

CURRICULUM VITAE  
**DAVID M. GROSSNICKLE**

PhD Candidate • University of Chicago • Committee on Evolutionary Biology  
1025 East 57<sup>th</sup> Street, Culver Hall 402, Chicago, IL 60637  
grossnickle@uchicago.edu • (574) 527-2756

**EDUCATION**

---

- Ph.D. Evolutionary Biology, University of Chicago, 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 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. *Nature* (in press).
- 2017 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. *Nature* (in press).
- 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 review*

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.

### *Manuscripts in preparation*

**D. M. Grossnickle**. Jaw correlates of diet in mammals and testing macroevolutionary hypotheses.

**D. M. Grossnickle**, M. Chen, and Z.-X. Luo. Morphometric evidence for gliding and roosting behavior in eutherodontid stem mammaliaforms from the Jurassic Period.

**D. M. Grossnickle**, K. C. Beard, and Z.-X. Luo. A dryolestoid mammal from the Morrison Formation and the phylogeny of early cladotherians.

### **FELLOWSHIPS, FUNDING & HONORS (SINCE 2008)**

---

- 2017-18 William Rainey Harper Fellowship (\$35,000), Biological Sciences Division, University of Chicago.
- 2017 Committee on Evolutionary Biology summer travel grant (\$1100), University of Chicago.
- 2016-17 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.)

### **TEACHING EXPERIENCE**

---

#### *University teaching assistantships*

- 2016 Morphology in Time and Space, BIOS 23412 (Diego Pol and Paul Sereno), Biological Sciences Division, University of Chicago.
- 2015 Mammalian Ecology, BIOS 23254 (Eric Larsen), Biological Sciences Division, University of Chicago.

- 2014 Mammalian Evolutionary Biology, BIOS 23262 (Zhe-Xi Luo and Kenneth Angielczyk), Biological Sciences Division, University of Chicago.
- 2013 Oceanography, GEOL 131 (Douglas Edmonds), Geological Sciences Department, Indiana University.
- 2012 Microbiology Laboratory, BIOL M255 (Carl Kulow), Department of Biology, Indiana University.

### *High school teaching*

- 2007-11 Biology teacher at 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 for Warsaw Community Schools, Warsaw, IN.  
 Student teacher at Warsaw Community Schools, Warsaw, IN.
- 2005 Substitute teacher for Hamilton Southeastern Schools, Castleton, IN.

### **CONFERENCE PRESENTATIONS**

---

- 2017 **Grossnickle, D. M.**, Chen, M., Wauer, J., Meng, Q.-J., Liu, D., Zhang, Y.-G., Wilson, G. P., Luo, Z.-X. Gliding and roosting behavior in eutherodontid stem mammaliaforms from the Jurassic of China. Oral presentation, Society of Vertebrate Paleontology (SVP) Annual Meeting. Calgary, Canada.
- Grossnickle, D. M.** Inferring diet from jaw morphology in mammals. Oral presentation, Committee on Evolutionary Biology (CEB) Symposium, University of Chicago. Chicago, IL.
- 2016 **Grossnickle, D. M.** Increased transverse jaw movement during mastication was a critical evolutionary change in early mammals. Oral presentation, Society of Vertebrate Paleontology (SVP) Annual Meeting. Salt Lake City, UT.
- 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. Oral presentation, Society of Vertebrate Paleontology (SVP) Annual Meeting. Salt Lake City, UT.
- Grossnickle, D. M.**, Newham, E. Therian mammals experience an ecomorphological radiation during the Late Cretaceous and selective extinction at the K-Pg boundary. Oral presentation (delivered by E.N.), Society of Vertebrate Paleontology and Comparative Anatomy (SVPCA) Annual Symposium. Liverpool, England.
- Grossnickle, D. M.** Evolution of the angular process in early mammalian jaws. Oral presentation, International Congress of Vertebrate Morphology (ICVM). Washington, DC.
- Grossnickle, D. M.** Concurrent evolutionary changes in lower jaws, molars, and chewing cycles in early crown mammals. Oral presentation, American Society of Mammalogists 97<sup>th</sup> Annual Meeting. Minneapolis, MN.
- Grossnickle, D. M.** The origin of jaw yaw in mammals. Oral presentation, Evolutionary Biology GAANN retreat, University of Chicago. Chicago, IL.

