

EMMA ROSE LOCATELLI

Ph.D. Candidate, Geology and Paleontology
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EDUCATION

Yale University, Department of Geology and Geophysics *New Haven, CT*
 Ph.D., Geology and Paleontology Defended May 2016
 M.Phil, Geology and Paleontology 2014

- Doctoral Thesis Title: “Death, decay, and diagenesis: taphonomic processes and biases in the leaf fossil record”

Macalester College *Saint Paul, MN*
 B.A., Double Major in Geology and Music 2011

- Graduated *Magna cum laude*
- Geology Honors Thesis Title: “Vegetation history of the Late Holocene in Glacier National Park, Montana: A paleoenvironmental study”
- Study Abroad: University College Cork, Cork, Ireland, 2009

PEER-REVIEWED PUBLICATIONS (*invited paper; †denotes Ph.D. dissertation chapter)

Darroch, S.A.F., **Locatelli, E.R.**, McCoy, V.E., Clark, E.G., Anderson, R.P., Tarhan, L.G., and Hull, P.M. 2016. Taphonomic disparity in foraminifera as a paleo-indicator for seagrass. *Palaios* 31: 242-258.

†**Locatelli, E.R.**, Krajewski, L., Chochinov, A.V., and Laflamme, M. In press. Taphonomic variance between marattialean ferns and medullosan seed ferns in the Carboniferous Mazon Creek lagerstätte, Illinois, USA. *Palaios* 31: 97-110.

McCoy, V.E., Saupe, E.E., Lamsdel, J.C., Tarhan, L.G., McMahon, S., Lidgard, S., Mayer, P., Whalen, C.D., Soriano, C., Finney, L., Vogt, S., Clark, E.G., Anderson, R.P., Petermann, H., **Locatelli, E.R.**, and Briggs, D.E.G. Accepted. The Tully Monster is a vertebrate. *Nature*.

*†**Locatelli, E.R.** 2014. The exceptional preservation of plant fossils: a review of taphonomic processes and biases in the fossil record. *In*: M. Laflamme, J.D. Schiffbauer, and S.A.F. Darroch (eds.), Reading and Writing of the Fossil Record: Preservation Pathways to Exceptional Fossilization. *Paleontological Society Papers* 20: 237–258.

McNamara, M.E., Saranathan, V., **Locatelli, E.R.**, Noh, H., Briggs, D.E.G., Orr, P.J. And Cao, H. 2014. Cryptic iridescence in a fossil weevil generated by single diamond photonic crystals. *Proceedings of the Royal Society B: Interface* 11: 20140736.

Locatelli, E.R. 2013. Preservation potential of gecarcinid land crabs (Decapoda, Brachyura, Gecarcinidae) from San Salvador. *Palaios*: 28: 867–874.

McNamara, M.E., Briggs, D.E.G., Orr, P.J., Gupta, N.S., **Locatelli, E.R.**, Qiu, L., Yang, H., Wang, Z., Noh, H., And Cao, H. 2013. The fossil record of color illuminated by maturation experiments. *Geology* 41: 487-490.

MANUSCRIPTS IN PREPARATION

Locatelli, E.R. Decay experiments elucidate patterns of differential preservation in seed plant leaves.

Locatelli, E.R., Bilger, H.T. The role of aluminosilicate and iron oxide clays in fossil leaf preservation.

Locatelli, E.R. The integration of experimental, actualistic, and fossil-based approaches in paleobotany: toward an taphonomic framework for assessing lacustrine fossil floras.

