

## CURRICULUM VITAE

### **F. Robin O'Keefe, Ph.D.**

Associate Professor

Department of Biological Sciences, Marshall University

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### **Education**

1995-2000 **Ph.D., University of Chicago.** Comm. Evolutionary Biology; 6/2000.

1987-1992 **B.S., Stanford University.** Biology (Honors); 6/1992.

### **Professional Experience**

8/09-pres. **Associate Professor**, Marshall University, Department of Biological Sciences. Human Anatomy, Comparative Vertebrate Anatomy, Systematics, Biological Data Analysis, Graduate Advisorship.

8/06-8/09 **Assistant Professor**, Marshall University, Department of Biological Sciences.

9/04-8/06 **Course Coordinator**, Human Anatomy, New York College of Osteopathic Medicine.

8/01-8/06 **Assistant Professor**, New York College of Osteopathic Medicine, Department of Anatomy. Specialist on Head and Neck.

8/00-8/01 **Postdoctoral Fellow**, New York College of Osteopathic Medicine, Department of Anatomy.

9/96-12/99 **Teaching Assistant**, University of Chicago. Chordate Biology, J. Hopson; Biological Diversity, M. LaBarbera; Natural Science, J.J. Sepkoski, Jr., J. Flynn.

10/92-8/95 **Textbook Editor**, Secondary Science, Addison-Wesley Publishing Company.

9/90-6/92 **Teaching Assistant**, Stanford University. Core Biology Laboratory; W. Watt.

### **Honors and Awards**

2008-pres. **Member**, Lanzendorf Paleart Committee, SVP

2007-pres. **Associate Editor**, Journal of Vertebrate Paleontology

2004-2008. **Member**, SVP Program Committee

2002 **Featured Talk**, SVP Press Conference

1999-2000 **Nierman Award Winner**, University of Chicago

1995-2000 **Graduate Fellowship**, University of Chicago  
 1999 **Predocctoral Fellowship**. Honorable Mention, Soc. Vert. Paleo.  
 1994 **Award for Team Excellence**, Addison Wesley Publishing Co.  
 1992 **Departmental Honors**, Biology, Stanford University  
 1987-1991 **Stanford Undergraduate Scholarship Winner**  
 1987-1991 **National Merit Scholarship Winner**

**Reviewed Publications** \* indicates FRO graduate student; \*\* indicates FRO undergraduate

- O'Keefe, F. R. and L. M. Chiappe. 2011. Viviparity and K-selected life history in a Mesozoic marine plesiosaur (Reptilia, Sauropterygia). **Science**.
- O'Keefe, F. R., H. P. Street\*, B. C. Wilhelm\*, C. Richards\*, and H. Zhu\*. 2011. A new skeleton of the cryptocleidid plesiosaur *Tatenectes laramiensis* reveals a novel body shape among plesiosaurs. **Journal of Vertebrate Paleontology** 31(2): 330-339.
- Wilhelm\*, B. C., and F. R. O'Keefe. 2010. A new partial, adult skeleton of *Pantosaurus striatus*, a cryptocleidoid plesiosaur from the Upper Jurassic Sundance Formation of Wyoming. **Journal of Vertebrate Paleontology** 30(6):1736–1742.
- Gardner\*\*, N.M, C. M. Holliday, and F. R. O'Keefe. 2010. The braincase of *Youngina* (Reptilia, Diapsida): new insights from high-resolution microCT scanning of the holotype. **Palaeontologia Electronica**.
- Street\*, H. P. and F. R. O'Keefe. 2010. Evidence of pachyostosis in the cryptocleidoid plesiosaur *Tatenectes laramiensis* from the Sundance Formation (Wyoming, USA). **Journal of Vertebrate Paleontology** 30(4): 1279-1282.
- O'Keefe, F. R., E. V. Fet\*, and J. M. Harris. 2009. Compilation, calibration, and synthesis of faunal and floral radiocarbon dates, Rancho La Brea, California. **Contributions in Science** 518: 1-16.
- O'Keefe, F. R., H. P. Street\*, J. P. Cavigelli, J. J. Socha, and R. D. O'Keefe. 2009. A plesiosaur containing an ichthyosaur embryo as stomach contents from the Sundance Formation of the Bighorn Basin, Wyoming. **Journal of Vertebrate Paleontology** 29(4): 1306-1310.
- O'Keefe, F. R. and H. P. Street\*. 2009. Osteology of the cryptocleidoid plesiosaur *Tatenectes laramiensis* from the Upper Sundance Formation of the Bighorn Basin, Wyoming. **Journal of Vertebrate Paleontology** 29(1): 48-57.
- O'Keefe, F. R. 2008. Cranial anatomy and taxonomy of *Dolichorhynchops bonneri* new combination, a polycotylid plesiosaur from the Pierre Shale of Wyoming and South Dakota. **Journal of Vertebrate Paleontology** 28(3): 664-676.
- O'Keefe, F. R. 2008. Mesozoic marine reptiles. **McGraw-Hill Yearbook of Science and Technology**: 199-202.
- O'Keefe, F. R. and N. Hiller. 2006. Morphologic and ontogenetic patterns in elasmosaur neck length, with comments on the taxonomic utility of neck length variables. **Paludicola** (Nicholls Memorial Volume) 5(4): 206-229.
- O'Keefe, F. R., C. A. Sidor, H. C. E. Larsson, A. Maga, and O. Ide. 2006. Evolution and homology of the astragalus in early amniotes: new fossils, new perspectives. **Journal of Morphology** 267: 415-425.

- O'Keefe, F. R. 2006. Neoteny and the plesiomorphic condition of the plesiosaur basicranium. *in* M. T. Carrano, T. J. Gaudin, R. W. Blob and J. R. Wible, eds. **Amniote Paleobiology**. University of Chicago Press, Chicago, IL.
- Steyer, J.-S., R. Damiani, C.A. Sidor, F.R. O'Keefe, H.C.E. Larsson, A. Maga, and O. Ide. 2006. The vertebrate fauna of the Upper Permian of Niger— IV. *Nigerpeton ricqlesi* (Temnospondyli: Cochleosauridae), and the edopoid colonization of Gondwana. **Journal of Vertebrate Paleontology** 26(1): 18-28.
- O'Keefe, F. R. and M. T. Carrano. 2005. Correlated trends in the evolution of the plesiosaur locomotor system. **Paleobiology** 31(4): 656-675.
- Sidor, C. A., F. R. O'Keefe, R. Damiani, J. S. Steyer, R. M. H. Smith, H. C. E. Larsson, P. C. Sereno, O. Ide, A. Maga. 2005. Permian tetrapods from the Sahara show climate-controlled endemism in Pangea. **Nature** 434: 886-889.
- O'Keefe, F. R., C. A. Sidor, H. C. E. Larsson, A. Maga, and O. Ide. 2005. The vertebrate fauna of the Upper Permian of Niger— III. Morphology and ontogeny of the hindlimb of *Moradisaurus grandis* (Reptilia, Captorhinidae, Moradisaurinae) from the Upper Permian of Niger. **Journal of Vertebrate Paleontology** 25(2): 309-319.
- O'Keefe, F. R. 2004. Preliminary description and phylogenetic position of a new genus and species of plesiosaur (Reptilia: Sauropterygia) from the Toarcian of Holzmaden, Germany. **Journal of Paleontology** 78(5): 973-988.
- O'Keefe, F. R. 2004. On the cranial anatomy of the polycotyloid plesiosaurs, with new cranial material of *Polycotylus latipinnus* Cope. **Journal of Vertebrate Paleontology** 24(2): 326-341.
- O'Keefe, F. R. and W. Wahl. 2003. Preliminary report on the osteology and relationships of a new aberrant cryptocleidoid plesiosaur from the Sundance Formation, Wyoming. **Paludicola** 4(2): 48-68.
- O'Keefe, F. R. and W. Wahl. 2003. Current taxonomic status of *Pantosaurus striatus* from the Upper Jurassic Sundance Formation, Wyoming. **Paludicola** 4(2): 37-47.
- O'Keefe, F. R. 2002. New cranial material of the polycotyloid plesiosaur *Polycotylus latipinnus* Cope from Alabama. pp 106-113 *in* D. E. Brown, ed. The Mesozoic of Wyoming: Proceedings of the Tate Museum Geology Conference 2002. Tate Geological Museum, Casper, Wyoming.
- O'Keefe, F. R. 2002. The evolution of plesiosaur and pliosaur morphotypes in the Plesiosauria (Reptilia: Sauropterygia). **Paleobiology** 28(1), 101-112.
- O'Keefe, F. R. 2001. A cladistic analysis and taxonomic revision of the Plesiosauria (Reptilia: Sauropterygia). **Acta Zoologica Fennica** 213: 1-63.
- O'Keefe, F. R. 2001. Ecomorphology of plesiosaur flipper geometry. **Journal of Evolutionary Biology** 14(6): 987-991.
- O'Keefe, F. R. and P. J. Wagner. 2001. Inferring and testing hypotheses of cladistic character dependence using character compatibility. **Systematic Biology** 50(5): 657-675.
- O'Keefe, F. R. 2000. Phylogeny and convergence in the Plesiosauria (Reptilia: Sauropterygia). Ph.D. Thesis, University of Chicago.
- O'Keefe, F. R., O. Rieppel, and P. M. Sander. 1999. Shape disassociation and inferred heterochrony in a clade of pachypleurosaur (Reptilia, Sauropterygia). **Paleobiology** 25(4): 504-517.
- O'Keefe, F. R. and P. M. Sander. 1999. Paleontological paradigms and inferences of phylogenetic pattern: a case study. **Paleobiology** 25(4): 518-533.

## Book Reviews and Talk Abstracts

- O'Keefe, F. R. and L. M. Chiappe. 2011. Viviparity and cetacean-like life history in a Mesozoic marine plesiosaur (Reptilia, Sauropterygia). *J. Vert. Paleo.* 31(3) supp.
- Gardner\*\*, N., C. Holliday, and F. R. O'Keefe. 2011. Cranial anatomy in the basal diapsid *Youngina capensis* and its relevance to higher radiations of Permo-Triassic Neodiapsida. *J. Vert. Paleo.* 31(3) supp.
- O'Keefe, F. R., W. J. Binder, and B. Van Valkenburgh. 2010. Craniodental measures of dire wolf population health imply rapid extinction in the Los Angeles basin. *J. Vert. Paleo.* 30(3) supp.
- Gardner\*\*, N., C. Holliday, H. \*Zhu, and F. R. O'Keefe. 2010. Braincase anatomy of the basal diapsid *Youngina capensis* from high-resolution X-ray CT scanning. *J. Vert. Paleo.* 30(3) supp.
- O'Keefe, F. R. and B. C. Wilhelm\*. 2009. A new reconstruction of plesiosaur pectoral musculature: phylogenetic, osteological, and functional constraints. *J. Vert. Paleo.* 29(3) supp.
- Street, H. P.\*, and F. R. O'Keefe. 2009. A new partial skeleton of the cryptocleidoid plesiosaur *Tatenectes laramiensis* and an interpretation of the novel body shape of a shallow marine dwelling plesiosaur. *J. Vert. Paleo.* 29(3) supp.
- Wilhelm, B. C.\* and F. R. O'Keefe. 2009. A new partial skeleton of *Pantosaurus striatus*, a cryptocleidoid plesiosaur from the Upper Jurassic Sundance Formation. *J. Vert. Paleo.* 29(3) supp.
- O'Keefe, F. R. 2008. Population-level response of the dire wolf, *Canis dirus*, to climate change in the upper Pleistocene. *J. Vert. Paleo.* 28(3) supp.
- O'Keefe, F. R. 2007. Jurassic infanticide? First evidence of plesiosaur predation of neonatal ichthyosaurs. *J. Vert. Paleo.* 27(3) supp.
- Richards, C.\*, C. A. Sidor, F. R. O'Keefe, J. S. Steyer, and N. Tabor. 2007. The mandible of *Moradisaurus grandis* (Reptilia: Captorhinidae) and its implications for herbivory in Maroadisaurines. *J. Vert. Paleo.* 27(3) supp.
- Street, H. P.\*, F. R. O'Keefe, and R. Lockwood. 2007. Description of the plesiosaur *Tatenectes laramiensis* from the Sundance Formation (Wyoming, USA) and its position in the cryptocleidoid lineage. *J. Vert. Paleo.* 27(3) supp.
- O'Keefe, F. R. and N. Hiller. 2006. Morphological patterns in elasmosaur neck length: variation and taxonomic utility. *J. Vert. Paleo.* 26(3) supp.
- O'Keefe, F. R. 2006. Review of Oceans of Kansas, by M. J. Everhart. *Journal of Vertebrate Paleontology* 26(1) 288-289.
- O'Keefe, F. R., C. A. Sidor and H. C. E. Larsson. 2005. Evolutionary development of the amniote astragalus: new fossils, new perspectives. *J. Vert. Paleo.* 25(3) supp.
- Steyer, J. S., R. Damiani, C. A. Sidor, F. R. O'Keefe, and H. C. E. Larsson. 2005. Permian temnospondyls from the Sahara show edopoid colonization of Africa. *J. Vert. Paleo.* 25(3) supp.
- Sidor, C. A., D. C. Blackburn, H. C. E. Larsson, F. R. O'Keefe, and R. Smith. 2005. Upper Permian captorhinid and pareiasaur reptiles from Niger: New data and interpretation. *J. Vert. Paleo.* 25(3) supp.
- O'Keefe, F. R., C. A. Sidor, and H. C. E. Larsson. 2004. Morphology and ontogeny of the hindlimb of the large captorhinid *Moradisaurus grandis*. *J. Vert. Paleo.* 24 (3) supp.

- Sidor, C. A., R. Damiani, H. C. E. Larsson, F. R. O'Keefe, R. M. H. Smith, and J. S. Steyer. 2004. Late Permian tetrapod biogeography: new insights from West Africa. *J. Vert. Paleo.* 24(3) supp.
- Wahl, W. and F. R. O'Keefe. 2004. