, AWARDS AND FELLOWSHIPS

Maurice C. Holmes and Frances A. Holmes Endowed Fellowship	2020
UF College of Liberal Arts and Sciences – competitive, merit-based fellowship that funded the final semester of my dissertation research	
College of Liberal Arts and Sciences Travel Grant	2019
UF College of Liberal Arts and Sciences	
UF Office of Research Travel Grant	2017
University of Florida	
Graduate Student Council Travel Grant	2016, 2018
UF Graduate Student Council	
UF Graduate School Fellowship	2014-2018
University of Florida – competitive, merit-based graduate 4-year fellowship	
Goldschmidt Travel Grant	2013
The Geochemical Society	
Honors Summer Fellowship Program	2013
LS&A Honors Program University of Michigan	
Eugene and Elizabeth Singer Award	2013
Department of Earth and Environmental Sciences University of Michigan	
Foreign Language and Area Studies Fellowship (Thai)	2012-2014
US Department of Education	
GSA-ExxonMobil Field Camp Award	2012
Geological Society of America	
Outstanding Student Poster Award	2012
University of Michigan - Undergraduate Research Opportunity Program	

FIELDWORK

College Station, Texas	July-August 2017
Sampled corals from the IODP Expedition-310 (Tahiti Sea Level) at the Texas A&M Gulf Coast Core Repository	
Florida Keys	March 2016
Surveyed and cored Last Interglacial fossil reefs at Lignumvitae and Windley Keys	
San Salvador Island, Bahamas	April 2015
Surveyed MIS 5e fossil reef site at Cockburn Town	
Quintana Roo, Mexico	September 2015
Conducted preliminary survey of potential field sites (caves and exposed fossil reefs) for Quaternary sea-level research as part of an interdisciplinary group of scientist from the Univ. of Florida.	

FIELDWORK ct'd

Earth 436	Spring 2013
Field trip to study the geology of the southwestern United States	
Earth 315	Fall 2012
Field trip to Harding Pegmatite Mine in Taos, New Mexico.	
Earth 440/441	Summer 2012
Camp Davis (University of Michigan Rocky Mountain Field Station), Jackson, WY.	
Month-long capstone field geology course.	

SERVICE/PROFESSIONAL ACTIVITIES

Peer Reviewer for: Quaternary Science Reviews, Chemical Geology	
Job Shadowing	2022
A local high school student shadowed me for a day to learn more about being a scientist.	
Session Facilitator	2022
Facilitated reading session for virtual attendees at AGU Chapman conference: Second National Conference – Justice in Geoscience	
Pilot Tester, OOI Ocean Data Labs Project	Fall 2021
Implemented two online data lab activities to assist with curriculum development for the NSF Ocean Observatories Initiative (<i>compensated w/ small stipend</i>)	
Unlearning Racism in Geoscience (URGE) pod	2021
University of Wisconsin – Madison (https://urgeoscience.org/pods/uwisc-geo-2/)	
INTEGSCI 600: Research Mentor Training	2021
Enrolled in course focused on developing effective mentoring strategies	
Skype a Scientist	2018 – 2021
Climate science communication with ~10 primary and secondary school classes per year via videoconferencing (https://www.skypeascientist.com)	
National Fossil Day	2018
Foraminifera identification activity at the Florida Museum of Natural History.	
UF Journal of Undergraduate Research	2018-2019
Associate Editor, Reviewer.	
UF Graduate Student Council (GSC)	2018-2019
Travel Grants Chair – Elected position that oversees the GSC travel grant program. Awarded more than \$100,000 in travel grants to UF students during the 2018-2019 fiscal year.	
Ask a Scientist Day	2017-2018
Co-managed the geology booth at the Florida Museum of Natural History.	
UF Graduate Student Council	2016-2019
Department Representative.	

SERVICE/PROFESSIONAL ACTIVITIES ct'd

Geogators	2015-2019
Earth science outreach at local elementary schools	
University of Michigan Earth Camp	2014
Counselor (<i>paid position</i>)	
Can you DIG it?	2014-2019
Annual Geological Sciences outreach event	
https://www.floridamuseum.ufl.edu/event/can-you-dig-it/	

CURRENT RESEARCH COLLABORATORS

Dr. Jacqueline Austermann, LDEO, Columbia University, New York, NY, USA	Dr. Marc Humblet, Nagoya University, Nagoya, Japan
Dr. Edouard Bard, CEREGE, Aix en Provence, France	Dr. Xianglei Li, Chinese Academy of Sciences, Xi'an, China
Dr. Paul Blanchon, UNAM, Puerto Morelos, Mexico	Dr. Gina Moseley, Innsbruck University, Innsbruck, Austria
Dr. Juan Carlos Braga, University of Granada, Granada, Spain	Dr. Luke Nothdurft, Queensland University of Technology, Brisbane, Australia
Dr. Pierre Deschamps, CEREGE, Aix en Provence, France	Dr. Tamara Pico, UC Santa Cruz, Santa Cruz, California, USA
Dr. Andrea Dutton, University of Wisconsin, Madison, WI, USA	Dr. David Richards, University of Bristol, Bristol, UK
Dr. R. Lawrence Edwards, University of Minnesota, Minneapolis, MN, USA	Dr. Gregory Webb, The University of Queensland, Brisbane, Australia
Dr. Bruno Hamelin, CEREGE, Aix en Provence, France	Dr. Jody Webster, The University of Sydney, Sydney, NSW, Australia