SELECTED PUBLISHED ABSTRACTS (*denotes oral presentation; †denotes poster presentation)

- ***Locatelli, E.R., McMahon, S., and Bilger, H.** 2016. It's not just rust: authogenic bacterial biofilms, aluminosilicate clays, and leaf fossilization. *Geological Society of America Annual Meeting Abstracts with Programs* 48(7).
- ***Locatelli, E.R.**, Briggs, D.E.G., Stemann, T., Portell, R.W., Means, H., and Donovan, S.K. 2015. Leaves from the sea: a flora from the Pliocene Bowden Formation of Jamaica. *Geological Society of America Annual Meeting Abstracts with Programs* 47(7): 634.
- †**Locatelli, E.R.**, Chochinov, A.V., Krajewski, L., Pawar, K., Sundrelingam, V., Torres, J., Tsang, B., and Laflamme, M. 2014. Taphonomic variance between ferns and medullosan seed ferns from the Mazon Creek lagerstätten. *Palaeontological Association Annual Meeting*.
- †**Locatelli, E.R.**, Chochinov, A.V., Krajewski, L., Pawar, K., Sundrelingam, V., Torres, J., Tsang, B., and Laflamme, M. 2014. Taphonomic variance between ferns and medullosan seed ferns from the Mazon Creek lagerstätten. *Geological Society of America Annual Meeting Abstracts with Programs* 46(6): 330.
- †**Locatelli, E.R.** 2014. Leaves in iron: an exceptionally preserved flora from New Caledonia. *The 31st Mid-continent Paleobotanical Colloquium*.
- ***Locatelli, E.R.**, Darroch, S.A.F., McCoy, V.E., Anderson R.P., Clark, E.G., and Hull, P. 2014. Experimental taphonomy of foraminifera. *North American Paleontological Convention 2014*.
- ***Locatelli, E.R.** 2013. The exceptional preservation of leaves in iron-rich sediments from Oceania. *Geological Society of America Annual Meeting Abstracts with Programs* 45(7): 455.
- †**Locatelli, E.R.** 2012. Assessing the preservation potential of land crabs (Decapoda, Brachyura, Gecarcinidae) on San Salvador Island, the Bahamas. *Palaeontological Association Annual Meeting*.
- †**Locatelli, E.R.** 2012. Experimental taphonomy of decapod crustaceans: assessing the effects of pre-burial processes. *Geological Society of America Annual Meeting Abstracts with Programs*. 44(7): 275.
- ***Locatelli, E.R.** 2012. Assessing the preservation potential of gecarcinid land crabs (Decapoda, Brachyura, Gecarcinidae) from San Salvador, the Bahamas. *Geological Society of America Annual Meeting Abstracts with Programs* 44(7): 528.
- ***Locatelli, E.R.**, Bradtmiller, L., Myrbo, A., MacGregor, K., Kutvirt, J., Riihimaki, C.A., and Brady, K. 2011. Vegetation history of the late Holocene in East Glacier National Park: A paleoenvironmental study. *Geological Society of America Annual Meeting Abstracts with Programs* 43(5): 179.

FELLOWSHIPS AND GRANTS

- Council on Research and Exploration Grant 9622-14** (co-author), *National Geographic Society* 2014
- Title: "The vegetation history of the Antilles: fossil evidence from Jamaica"
 - PI: Dr. D.E.G. Briggs; Collaborators: R.W. Portell and H. Means (USA); Dr. S.K. Donovan (Netherlands); Drs. S. James-Williamson and T. Stemann (Jamaica)
- Crowdfunding Project: "Leaves in stone: does decay control the fossil record?"**, *experiment.com* 2014
- Twenhofel Fellow**, *Yale University* 2013-Present
- Small Grants Program**, *Yale Institute for Biospheric Studies* 2013
- James M. And Thomas J.M. Schopf Award**, *Paleontological Society* 2013
- Yale University Graduate Fellowship** 2011-2016
- Paleontological Society Scholarship** 2012
- Student/Faculty Summer Research Collaboration Fellowship**, *Macalester College* 2010-2011