- 2015 **Grossnickle, D. M.** Jaw and molar morphologies in early mammals evolved in concert to allow increased occlusal complexity. Society of Vertebrate Paleontology (SVP) Annual Meeting. Dallas, TX.
- 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). Poster presentation, Society of Vertebrate Paleontology (SVP) Annual Meeting. Dallas, TX.
- Grossnickle, D. M.** Correlated evolution of jaw and molar morphologies in early mammals. Oral presentation, Midwest Ecology and Evolution Conference. Bloomington, IN.
- Grossnickle, D. M.** Evolution of lower jaw morphology in early mammalian clades. Oral presentation, Society of Integrative and Comparative Biology Meeting (SICB) Annual Meeting. West Palm Beach, FL.
- Grossnickle, D. M.** Disparity patterns in therian mammals across the K-Pg boundary. Oral presentation, NSF workshop “The Rise of Modern Biodiversity – A Workshop Addressing Critical Transitions in the History of Life,” Field Museum of Natural History. Chicago, IL.
- 2014 **Grossnickle, D. M.,** Z.-X. Luo. Morphological disparity patterns in Cretaceous and early Paleocene therians. Oral presentation, Society of Vertebrate Paleontology (SVP) Annual Meeting. Berlin, Germany.
- Grossnickle, D. M.** Lower jaw evolution in early mammals. Lightning talk (5 minute), University of Chicago Darwinian Cluster Retreat. Chicago, IL.
- Grossnickle, D. M.** Morphological diversity patterns of mammals prior to the K-Pg boundary. Oral presentation, Annual Meeting of Society for the Study of Evolution. Raleigh, NC.
- Grossnickle, D. M.** Diversification of early mammals: implications from a geometric morphometric analysis of molar shape. Oral presentation, Crossroads Geology Conference, Indiana University. Bloomington, IN.
- 2013 **Grossnickle, D. M.,** P. D. Polly, Z.-X. Luo. Morphological disparity of Mesozoic mammals through time. Oral presentation, Society of Vertebrate Paleontology Meeting (SVP) Annual Meeting. Los Angeles, CA.
- Grossnickle, D. M.,** P. D. Polly, Z.-X. Luo. Exploring disparity and dietary patterns in Mesozoic mammals. Poster presentation, UIC Centennial Oral Biology Legacy Conference, University of Illinois at Chicago. Chicago, IL.
- Grossnickle, D. M.,** D. Schwab. Morphological disparity of Mesozoic mammals through time. Oral presentation, Crossroads Geology Conference, Indiana University. Bloomington, IN.
- 2012 **Grossnickle, D. M.** Effect of the angiosperm radiation on the taxonomic diversity and morphological disparity of Cretaceous mammals. Oral presentation, Society of Vertebrate Paleontology (SVP) Annual Meeting. Raleigh, NC.
- Grossnickle, D. M.,** P. D. Polly. Mammal diversity decreases during the Cretaceous angiosperm radiation. Poster presentation, Midwest Geobiology Symposium, Washington University in Saint Louis. Saint Louis, MO.

## **INVITED RESEARCH SEMINARS & PRESENTATIONS**

- 2017 Invited presentation, PaleoFest (public symposium on paleontology) at the Burpee Museum of Natural History, Rockford, IL.  
Seminar presentation, Purdue University Northwest, Department of Biological Sciences, Westville, IN.
- 2014 Invited presentation, paleontology lab meeting at the University of California Museum of Paleontology, Berkeley, CA.
- 2013 Master's degree defense presentation, Geological Sciences Department, Indiana University, Bloomington, IN.

## **LABORATORY TRAINING & EXPERIENCE**

- 2017 Medical human anatomy – training via the Human Anatomy course (Prof. Callum Ross) in the Pritzker School of Medicine, University of Chicago.
- 2015-17 Phylogenetic methods (parsimony and Bayesian analyses) training at the University of Chicago.
- 2012-14 Geometric morphometrics (for analysis of morphological variation) training at Indiana University and University of Chicago.
- 2015 Micro-CT scanner training workshop, University of Chicago.
- 2014 Segmentation software training (Mimics and Avizo) for micro-CT scans.
- 2000-03 Diagnostic laboratory assistant and phlebotomist (summer job). Kosciusko Community Hospital, Warsaw, IN.
- 1999 Radiology department assistant (summer job). Kosciusko Community Hospital, Warsaw, IN.

## **FIELDWORK & MUSEUM STUDIES**

- 2014-17 Museum collections research in vertebrate paleontology and mammalogy. Field Museum of Natural History, Chicago, IL.
- 2013-17 Paleontological fieldwork in the Hell Creek and Tullock formations of Utah (Hell Creek Project III). Gregory Wilson lab (University of Washington). Collection of micro-fossils and excavation of dinosaurs for the Burke Museum of Natural History and Culture.
- 2015 Paleontological fieldwork in the Cedar Mountain Formation of Utah. Peter Makovicky (Field Museum of Natural History).  
Museum research. Beijing Museum of Natural History, Beijing, China.  
Museum research. Henan Geological Museum, Zhengzhou, China.
- 2014 Paleontological fieldwork in the Morrison Formation of Utah. Brian Davis and Richard Cifelli (Oklahoma University).  
Museum collections research. Burke Museum of Natural History and Culture, Seattle, WA.  
Museum collections research. University of California Museum of Paleontology, Berkeley, CA.  
Museum collections research. Sam Noble Museum of Natural History, Norman, OK.