PROFESSIONAL MEMBERSHIPS

Asian Americans and Pacific Islanders in Geoscience (AAPiG)	Geochemical Society
American Geophysical Union	Geological Society of America
	Phi Beta Kappa

SKILLS

Instrumentation: MC-ICP-MS, SF-ICP-MS, XRD, Clean lab chemistry

Fieldwork: Reef facies analysis, Surveying, Scientific drilling

Programming: R, Generic Mapping Tools, FORTRAN (beginner)

INVITED TALKS

University of Massachusetts Boston (2022)

University of Bristol (2022)

Oberlin College (2021)

San José State University (2021)

WORKSHOPS/PROFESSIONAL DEVELOPMENT

ECORD Summer School: Sea level, climate variability and coral reefs Bremen, Germany	2022
Mini Speleothem Science Summer School (S4) Innsbruck, Austria (virtual attendee)	2022
Cultivating Leadership for Change and Justice in the Geosciences virtual workshop series	2020-2021
How to successfully apply for academic jobs in science PAGES Early Career Network	2020
POLENET GIA Training School Gävle, Sweden	2019
Earthtime redux workshop (presenter) Barcelona, Spain	2019
4th Annual UF Climate Communications Summit University of Florida – Gainesville, FL, USA	2018
Controversial Topics and Difficult Dialogues: Effectively Engaging Students in Critical Conversations in the Classroom University of Florida – Gainesville, FL, USA	2018
PALSEA2 2017 Workshop Playa del Carmen, Mexico	2017
GeochronR training workshop Northern Arizona University – Flagstaff, AZ, USA	2016
Communicating climate science workshop AGU Fall Meeting – San Francisco, CA, USA	2015
National Geographic Young Explorers Grant workshop University of Michigan – Ann Arbor, MI, USA	2014

PEER-REVIEWED PUBLICATIONS

- Chutcharavan, P. M.**, Dutton, A., Blanchon, P., Webster, J. M., Edwards R. L., Li, X., Braga, J. C., Camoin, G., Bard, E., Hamelin, B., & Deschamps, P. (In prep) A revised magnitude for MWP-1A at Tahiti
- Dutton, A., Villa, A., & **Chutcharavan, P. M.** (2022) Compilation of Last Interglacial (Marine Isotope Stage 5e) sea level indicators in the Bahamas, Turks and Caicos and the east coast of Florida, USA *Earth Syst. Sci. Data*, 14, 2385-2399. <https://doi.org/10.5194/essd-14-2385-2022>
- Chutcharavan, P. M.**, & Dutton, A. (2021) A global compilation of U-series dated fossil coral sea-level indicators for the Last Interglacial period (MIS 5e) *Earth Syst. Sci. Data.*, 13, 3155-3178. <https://doi.org/10.5194/essd-13-3155-2021>

PEER-REVIEWED PUBLICATIONS, ct'd

4. **Chutcharavan, P. M.**, Dutton, A. & Ellwood, M. J. (2018) Seawater $^{234}\text{U}/^{238}\text{U}$ recorded by modern and fossil corals. *Geochim. Cosmochim. Acta.*, 224, 1-17.
<https://doi.org/10.1016/j.gca.2017.12.017>
5. Hibbert, F. D., Rohling, E. J., Dutton, A., Williams, F. H., **Chutcharavan, P. M.**, Zhao, C., & Tamisiea, M. E. (2016). Coral indicators of past sea-level change: A global repository of U-series dated benchmarks. *Quat. Sci. Rev.*, 145, 1-56. <https://doi.org/10.1016/j.quascirev.2016.04.019>
6. Stevenson, E. I., Aciego, S. M., **Chutcharavan, P.**, Parkinson, I. J., Burton, K. W., Blakowski, M. A., & Arendt, C. A. (2016). Insights into combined radiogenic and stable strontium isotopes as tracers for weathering processes in subglacial environments. *Chem. Geol.*, 429, 33-43.
<https://doi.org/10.1016/j.chemgeo.2016.03.008>

OTHER PUBLICATIONS/DATA REPORTS

1. **Chutcharavan, P. M.**, & Dutton, A. (2020) Global database of U-series dated fossil coral sea-level indicators for the Last Interglacial period (Version 1.0). Zenodo.
<http://doi.org/10.5821/zenodo.4309796>
2. Rovere, A., Ryan, D., Murray-Wallace, C., Simms, A., Vacchi, M., Dutton, A., Lorscheid, T., **Chutcharavan, P.**, Dominik, B., Bartz, M., Jankowski, N., Mueller, D., Cohen, K., & Gowan, E. (2020). Descriptions of database fields for the World Atlas of Last Interglacial Shorelines (WALIS) (Version 1,0). Zenodo. <http://doi.org/10.5281/zenodo.3961544>
3. **PhD Dissertation** (2020): Ice sheet histories and sea-level change during the Last Interglacial and Termination I inferred from fossil coral reefs: an interdisciplinary approach
4. **Senior Honors Thesis** (2014): Surface Area Characterization of Suspended Sediments in Glacial Meltwater using "Nano-BET" <http://deepblue.lib.umich.edu/handle/2027.42/107707>

