

ASHLEY A. DINEEN, PHD

Department of Invertebrate Zoology and Geology
California Academy of Sciences
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Education

University of Wisconsin-Milwaukee, Milwaukee, WI

2010-2015 PhD: Geosciences

Advisor: Dr. Margaret Fraiser

Dissertation: Functional diversity of regional marine invertebrate paleocommunities after the Permo-Triassic mass extinction: Case studies from Panthalassa and Paleo-Tethys

2008-2010 MS: Geosciences

Advisors: Dr. Margaret Fraiser, Dr. John Isbell

Thesis: Paleoecology and sedimentology of Carboniferous glacial and postglacial successions in northwestern and southern Argentina

2006-2008 BS: Geology/Geophysics; magna cum laude

University of Wisconsin-Fond du Lac, Fond du Lac, WI

2004-2006 AS: Earth Sciences

Current Position

2016-Present **Postdoctoral Fellow**

California Academy of Sciences, San Francisco, CA

Advisor: Dr. Peter Roopnarine

NSF Collaborative Research: Mesozoic Tethyan paleocommunity dynamics: Modelling complexity and stability during times of biotic escalation and community restructuring (Award #1629776, \$208,863).

Past Appointments

2015-2016 **Collections Assistant II**

California Academy of Sciences, San Francisco, CA

NSF Digitization TCN: Documenting Fossil Marine Invertebrate Communities of the Eastern Pacific - Faunal Responses to Environmental Change over the last 66 million years (Award#1503628).

2015 **Paleontology Museum Technician**

Petrified Forest National Park, Holbrook, AZ

2014 -2015 **Distinguished Dissertation Fellow**

*Fellowship recognizes and supports the most academically excellent PhD students UW-Milwaukee Graduate School, Milwaukee, WI

2011-2014 **Advanced Opportunity Program (AOP) Fellow**

*Awarded to a few select graduate students under-represented in graduate study UW-Milwaukee Graduate School, Milwaukee, WI

2013 **IMLS Digitization Grant Assistant, Geology Department**

Milwaukee Public Museum, Milwaukee, WI

- 2012 **Paleontology Field Assistant (GSA GeoCorp Program)**
Dinosaur National Monument, Vernal, UT
- 2011 **NSF East Asia and Pacific Summer Institute (EAPSI) Fellow**
Advisor: Dr. Jinnan Tong, China University of Geosciences, Wuhan, China
EAPSI: When did Life Recover from the End-Permian Mass Extinction? (Award #1107837)
- 2009-2011 **Research Assistant (RA)**
UW-Milwaukee Geology Department, Milwaukee, WI
- 2010 **Geology Department Intern**
Milwaukee Public Museum, Milwaukee, WI

Current Research

- 1) Marine invertebrate ecology and evolution
- 2) Functional diversity and niche dynamics
- 3) Recovery and restructuring after mass extinction events
- 4) Food webs during times of evolutionary and ecological innovation
- 5) Conservation paleobiology

Publications

- 1) **Dineen, A.A.**, Roopnarine, P.D., and Fraiser, M.F., in review. Ecological continuity and transformation in an early recovery marine ecosystem after the Permian-Triassic mass extinction. *Biology Letters*.
- 2) Roopnarine, P.D., Weik, A.S., Angielczyk, K.D., and **Dineen, A.A.**, in review. Stability, incumbency, and ecological reorganization after the Permian-Triassic mass extinction. *PNAS*.
- 3) Roopnarine, P.D., and **Dineen, A.A.**, 2018. Coral reefs in crisis: The reliability of deep-time food web reconstructions as analogs for the present, in Tyler, C. and Schneider, C. (eds.) *Marine Conservation Paleobiology*. New York, NY: Springer, p. 105-141.
- 4) **Dineen, A.A.**, Fraiser, M.L., and Tong, J., 2015. Low functional evenness in a post-extinction Anisian (Middle Triassic) paleocommunity: A case study of the Leidapo Member (Qingyan Formation), south China. *Global and Planetary Change*, v. 133, p. 79-86.
- 5) **Dineen, A.A.**, Fraiser, M.L., and Sheehan, P.M., 2014. Quantifying functional diversity in pre- and post extinction paleocommunities: A test of ecological restructuring after the end-Permian mass extinction. *Earth-Science Reviews*, v. 136, p. 339-349.
- 6) **Dineen, A.A.**, Fraiser, M.L., and Isbell, J.L., 2013. Palaeoecology and sedimentology of Carboniferous glacial and postglacial successions in the Paganzo and Rio Blanco Basins of northwestern Argentina, in Gasiewicz, A., and Slowakiewicz, M. (eds.) *Palaeozoic Climate Cycles: Their Evolutionary and Sedimentological Impact*. Geological Society, London, Special Publication, v. 376, p. 109-140.
- 7) Pagani, M.A., Taboada, A.C., Isbell, J.L., Fraiser, M.L., **Dineen, A.A.**, and Pauls, K.N., 2012. The Lanipustula Biozone in Patagonia: Stratigraphic extension, faunal changes, paleoclimatology, and paleoecology. *Ameghiniana Sup.*, v. 49, no. 4, R153.
- 8) Isbell, J.L., Henry, L.C., Gulbranson, E.L., Limarino, C.O., Fraiser, M.L., Koch, Z.J., Ciccioli, P.L., and **Dineen, A.A.**, 2012. Glacial paradoxes during the late Paleozoic ice age: Evaluating the equilibrium line altitude as a control on glaciation. *Gondwana Research*, v. 22, p. 1-19.

Research Grants and Funding

2018	Paleontological Society Norman Newell Early Career Grant (\$5000)
2017	CA Academy of Sciences Innovative Use of Collections for Education Grant (\$3620)
2013	AAPG Foundation Robert & Carolyn Maby Memorial Grant (\$3000)
2013	SEPM Foundation Student Assistance Grant (\$1000)
2013	American Museum of Natural History Lerner-Gray Marine Research Grant (\$1500)
2013	Geological Society of America (GSA) Graduate Research Grant (\$1875)
2012	The Explorers Club Exploration Fund Student Grant (\$630)
2011	Geological Society of America (GSA) Graduate Research Grant (\$1744)
2011	Association of Applied Paleontological Sciences James R. Welch Scholarship (\$150)
2011	Evolving Earth Foundation Student Research Grant (\$3000)
2011	NSF East Asia and Pacific Summer Institute Award (\$5000)
2010	Paleontological Society N. Gary Lane Student Research Award (\$1200)
2009-2014	Wisconsin Geological Society Research Grant (5 awards) (\$500)
2009-2010	UWM Center for Latin American and Caribbean Studies Award (2 awards, \$600)
Total: \$31,769	

Teaching Experience

2017-Present	Volunteer Mentor and Project Leader at “Scientific Adventures for Girls” Non-profit after-school STEM program for Grades K-5, Oakland, CA
2008-2012	Teaching Assistant (TA), UW-Milwaukee Geology Department *UWM Dept. of Geosciences Outstanding Teaching Assistant (TA) of the Year (2009) Intro to Geology (GEO 100) – Summer '10 Historical Geology (GEO 102) – Fall '08, Spring '10, Fall '11, Spring '12 History of Life (GEO 108) – Spring '09, Summer '09, Spring '10 Elementary Petrology (GEO 302) – Spring '09 Chemical Hydrogeology (GEO 464) – Fall '09
2008	Supplemental Instruction Leader and Tutor (Geosciences 100, 106, 108) UW-Milwaukee Tutoring and Academic Resource Center

Awards and Scholarships

2017	Best Oral Presentation at 4 th International Conference of Geobiology, Wuhan, China
2015	UWM Dept. of Geosciences Award for Most Creative Research
2015	UWM Dept. of Geosciences Award for Excellence in PhD Student Research
2014	Great Lakes Higher Education National STEM Scholarship
2014	Paleontological Society Best Graduate Student Poster Presentation Award at GSA
2013	UWM Dept. of Geosciences Award for Best Grad Student Presentation
2010	UWM Dept. of Geosciences Award for Outstanding MS Research
2008	National Association of Geoscience Teachers Field Study Scholarship
2005	UW-Fond du Lac Outstanding Student Achievement in Geology/Geography