AWARDS AND HONORS

Estwing Hammer Prize for and Outstanding Graduate Student, <i>Yale University</i>	2016
Winifred Goldring Award, <i>Association for Women Geoscientists</i>	2014
• Awarded to an outstanding female student of paleontology	
Best Graduate Student Talk, <i>North American Paleontological Convention</i>	2014
Council Poster Prize, <i>Palaeontological Association</i>	2012
Poster Award: Honorable Mention, <i>Paleontological Society</i>	2012
Bateman Award, <i>Yale University</i>	2011
• Awarded for outstanding undergraduate achievement	
Dean's List, <i>Macalester College</i>	2007-2011
DeWitt Wallace Distinguished Scholar Award, <i>Macalester College</i>	2007-2011
Samuel W. Raudenbush Memorial Endowed Prize, <i>Macalester College</i>	2011
• Awarded to outstanding women in music	
Ira L. Crawford Scholarship, <i>Macalester College</i>	2011
• Awarded to students with outstanding scholastic achievement	
Charles W. Ferguson Endowed Prize in Public Speaking, <i>Macalester College</i>	2008, 2010
Lowell Thomas Endowed Prize in Public Speaking, <i>Macalester College</i>	2009
Macalester College National Merit Scholarship, <i>Macalester College</i>	2007-2008
REcongiced ACHeivement (REACH) Award, <i>YWCA Las Cruces</i>	2007
• Awarded to one young woman each year for outstanding contributions and demonstrated commitment to their community	

SCIENCE COMMUNICATION AND EDUCATION TRAINING AND DEVELOPMENT

Yale Teaching Center	2013-Present
• Fundamentals of Teaching in the Sciences	
• Advanced Teaching Workshops attended: Course Design; Creating an Inclusive Classroom; Diverse Learning Styles and Abilities; Engaging Students through Active Learning; Gender Bias in the Classroom; Team Teaching	
Catalyzing Advocacy in Science and Engineering Workshop, <i>AAAS</i>	2015
• Selected as one of 2 Yale participants based on academic merit and demonstrated leadership	
• Participated in interactive workshops and seminars focused on policy-making, the federal budget process, and effective science communication and advocacy with members of Congress	
Scientific Teaching in the Physical Sciences, <i>Yale University</i>	2015
• Semester long course covering topics related to science education and scientific, evidence-based teaching methods	
Communicating with Congress Workshop, <i>American Geoscience Institute</i>	2014, 2015
Communicating the Value and Values of Science, <i>Yale University</i>	2015
Science Communication Short Course, <i>Yale University</i>	2014
Certificate in Scientific Writing, <i>Yale University Carl Zimmer Science Writing Workshop</i>	2014

SCIENCE COMMUNICATION, EDUCATION, AND OUTREACH EXPERIENCE

- Women in Science at Yale Undergraduate Mentor** 2015-2016
- Paleontology Advisor for ESRI GeoInquiries** 2015-2016
- Project currently unpublished, under development
 - Goal: develop map layers with significant fossil discoveries for use in K-12 classrooms
- Geoscience Advisor for ScienceQuanda/ScienceIsland: Question 106** 2015-2016
- Project currently unpublished, under development
 - Goal: develop electronic books, games, and activities to answer scientific questions from 4th grade students in Uganda
- On to the Future Mentor, *Geological Society of America*** 2014-2015
- Education and Outreach Volunteer, *Yale Peabody Museum of Natural History*** 2011 – 2016
- Presents on geology and paleontology to visitors and groups
 - Leads hands on paleontology activities for children
 - Teaches visiting K-6 classes about Rocks and Minerals
 - Meets with members of the public to answer specific scientific questions
 - Mentors high school students about research, presentations, and college applications in the EVOLUTIONS after school program for underserved students
 - Gives tours to visitors in the Division of Invertebrate Paleontology
- Teaching Fellow, *Yale University, Department of Geology and Geophysics*** 2011-2016
- Lectured, taught laboratory sections, and facilitated discussion groups for both graduate and undergraduate classes of up to 75 students
 - Mentored and supervised students during semester-long independent research projects
 - Designed and implemented original curriculum and exercises based on scientific teaching methods in my role as primary instructor for two courses
 - Courses: (* denotes role as primary instructor, † denotes substantial individual supervision and mentoring)