INVITED ABSTRACTS (* = presenting author)

1. **Chutcharavan, P.M.***, Dutton, A., Blanchon, P., Webster, J.M., Li, X., Edwards, R.L., Braga, J.C., Humblet, M., Nothdurft, L., Pico, T., & Webb, G.E. (submitted) Assessing the preservation of late Pleistocene (MIS 4) Tahitian fossil coral for paleo sea-level reconstruction. *AGU 2022 Fall Meeting*.
2. **Chutcharavan, P.M.***, Dutton, A., & Webster, J.M. (2020) Robust millennial- and centennial-scale interpretations of late Pleistocene sea-level change from fossil coral reefs: an interdisciplinary challenge. *GSA Annual Meeting "GSA 2020 connects online"*.

ABSTRACTS (* = presenting author)

1. Villa, A., Molinek, R.*, Batchelor, C., Christenson, C. A., **Chutcharavan, P. M.**, Diaz Vallejo, E. J., Dodge, S., Dutton, A., Goodwin, L. B., Jones, A., Lovelace, D. M., Lusk, A., Mairn-Spiotta, E., McDowell, T. M., Mixon, E., Norsted, B., Reusche, M., Stevens, S. M., Vo, T., & Zahasky, C. (2021) URGE at UW-Madison: The Experience of a Super-Pod. *AGU 2021 Fall Meeting*.
2. **Chutcharavan, P.M.***, Dutton, A., Blanchon, P., Webster, J.M., Edwards, R.L., Li, X., Camoin, G., Edouard, B., Deschamps, D., & Hamelin, B. (2020) New constraints on Meltwater Pulse 1A from U-series dating of Tahitian fossil corals. *AGU 2020 Fall Meeting*.

ABSTRACTS, ct'd (* = presenting author)

3. **Chutcharavan, P. M.***, Dutton, A., Kopp, R. E., Ashe, E., & Mitrovica, J. X. (2019) Standardization and interpretation of fossil coral records of Last Interglacial sea-level change. *AGU 2019 Fall Meeting, San Francisco, CA, USA*.
4. Rovere, A.*, Ryan, D. D., Murray-Wallace, C., Simms, A., Vacchi, M., Dutton, A., Lorscheid, T., **Chutcharavan, P. M.**, Brill, D., Bartz, M., Jankowski, N., & Mueller, D. (2019) The World Atlas of Last Interglacial Shorelines (WALIS) – an ongoing research effort to standardize sea-level proxy data from the Last Interglacial. *AGU 2019 Fall Meeting, San Francisco, CA, USA*.
5. **Chutcharavan, P. M.***, Dutton, A., Kopp, R. E., Ashe, E., & Mitrovica, J. X. (2019) A data-model comparison of Last Interglacial sea-level change constrained by fossil-coral RSL data. *POLNET GIA Training School, Gävle, Sweden*.
6. **Chutcharavan, P.***, Dutton A., Ellwood, M., Skrivaneck, L. & Vyverberg, K. (2017) Surface-ocean $^{234}\text{U}/^{238}\text{U}$ and its implications for coral-based sea-level reconstructions. *Palsea2 2017 Workshop, Playa del Carmen, Mexico*.
7. **Chutcharavan, P.***, Dutton A., & Ellwood, M. (2016) Implications for Seawater $^{234}\text{U}/^{238}\text{U}$ Composition and Weathering on Glacial-Interglacial Timescales Based on Modern and Fossil Corals. *AGU 2016 Fall Meeting, San Francisco, CA, USA*.
8. **Chutcharavan, P.***, Dutton, A., & Ellwood, M. (2016) Uranium Isotopic Variability in Seawater and its Implications for Coral-based Sea Level Reconstructions. *UF Water Institute Symposium, Gainesville, FL, USA*.
9. **Chutcharavan, P.***, Dutton, A., Ellwood, M., & Kopp, R. (2016) Glacial-interglacial variability of the ocean's uranium isotopic budget. *North Florida Marine Science Symposium, Gainesville, FL, USA*.
10. **Chutcharavan, P.***, Dutton, A., & Ellwood, M. (2015). Constrains on the Uranium Isotopic Composition of Seawater and Implications for Coral U/Th Geochronology. *AGU 2015 Fall Meeting, San Francisco, CA, USA*.
11. **Chutcharavan, P.***, & Aciego, M. (2013). Surface area characteristics of suspended sediments in glacial meltwater using "Nano BET". *Goldschmidt 2013 Conference, Florence, Italy*.