Museum collections research. New Mexico Museum of Natural History and Science, Albuquerque, NM.

- 2013 Field course – Paleontology Field Methods and Research, University of Washington BIOL 475A (Prof. Gregory Wilson).  
Paleontological fieldwork in the Kirtland, Ojo Alamo, and Nacimiento formations of New Mexico. Anne Weil, Tom Williamson, Dan Peppe, and Steve Brusatte.
- 2012 Field course – Regional Geology Field Trip (Regional Cenozoic Western North America), Indiana University GEOL 420 (Prof. P. David Polly).  
Collections Assistant, Indiana University Paleontology Collection.
- 2009 Field course – Marine Ecology Field Exercises for Educators course, Indiana University South Bend, BIOL 509 (Prof. Ann Grens).
- 2003 Trail maintenance intern for the Krassel District of the Payette National Forest (through the Student Conservation Association). McCall, ID.

### **PEER REVIEWER**

---

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

### **LECTURES FOR PUBLIC OUTREACH & SCIENCE EDUCATION**

---

- 2017 Talk on early mammal evolution, University of Chicago Paleo Club.
- 2016-17 Lecture and tour at the Field Museum of Natural History (two events each year), Dominican University (Lake Forest, IL) Evolution course (Prof. Chris Anderson).  
Presenter for 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.
- 2016 Lecture and tour at the Field Museum of Natural History, Paleontology course at St. Olaf College (Prof. Steve Freedburg).
- 2015 Talk and tutorial on using morphometrics in paleontological research (two events), University of Chicago Paleo Club.  
Lectures (two) for the Mammalian Ecology course (BIOS 23254) at the University of Chicago (Prof. Eric Larsen).
- 2014 Lectures (two) for the Mammalian Evolutionary Biology course (BIOS 23262) at the University of Chicago (Profs. Zhe-Xi Luo and Kenneth Angielczyk).  
Invited guest presenter for the Human Anatomy classes at Wawasee High School, IN.

## **ADDITIONAL OUTREACH & VOLUNTEER SERVICE**

- 2017 Staff member for Dozin' with the Dinos (9 events), Field Museum of Natural History. Assisted with workshop science tables.  
Volunteer for March for Science Chicago Expo, representing the Paleontology Society, Chicago, IL.  
Attended workshop on interacting with the public, Field Museum of Natural History.  
Research mentor of Spencer Pevsner, University of Chicago undergraduate student working on a morphometric analysis of marsupial mammal skeletal elements for his senior thesis.  
Organizer for the Committee on Evolutionary Biology (CEB) Annual Retreat, University of Chicago.
- 2016-17 Volunteer guide for tours of preparator labs at the Field Museum of Natural History for the Dinosaur Evolution course at Columbia College (Prof. Allison Bormet).  
Committee member in the Sewall Wright Seminar organizing committee, University of Chicago.
- 2015-17 Research mentor of James Wauer, University of Chicago undergraduate student working on a morphometric analysis of gliding mammal skeletal elements for his senior thesis.  
Volunteer for Member's Night at the Field Museum of Natural History.
- 2016 Staff member for Dozin' with the Dinos (8 events), Field Museum of Natural History. Assisted with workshop science tables, merchandise sales, and overnight supervision.  
Volunteer for 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 at the Indiana University Paleontological Collection grand re-opening open house.
- 2014-16 Volunteer and teaching assistant for 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 for Dino Night at Hell Creek State Park, MT.  
Volunteer and University of Chicago representative for Taste of Science Chicago.

## **MEDIA & POPULAR SCIENCE COVERAGE**

Grossnickle (2017), select coverage from 10+ total news outlets (with hyperlinks): [The Scientist](#), [UChicago News](#), [Phys.org](#), [EurekAlert](#)

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. Professor, Department of Organismal Biology & Anatomy, Committee on Evolutionary Biology, University of Chicago, [zluo@uchicago.edu](mailto:zluo@uchicago.edu), 773-702-7816.
- Kenneth Angielczyk, Ph.D. Associate Curator, Integrative Research Center, Field Museum of Natural History. Lecturer, Committee on Evolutionary Biology, University of Chicago. [kangielczyk@fieldmuseum.org](mailto:kangielczyk@fieldmuseum.org), 312-665-7639.
- P. David Polly, Ph.D. Professor, Departments of Geological Sciences, Biology, and Anthropology, Indiana University Bloomington. [pdpolly@indiana.edu](mailto:pdpolly@indiana.edu), 812-855-7994.