Exceptional Glimpses of Past Life†	Fall 2015
Fundamental Concepts in Geology and Geophysics*	Spring 2015
Invertebrate Paleontology	Fall 2013
History of Life Lab*	Spring 2013
Dynamic Earth	Fall 2012
History of Life	Spring 2012
Natural Disasters	Fall 2011
- Guest Speaker, *Palaeocast Podcast*** 2015
- Episode: “Geological Society of America Annual Meeting 2015”
- Moderator and Judge, *Yale Peabody Museum of Natural History Paleo-knowledge Bowl*** 2012-2015
- Invited Speaker, *Paleontological Society Short Course*** 2014
- Title: “The exceptional preservation of plant fossils: a review of taphonomic processes and biases in the fossil record”
- Invited Speaker, *Sally Lanzi Volunteer Enrichment Program, Yale Peabody Museum of Natural History*** 2014
- Title: “Fossils: how they form and why they matter”
- Royal Society Summer Science Exhibition** Summer 2013
- Presented research and led demonstrations about color in the fossil record at the UK’s largest public science event (20,000+ visitors in 2013)

LEADERSHIP AND SOCIETY SERVICE EXPERIENCE

- North-East Delegate Alternate**, *Association for Women Geoscientists Board* 2016-Present
- Chair, Harriet Evelyn Wallace Scholarship Selection Committee**, *American Geosciences Institute* 2016
- International Research Collaboration**, *USA and Jamaica* 2014-Present
- Leader of an international 7-person research team during an ongoing research project
 - Organizes logistics and managed a \$21,500 budget
- Leadership Forum**, *American Geosciences Institute* 2014, 2015
- Represented the Paleontological Society and offered a student perspective during day-long forums on diversity (2014) and the future of scientific societies (2015)
 - Contributing author of the AGI consensus statement on inclusivity in the geosciences
- Geosciences Congressional Visit Days (CVD)**, *American Geosciences Institute* 2014, 2015
- Worked with other geoscientists to develop clear and effective requests for use in presentations and visits to Congressional offices
 - Met with members and staff of the CT and NM Congressional Delegations and House Committees to discuss the importance of the federal funding of geoscience research and education
 - Presented my 2014 CVD experience during the 2015 instructional webinar for participants
- Student Representative**, *Paleontological Society Council* 2013-2015
- Ensured student interests were represented during Council meetings and decisions
 - Wrote memos, summary documents, and budget requests
 - Made motions during Council meetings
 - Organized and led member- and student-focused networking and mentoring events
 - Developed and designed materials about public policy engagement for members
 - Represented the Paleontological Society at national geoscience events and meetings
- Dana Club President**, *Yale Dept. Geology and Geophysics Dana Club (Graduate Organization)* 2013-2014
- Mediated discussions between graduate students and the Department Chair and Faculty
- Mock Trial Team**, *Macalester College* 2007-2011
- Co-captain 2008 – 2010
 - Student Coach 2010 – 2011
- GeoClub**, *Macalester College* 2009-2011
- Secretary 2010-2011

SELECTED WORK EXPERIENCE

- Curatorial Assistant**, *Yale Peabody Museum of Natural History* 2013-2015
- Organized, identified, and photographed fossil insects as part of the NSF-funded Fossil Insect Collaborative Digitization Project NSF-EF 1305066
- Laboratory Technician and Mentor**, *National Lacustrine Core Facility* 2011
- Prepared samples from- and performed analyses on lake sediment cores
 - Mentor for native students on the Fond du Lac Reservation as part of the NSF Opportunities for Enhancing Diversity in the Geosciences (OEDG) Program, NSF-EAR 0949962
- Laboratory and Field Assistant**, *New Mexico State University* 2009
- Intern**, *INFORM, Uppsala, Sweden* 2006, 2008
- Developed curriculum on online literature, database management, and navigating international information networks to assist librarians and researchers in developing countries

PROFESSIONAL ASSOCIATION AFFILIATIONS

American Geophysical Union

Association for Women Geoscientists

Geological Society of America

Palaeontological Association

Paleontological Society

- Student Representative on the Paleontological Society Council, 2013-2015

Society for the Preservation of Natural History Collections

Soil Science Society of America