

# Joshua B. Zimmt

## Graduate student

Integrative Biology and Museum of Paleontology  
University of California Berkeley

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## Education

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### Ph.D. Student

University of California, Berkeley

Advisors: Seth Finnegan and Charles Marshall

August 2017–Present

Thesis: The sequence-stratigraphic expression of the Late Ordovician mass extinction

### B.S. Geology with Highest Honors

College of William & Mary

Advisor: Rowan Lockwood

August 2013–May 2017

Thesis: Estimating the duration of condensed shell beds of the Calvert Cliffs (Maryland)

## Awards and Honors

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Best Paper Prize 2021, The Palaeontological Association	2021
Sigma Xi, Scientific Research Honor Society	2018
Berkeley Fellowship for Graduate Study, University of California Berkeley	2017–2022
Alumni Association Award, College of William And Mary	2017
Honorable Mention: GSA GBGM Student Presentation Awards	2016
Phi Beta Kappa	2016
Bruce Davidson Memorial Scholarship, College of William & Mary	2016
Omicron Delta Kappa, National Leadership Honors Society	2016
Provost Award, College of William & Mary	2014–2017

## Current Funding and Grants

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David B. Jones Foundation Grant	2021
Edward Hildebrand Graduate Fellowship	2021
Lewis and Clark Fund for Exploration and Field Research	2021
University of California Museum of Paleontology Research Grant	2021
UNESCO Research Grant	2021
ExxonMobil/ Geological Society of America Student Research Grant	2019
Evolving Earth Student Grant Award	2019

## Past Funding and Grants

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SEPM Foundation Student Research Grant	2020
University of California Museum of Paleontology Research Grant	2018, 2019, 2020
Lerner–Gray Memorial Fund	2019
Department of Integrative Biology Student Research Award	2019
Dry Dredgers Research Grant	2019
Paleontological Society Student Research Grant	2018, 2019
National Sigma Xi Grant in Aid of Research	2018, 2019
Sigma Xi Grant in Aid of Research, Berkeley Chapter	2018, 2019
Honors Fellowship, College of William & Mary	2016

## Publications

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- Monarrez, P.M., **Zimmt, J.B.**, Clement, A.M., Gearty, W., Kusnerik, K.M., Jacisin III, J.J., Jenkins, K.M., Poust, A.W., Robson, S.V., Sclafani, J.A., Stilson, K.T., Tennakoon, S.D., and Thompson, C.M., 2021, Our past creates our present: A brief history of racism in North American paleontology: *Paleobiology*, p. 1–13, <https://doi.org/10.1017/pab.2021.28>.
- Marshall, C.R., Latorre, D.V., Wilson, C.J., Frank, T.M., Magoulick, K.M, **Zimmt, J.B.**, and Poust, A.W., 2021, Absolute Abundance and Preservation Rate of *Tyrannosaurus rex*. *Science*, v. 372, p. 284–287, <https://doi.org/10.1126/science.abc8300>.
- Zimmt, J.B.**, Holland, S.M., Finnegan, S., and Marshall, C.R, 2021, Recognizing pulses of extinction from clusters of last occurrences: *Palaeontology*, v. 64, p. 1-20, <https://doi.org/10.1111/pala.12505>.
- Zimmt, J.B.**, Lockwood, R., Andrus, C.F.T., and Herbert, G.S., 2019, Sclerochronological basis for growth increment counting: A reliable technique for life–span determination of *Crassostrea virginica* from the Mid–Atlantic United States: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 516, p. 54–63, <https://doi.org/10.1016/j.palaeo.2018.11.029>.
- Zimmt J.B.**, Kidwell, S.M., Lockwood. R., and Thirlwall, M., Strontium isotope stratigraphy demonstrates 100 ky-scale condensation of transgressive shell beds: *Submitted to PALAIOS*.

