

CURRICULUM VITAE
DAVID M. GROSSNICKLE

PhD Candidate • University of Chicago • Committee on Evolutionary Biology
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EDUCATION

- Ph.D. Evolutionary Biology, University of Chicago, Winter 2018 (expected).
Dissertation: *Macroevolutionary patterns and functional adaptations in early cladotherian mammals*.
Advisors: Zhe-Xi Luo, Kenneth Angielczyk
Committee members: Callum Ross, Michael Coates, Graham Slater
- M.S. Geology, Indiana University Bloomington, 2013.
Thesis: *Implications of the Cretaceous angiosperm radiation on early mammal taxonomic diversity and morphological disparity*.
Advisors: P. David Polly, Jackson Njau
Committee member: David Dilcher
- Teaching Certificate (secondary science education). Indiana Wesleyan University, 2007.
- B.A. Biology, DePauw University, 2003.
Advisor: Wade Hazel

PUBLICATIONS

- 2017 **Grossnickle, D. M.** The evolutionary origin of jaw yaw in mammals. *Scientific Reports*, 7, 45094.
- 2016 **Grossnickle, D. M.**, and E. Newham. Therian mammals experience an ecomorphological radiation during the Late Cretaceous and selective extinction at the K-Pg boundary. *Proceedings of Royal Society B: Biological Sciences*, 283(1832), 20160256.
- 2015 Meng, Q.-J., Q. Ji, Y.-G. Zhang, D. Liu, **D. M. Grossnickle**, and Z.-X. Luo. An arboreal docodont Mammaliaform from the Jurassic and mammaliaform ecological diversification. *Science*, 347(6223), 764-768.
- 2013 **Grossnickle, D. M.**, and P. D. Polly. Mammal disparity decreases during the Cretaceous angiosperm radiation. *Proceedings of Royal Society B: Biological Sciences*, 280(1771), 20132110.

Manuscripts

- In revision* Meng, Q.-J., **D. M. Grossnickle**, D. Liu, Y.-G. Zhang, A. I. Neander, Q. Ji, and Z.-X. Luo. New gliding mammaliaforms from the Jurassic. (In revision, *Nature*.)
- In revision* Z.-X. Luo, Meng, Q.-J., **D. M. Grossnickle**, D. Liu, A. I. Neander, Y.-G. Zhang, Q. Ji. A Jurassic mammaliaform offers new evidence on the earliest evolution of mammalian teeth and middle ears. (In revision, *Nature*.)
- In revision* Huttenlocker, A. K., **D. M. Grossnickle**, J. Kirkland, J. Schultz, and Z.-X. Luo. Exceptionally preserved mammaliaform cranium with Gondwanan affinities in the Lower Cretaceous of North America (In revision).

- In prep* **D. M. Grossnickle**, M. Chen, and Z.-X. Luo. Morphometric evidence for gliding and roosting behavior in eleutherodontid stem mammaliaforms from the Jurassic Period.
- In prep* **D. M. Grossnickle**, K. C. Beard, and Z.-X. Luo. A dryolestoid mammal from the Morrison Formation and the phylogeny of early cladotherians.

TEACHING EXPERIENCE

University teaching assistantships

- 2016 Morphology in Time and Space, BIOS 23412 (Diego Pol/Paul Sereno), University of Chicago.
- 2015 Mammalian Ecology, BIOS 23254 (Eric Larsen), University of Chicago.
- 2014 Mammalian Evolutionary Biology, BIOS 23262 (Zhe-Xi Luo/Kenneth Angielczyk), University of Chicago.
- 2013 Oceanography, GEOL 131 (Douglas Edmonds), Indiana University.
- 2012 Microbiology Laboratory, BIOL M255 (Carl Kulow), Indiana University.

High school teaching

- 2007-11 Biology Teacher. Wawasee High School, Syracuse, IN. Courses:
 Advanced Placement Biology. Planned, created, and implemented the curriculum, using original presentations and diverse engagement strategies.
 Human Anatomy and Physiology. Planned and implemented a unique curriculum that incorporated novel lab activities and original presentations.
 Biology I.
- 2006-07 Substitute teacher. Warsaw Community Schools, Warsaw, IN.
 Student teacher. Warsaw Community Schools, Warsaw, IN.
- 2005 Substitute teacher. Hamilton Southeastern Schools, Castleton, IN.