Synergistic Activities

2017-Present	Journal Reviewer (Elsevier's <i>Palaeogeography, Palaeoclimatology, Palaeoecology</i> ; AGU's <i>Paleoceanography and Paleoclimatology</i> ; SEPM's <i>PALAIOS</i>)
2017-Present	Science Advisor, “Impacts & Extinctions”, Morrison Planetarium, CA Academy
2017-Present	IBSS Nightlife Planning Committee, CA Academy
2015-Present	MS Thesis Committee member: Allen Weik, San Francisco State University, CA
2015	UW-Milwaukee Science Bag (Monthly Public Colloquium) Assistant, “Wisconsin Rocks”

Invited Lectures/Conference Organization

05/2018	Seminar series speaker, California Academy of Sciences, CA
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- 04/2018 Seminar series speaker, University of California-Davis, "Beyond Species Diversity: Functional and Trophic Structure of marine paleocommunities".
- 10/2017 Co-Chair, GSA Annual Meeting Session: T65 "Eco-Evolutionary Dynamics in the Fossil Record", Seattle, WA.
- 06/2017 Co-Lecturer, Short Course "How to Model Paleocommunities and Paleo-food Webs: Concepts and Practice", 4th International Geobiology Conference (IGC), Wuhan, China
- 05/2017 Podcast guest, "Ode to Evolution; Episode 5, Mass Extinctions"
- 01/2017 "Fossil Coffee" Series speaker, University of California-Berkeley Museum of Paleontology
- 09/2016 Co-Chair, GSA Annual Meeting Session: T144 "The Permian-Triassic crises and its aftermath: Biotic, climatic, and environmental upheavals", Denver, CO.
- 05/2015 Wisconsin Geological Society Meeting, Milwaukee, WI

Select Conference Abstracts

- 1) **Dineen, A.A.**, Fraiser, M.L., and Roopnarine, P.D., 2017. Functional space occupation after the Permo-Triassic mass extinction: A study of the Early Triassic Virgin Limestone Member (Moenkopi Formation). Annual Geological Society of America (GSA) Meeting, Seattle, WA.
- 2) Roopnarine, P.D., Weik, A.S., Angielczyk, K.D., and **Dineen, A.A.**, 2017. Eco-Evolutionary dynamics and community response, recovery, and replacement during and after the Permian-Triassic mass extinction in the Karoo Basin, South Africa. Geological Society of America (GSA) Meeting, Seattle, WA.
- 3) Kempf, H.L., Castro, I.O., Tyler, C.L., **Dineen, A.A.**, Roopnarine, P.D., 2017. Using food webs to understand the effects of biotic invasion on Late Ordovician marine community structure. Annual Geological Society of America (GSA) Meeting, Seattle, WA.
- 4) Weik, A., Roopnarine, P., and **Dineen, A.**, 2017. An End-Cretaceous paleocommunity food web from the Lopez de Bertodano Formation, Antarctica. Annual Geological Society of America (GSA) Meeting, Seattle, WA.
- 5) **Dineen, A.A.**, Roopnarine, P.D., and Tyler, C., 2017. Modeling complexity and stability of marine paleocommunities during times of evolutionary expansion. Ecological Society of America (ESA) Annual Meeting, Portland, OR (Abstract #66046).
- 6) **Dineen, A.A.** (Keynote), Fraiser, M.F., and Roopnarine, P.D., 2017. Regional comparison of functional diversity after the Permo-Triassic mass extinction: A study of the Early Triassic Virgin Limestone Member (Moenkopi Fm). 4th International Conference of Geobiology, Wuhan, China.
- 7) Roopnarine, P., Weik, A., **Dineen, A.**, Angielczyk, K., 2016. The roles of ecological first principles and evolutionary contingency in unraveling ecosystem response and reconstruction during the Permian-Triassic transition. AGU Fall Meeting Abstracts (#PP21D-08), San Francisco, CA.
- 8) **Dineen, A.**, and Roopnarine, P., 2016. Coral Reefs in Crisis: The reliability of deep-time food web reconstructions as analogs for the present. Annual Geological Society of America (GSA) Meeting, Denver, CO, in GSA Abstracts with Programs, Vol. 48, No. 7.
- 9) Weik, A., Roopnarine, P., **Dineen, A.**, and Angielczyk, K., 2016. A generalized model of population dynamics, functional structure and global stability of Permian-Triassic communities of the Karoo Basin. Annual Geological Society of America (GSA) Meeting, Denver, CO, in GSA Abstracts with Programs, Vol. 48, No. 7.