## Current Research Projects

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Carbonate clumped isotope paleothermometry of the Ordovician/Silurian boundary on Anticosti Island [*In preparation for submission*]

A new species of *Hirnantia* from Anticosti Island and its regional biostratigraphic significance [*In preparation for submission*]

A revised sequence stratigraphic framework for the Ordovician/Silurian boundary on Anticosti Island (Québec, Canada)

New methods for determining species' facies preference from the fossil record

A stratigraphic paleobiological assessment of the pattern and drivers of the Late Ordovician mass extinction on Anticosti Island

Comparing global and regional perspectives of simulated mass extinction events

A Katian brachiopod fauna in the Hirnantian Ellis Bay Formation: Implications for understanding the Late Ordovician mass extinction

## Abstracts

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**Zimmt, J.B.**, Bergmann, K.D., Present, T.M., Desrochers, A., and Finnegan, S., 2021, New clumped isotope constraints on the tempo and magnitude of Hirnantian (Late Ordovician) glaciation from Anticosti Island, Québec, Canada: *Geological Society of America Abstracts with Program*.

Samuels-Fair, Maya, **Zimmt, J.B.**, Holland, S.M., and Finnegan, S., 2021, A simulation framework for understanding the influence of sampling on apparent diversity partitioning patterns within depositional basins: *Geological Society of America Abstracts with Program*.

- Marshall, C.R., Latorre, D.V., Wilson, C.J., Frank, T.M., Magoulick, K.M, **Zimmt, J.B.**, and Poust, A.W., 2021, On the standing population size of *Tyrannosaurus rex*, the total number that ever lived, and its absolute preservation rate: *Society of Vertebrate Paleontology Conference Program*.
- Zimmt, J.B.**, Taylor, L., and White, L., 2021, Broadening participation in the digital age: Designing online geoscience labs to engage community college programs: *Earth Educator's Rendezvous Conference Program*.
- Gaub, A., McGoran, H., Wang, A., Monarrez, P.M., Pimentel-Galvan, M., **Zimmt, J.B.**, Payne, J.L., and Heim, N.A., 2020, Testing the relationship of Brachiopoda generic richness, origination, and body size during the Great Ordovician Biodiversification Event: *AGU Abstracts with Program*.
- Zimmt, J.B.**, Lee, J., Taylor, L.D., and White, L.D., 2020, Designing labs in the digital age: utilizing online paleobiology collections to engage community college students: *Geological Society of America Abstracts with Program*.
- Zimmt, J.B.**, Holland, S.M., Finnegan, S., and Marshall, C.R., 2020, A method for determining which clusters of last occurrences in the stratigraphic record likely represent pulses of extinction: *Geological Society of America Abstracts with Program*.
- Zimmt, J.B.**, Holland, S.M., Finnegan, S., and Marshall, C.R., 2020, Recognizing pulses of extinction from clusters of last occurrences: A Late Ordovician case study: *IGCP 653 Virtual Conference*.
- Zimmt, J.B.**, Holland, S.M., Finnegan, S., and Marshall, C.R., 2019, Exploring the impact of stratigraphic architecture on the pattern and timing of Late Ordovician extinction events: *North American Paleontological Convention Abstracts with Program*.
- Zimmt, J.B.**, Holland, S.M., Finnegan, S., and Marshall, C.R., 2018, One pulse or two? Combining simulations of sequence–stratigraphic architecture and diversification processes to model the expression of the Late Ordovician mass extinction: *Geological Society of America Abstracts with Program*.
- Zimmt, J.B.**, Kidwell, S.M., Lockwood, R., and Thirlwall, M., 2017, Estimating the duration of stratigraphically condensed Miocene marine shell beds using strontium isotope stratigraphy (Calvert Cliffs, MD): Implications for paleoecological analysis: *Geological Society of America Abstracts with Program*.
- Zimmt, J.B.**, Lockwood, R., Andrus, C.F.T., and Herbert, G.S., 2016, Revisiting growth increment counting as a method for biologically aging *Crassostrea virginica* from the U.S. Mid–Atlantic: *Geological Society of America Abstracts with Program*.
- Zimmt, J.B.**, Kosnik, M.A., and Lockwood, R., 2015, Taphonomic condition as a proxy for molluscan time averaging in Sydney Harbour (NSW, Australia): *Geological Society of America Abstracts with Program*.