CONFERENCE PRESENTATIONS

- 2016 Talk, Society of Vertebrate Paleontology Meeting. **Grossnickle, D. M.** Increased transverse jaw movement during mastication was a critical evolutionary change in early mammals.
- Talk, Society of Vertebrate Paleontology Meeting. Huttenlocker, A. K., **Grossnickle, D. M.**, Schultz, J. A., Kirkland, J. I., Luo, Z.-X. A late-surviving stem mammal from the Cretaceous of Utah.
- Talk, Annual Symposium of the Society of Vertebrate Paleontology and Comparative Anatomy. **Grossnickle, D. M.**, E. Newham. Therian mammals experience an ecomorphological radiation during the Late Cretaceous and selective extinction at the K-Pg boundary.
- Talk, International Congress of Vertebrate Morphology. **Grossnickle, D. M.** Evolution of the angular process in early mammalian jaws.
- Talk, American Society of Mammalogists Meeting. **Grossnickle, D. M.** Concurrent evolutionary changes in lower jaws, molars, and chewing cycles in early crown mammals.

- 2015 Talk, Society of Vertebrate Paleontology Meeting. **Grossnickle, D. M.** Jaw and molar morphologies in early mammals evolved in concert to allow increased occlusal complexity.
 Poster, Society of Vertebrate Paleontology Meeting. Burroughs, R. W., **D. M. Grossnickle**, C. N. Jass, C. J. Bell. Enamel patterns and surface morphology of the lower first molars of *Lemmiscus curtatus* (Rodentia: Arvicolinae).
 Talk, Midwest Ecology and Evolution Conference. **Grossnickle, D. M.** Correlated evolution of jaw and molar morphologies in early mammals.
 Talk, Society of Integrative and Comparative Biology Meeting. **Grossnickle, D. M.** Evolution of lower jaw morphology in early mammalian clades.
- 2014 Talk, Society of Vertebrate Paleontology Meeting. **Grossnickle, D. M.**, Z.-X. Luo. Morphological disparity patterns in Cretaceous and early Paleocene therians.
 Talk, Evolution Conference, Raleigh, NC. **Grossnickle, D. M.** Morphological diversity patterns of mammals prior to the K-Pg boundary.
 Talk, Crossroads Geology Conference. **Grossnickle, D. M.** Diversification of early mammals: implications from a geometric morphometric analysis of molar shape.
- 2013 Talk, Society of Vertebrate Paleontology Meeting. **Grossnickle, D. M.**, P. D. Polly, Z.-X. Luo. Morphological disparity of Mesozoic mammals through time.
 Poster, UIC Centennial Oral Biology Legacy Conference. **Grossnickle, D. M.**, P. D. Polly, Z.-X. Luo. Exploring disparity and dietary patterns in Mesozoic mammals.
 Talk, Crossroads Geology Conference. **Grossnickle, D. M.**, D. Schwab. Morphological disparity of Mesozoic mammals through time.
- 2012 Talk, Society of Vertebrate Paleontology Meeting. **Grossnickle, D. M.** Effect of the angiosperm radiation on the taxonomic diversity and morphological disparity of Cretaceous mammals.
 Poster, Midwest Geobiology Symposium. **Grossnickle, D. M.**, P. D. Polly. Mammal diversity decreases during the Cretaceous angiosperm radiation.

INVITED TALKS & LECTURES

- 2017 Talk, PaleoFest at the Burpee Museum of Natural History.
 Seminar talk, Purdue University – Northwest, Department of Biological Sciences.
 Lecture and tour at the Field Museum, Dominican University (Lake Forest, IL) Evolution course (Prof. Chris Anderson).
 Talk, University of Chicago Paleo Club.
- 2016 Talk, Evolutionary Biology GAANN retreat, University of Chicago.
 Lecture and tour at the Field Museum, Dominican University (Lake Forest, IL) Evolution course (Prof. Chris Anderson).
 Lecture and tour at the Field Museum, St. Olaf College Paleontology course (Prof. Steve Freedburg).
- 2015 Talk and tutorial on morphometrics, University of Chicago Paleo Club.
 Lectures (two), University of Chicago Mammalian Ecology class (BIOS 23254).
 Talk, “The Rise of Modern Biodiversity – A Workshop Addressing Critical Transitions in the History of Life,” Field Museum of Natural History.