- 10) **Dineen, A.**, Fraiser, M., and Sheehan, P., 2014. Functional diversity of the Middle Triassic Qingyan Formation, south China: Quantifying ecological richness and evenness in marine paleocommunities after the Permo- Triassic mass extinction. Annual Geological Society of America (GSA) Meeting, Vancouver, B.C., in GSA Abstracts with Programs, v. 46, no. 6, p. 757.
- 11) **Dineen, A.**, Fraiser, M., and Sheehan, P., 2013. Recovery vs. Restructuring: Establishing Ecologic Patterns in Early and Middle Triassic Paleocommunities. Annual Geological Society of America (GSA) Meeting, Denver, CO, in GSA Abstracts with Programs, v. 45, no. 7, p. 882.
- 12) Fraiser, M., **Dineen, A.**, and Sheehan, P., 2013. Recovery vs. Restructuring: Establishing Ecologic Patterns in Early and Middle Triassic Paleocommunities. AGU Fall Meeting Abstracts (#V32C-02).
- 13) **Dineen, A.**, Fraiser, M., and Sheehan, P., 2012. Establishing a “new normal” in the Early and Middle Triassic: Novel views on marine community recovery after the end-Permian mass extinction. Annual Geological Society of America (GSA) Meeting, Charlotte, NC, in GSA Abstracts with Programs, v. 44, no. 7, p. 626.
- 14) **Dineen, A.**, Fraiser, M., Tong, J., and Chen, J., 2011. When and Where Did Life Recover from the End-Permian Mass Extinction? Annual Geological Society of America (GSA) Meeting, Minneapolis, MN, in GSA Abstracts with Programs, v. 43, no. 5, p. 210.
- 15) **Dineen, A.**, Fraiser, M., Taboada, A., Pagani, A., and Isbell, J., 2010. Regional Paleoeecology of Near-Field Marine Faunas during the late Paleozoic Ice Age, western Argentina. Annual Geological Society of America (GSA) Meeting, Denver, CO, in GSA Abstracts with Programs, v. 42, no. 5, p. 258.

Field Areas/Experience

2017	Hubei Province, China (Early Triassic invertebrates)
2015	Petrified Forest National Park, Arizona (Late Triassic vertebrates)
2013	Northern Italy (Middle Triassic marine invertebrates)
2012	Southwestern Nevada (Early and Middle Triassic marine invertebrates)
2012	Dinosaur National Monument, Utah/Colorado (Jurassic vertebrates)
2011	Guizhou Province, China (Triassic marine invertebrates)
2009, 2011	Chubut Province, Argentina (Pennsylvanian stratigraphy & marine invertebrates)
2009	San Juan Province, Argentina (Pennsylvanian stratigraphy & marine invertebrates)
2008	San Salvador Island, Bahamas (Cenozoic marine invertebrates)
2006	Utah and Nevada (UW-Oshkosh Geology Field Camp)

Collaborators

Dr. Ken D. Angielczyk (Field Museum, Chicago, IL)
 Dr. Margaret Fraiser (University of Wisconsin-Milwaukee, WI)
 Dr. Piero Gianolla (Università degli Studi di Ferrara, Ferrara, Italy)
 Dr. John Isbell (University of Wisconsin-Milwaukee, WI)
 Dr. Alejandra Pagani (Museo Paleontológico Egidio Feruglio, Trelew, Argentina)
 Dr. Peter Sheehan (University of Wisconsin-Milwaukee, Milwaukee Public Museum, WI)
 Dr. Arturo C. Taboada (Universidad Nacional de la Patagonia, Chubut, Argentina)
 Dr. Carrie Tyler (Miami University, Oxford, OH)
 Dr. Jinnan Tong (China University of Geosciences, Wuhan, China)

Professional Organizations

The Paleontological Society

Geological Society of America (GSA)

American Association for the Advancement of Science (AAAS)

Ecological Society of America (ESA)