## Invited Presentations

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Earth and Planetary Sciences, Yale University (Course lecture)	2021
GeoCenter Northern Bavaria, University of Erlangen-Nuremberg (Course lecture)	2020
Florida Museum of Natural History, University of Florida (Lab group lecture)	2020

## Teaching Experience

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<b>ACCESS (Advancing Community College Education and Student Success)</b>	July 2020– Present
Lead on community-engagement program, coordinating and teaching paleobiology- and geology-themed lessons at community colleges nationwide.	
<b>Paleobiological Perspectives on Ecology and Evolution (IB 113L)</b>	Spring 2018
Teaching assistant for undergraduate upper-division biology course.	
<b>General Biology Laboratory (IB 1L)</b>	Fall 2017, Spring 2020
Teaching assistant for lower-division biology course.	

## Mentorship

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Stephanie Yang [City College of San Francisco]	Summer 2021
Mentored as field assistant for seven weeks on Anticosti Island (Québec, Canada)	
Sapon Chupongstimun [UC Berkeley]	2019–Present
Mentored for three undergraduate research projects	
Max Titcomb [UC Berkeley]	2019–2020
Mentored for undergraduate research project	
Ryan Caspary [UC Berkeley]	Summer 2018, 2019
Mentored as field assistant for two field seasons on Anticosti Island	
Maddie Gaetano [College of William & Mary]	2016–2017
Mentored for undergraduate research project	

## Community Engagement

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Educator: Biodiversity Literacy in Undergraduate Education	2021–Present
Program Lead: ACCESS	2020–Present
Presenter: UCMP Elementary Outreach	2020–Present
Instructor: BASIS (Bay Area Scientists in Schools)	2019–Present
Presenter: Stanford Earth Young Investigators	July 2020
Instructor: ACCESS	2018–2020
Volunteer: California Academy of Sciences Nightlife	2018–2019
Volunteer: UCMP Cal Day	April 2018, 2019
Volunteer: James Madison Elementary, “What Killed the Dinosaurs”	February 2018
Volunteer: Geology on Wheels	April 2017

## Service

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Session Chair Geological Society of America Meeting	Fall 2021
“The Evolution of Early Phanerozoic Oceans: A Geobiological Perspective”, Geological Society of America Meeting	
University of California Museum of Paleontology	2020–Present
Diversity, Equity, and Inclusion Committee	
Corona Health Isolation Paleo Reading Group	2020
Session Chair Geological Society of America Meeting	Fall 2019, 2020
“The Ordovician Earth”, Geological Society of America Meeting	

University Advancement, College of William & Mary 2015–2017  
Speaker at the Alumni Scholarship Luncheon, College of William & Mary 2015

## Field Experience

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Late Ordovician of Anticosti Island, Québec, Canada (14 weeks) 2018, 2019, 2021  
Late Cambrian–Early Ordovician of Utah and Nevada with IGCP 653 (1 week) 2018  
Early Permian reef complex of Western Texas and New Mexico (1 week) 2018  
Late Cretaceous of Montana (1 week) 2017  
Late Devonian of Montana (1 week) 2017  
Modern and Pleistocene reefs of San Salvador Island, Bahamas (1 week) 2017  
Neogene of the US Mid–Atlantic Coastal Plain (3 weeks) 2014–2017

## Additional Research Experiences

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### Undergraduate

Project Title: Pleistocene temperatures in the southern Pacific Ocean Summer 2014  
Advisors: Tim Herbert and Samantha Bova Brown University

### High School

Project Title: 3D trackway analysis of theropod locomotion 2012–2013  
Advisor: Professor Stephen Gatesy Brown University

## Professional Development

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Sequence Stratigraphy for Graduate Students Short Course, September 2019  
ExxonMobil  
Pedagogy and Technology in the Modern Paleontology Classroom, November 2018  
Paleontological Society  
Marine Invertebrate Zoology Field and Laboratory Course, June–July 2018  
Friday Harbor Laboratories  
Teaching Colloquium: Graduate Student Instructor Training, Fall 2017  
University of California Berkeley  
Stratigraphic Paleobiology Field Course, Summer 2017  
Paleontological Society

## Memberships

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Member of SEPM, Society for Sedimentary Geology 2018–Present  
Member of the Sigma Xi, The Scientific Research Honor Society 2018–Present  
Member of the Paleontological Society 2017–Present  
Member of the honor society Phi Beta Kappa 2016–Present  
Member of the honor society Omicron Delta Kappa 2015–Present  
Member of the Geological Society of America 2015–Present

## Other

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College of William & Mary Men's Varsity Swimming Team 2013–2017  
(US Nationals and Division One NCAA Provisional Qualifier)