- 2014 Lectures (two), University of Chicago Mammalian Evolutionary Biology class (BIOS 23262).
Talk, Berkeley Paleontology lab meeting talk at the University of California Museum of Paleontology, CA.
Lightning talk, University of Chicago Darwinian Cluster Retreat.
Talk, University of Chicago Darwinian Cluster TG seminar.
- 2013 Talk, Indiana University Geological Sciences Department. Master's degree defense presentation.

FIELDWORK, MUSEUM & LABORATORY EXPERIENCE

Paleontological experience

- 2017 Museum visit. Field Museum of Natural History, Chicago, IL.
- 2014-6 Fieldwork. Montana, Hell Creek and Tullock Formations. Gregory Wilson lab (University of Washington). Collection of micro-fossils and excavation of dinosaurs (e.g., Tuft-Love *T. rex*) for the Burke Museum of Natural History and Culture.
- 2016 Museum visit. Field Museum of Natural History, Chicago, IL.
- 2015 Fieldwork. Utah, Cedar Mountain Formation. Peter Makovicky (Field Museum of Natural History).
Museum visit. Beijing Museum of Natural History, Beijing, China.
Museum visit. Henan Geological Museum, Zhengzhou, China.
Museum visit. Field Museum of Natural History, Chicago, IL.
- 2014 Fieldwork. Utah, Morrison Formation. Brian Davis and Richard Cifelli (Oklahoma University).
Museum visit. Field Museum of Natural History, Chicago, IL.
Museum visit. Burke Museum of Natural History and Culture, Seattle, WA.
Museum visit. University of California Museum of Paleontology, Berkeley, CA.
Museum visit. Sam Noble Museum of Natural History, Norman, OK.
Museum visit. New Mexico Museum of Natural History and Science, Albuquerque, NM.
- 2013 Course. Paleontology Field Methods and Research, University of Washington BIOL 475A (Prof. Gregory Wilson).
Fieldwork. New Mexico; Kirtland, Ojo Alamo, and Nacimiento Formations. Anne Weil, Tom Williamson, Dan Peppe, and Steve Brusatte.
- 2012 Course. Regional Geology Field Trip (Regional Cenozoic Western North America), Indiana University GEOL 420 (Prof. P. David Polly).
Collections Assistant. Indiana University Paleontology Collection.

Additional experience

- 2015 Training workshop, micro-CT scanner at the University of Chicago.
- 2014 Training, segmentation software (Mimics and Avizo) for micro-CT scans.
- 2009 Course: Marine Ecology Field Exercises for Educators, Indiana University South Bend BIOL 509 (Prof. Ann Grens).

- 2003 Trail maintenance intern, Student Conservation Association. Payette National Forest, Krassel District, ID.
- 2000-03 Diagnostic Laboratory Assistant (phlebotomist). Kosciusko Community Hospital, Warsaw, IN.
- 1999 Radiology Department Assistant. Kosciusko Community Hospital, Warsaw, IN.

FUNDING & HONORS (SINCE 2008)

- 2016 Brown Graduate Fellowship (\$30,000), Field Museum of Natural History.
- 2015 Finalist, Wake Award for best student presentation. Division of phylogenetics and comparative biology, Society of Integrative and Comparative Biology Meeting.
Honorable Mention for the 2014-2015 Teaching Award in the Biological Sciences Division, University of Chicago.
- 2014 Henry Hinds Fund for Graduate Student Research (\$2,100), Committee on Evolutionary Biology, University of Chicago.
Doris O. & Samuel P. Welles Research Fund (\$600), University of California Museum of Paleontology.
- 2013 Galloway-Perry-Horowitz Memorial Fund (\$1,000), Geological Sciences Department, Indiana University.
- 2012 Featured abstract with a press release. Society of Vertebrate Paleontology Meeting. One of ten abstracts chosen as having potential interest by the media.
- 2008-11 Outstanding Teacher Award. Wawasee High School. (Chosen each year by honors students.)

OUTREACH & SERVICE

- 2017 Attended workshop on interacting with the public, Field Museum of Natural History.
- 2016-17 Staff member, *Dozin' with the Dinos* (7-9 events/year), Field Museum of Natural History, assisting with workshop science tables, merchandise sales, and overnight supervision.
Committee member, Sewall Wright Seminar organizing committee, University of Chicago.
Presenter, Life Long Learning (outreach program that connects scientists with senior citizens), including talks at Atlas Seniors Center, Woodson Public Library, and Montgomery Place retirement community.
- 2015-17 Research mentor of James Wauer, University of Chicago undergraduate student.
- 2016 Volunteer guide, tours of preparator labs at the Field Museum of Natural History for the Dinosaur Evolution course at Columbia College (Prof. Allison Bormet).
Volunteer, Identification Day at the Field Museum of Natural History.
Volunteer and presenter for Citizen Schools' after school program at the Field Museum of Natural History (Christine Marsh).
Volunteer, Indiana University Paleontological Collection grand re-opening open house.
- 2014-16 Volunteer and teaching assistant. Discoveries in Geosciences (DIG) Field School (Gregory Wilson) for K-12 teachers, Burke Museum of Natural History & Culture and University of Washington.

“Ask a paleontologist” email correspondence with kindergarteners of Grove Avenue Elementary School (teacher Becky Banach), Barrington, IL.

- 2015 Volunteer, Dino Night at Hell Creek State Park, MT.
Volunteer, Member’s Night at Field Museum of Natural History.
Volunteer and University of Chicago representative, Pint-of-Science.
- 2014 Invited guest presenter for the Human Anatomy classes at Wawasee High School, IN.

PEER REVIEWS

- 2016 *Evolution and Development*
- 2015 *Proceedings of the Royal Society of London B*
Palaeontologia Polonica
- 2014 *Proceedings of the National Academy of Sciences*
PalaeoWorld

MEDIA & POPULAR SCIENCE COVERAGE

Grossnickle (2017): [Science Life Blog](#) (U. of Chicago), [Phys.org](#), [EurekAlert](#), [myScience](#)

Grossnickle & Newham (2016), select coverage from 30+ total news outlets and popular science articles (with hyperlinks): [Washington Post](#), [The Guardian](#), [Forbes](#), [Christian Science Monitor](#), [BBC](#), [Science Daily](#), [Skeptics Guide to the Universe](#), [The Conversation](#)

Meng et al. (2015), select coverage from 20+ total news outlets and popular science articles (with hyperlinks): [CNN](#), [BBC](#), [Science Daily](#), [Daily Mail](#), [Live Science](#)

Grossnickle & Polly (2013), select coverage from 10+ total news outlets and popular science articles (with hyperlinks): [Scientific American](#), [Science Daily](#), [Phys.org](#), [The Conversation](#)

PROFESSIONAL AFFILIATIONS

Society of Vertebrate Paleontology, 2011-Present
Paleontological Society, 2011-Present
Geological Society of America, 2012-Present
Society for the Study of Evolution, 2012-Present
Society of Integrative and Comparative Biology, 2014-Present
American Society of Mammalogists, 2016-Present

REFERENCES

Zhe-Xi Luo, Ph.D. University of Chicago, Department of Organismal Biology & Anatomy,
Committee on Evolutionary Biology. zxluo@uchicago.edu, 773-702-7816.

Kenneth Angielczyk, Ph.D. Field Museum of Natural History, Science and Education.
kangielczyk@fieldmuseum.org, 312-665-7641.

P. David Polly, Ph.D. Indiana University Bloomington, Departments of Geological Sciences, Biology,
and Anthropology. pdpolly@indiana.edu, 812-855-7994.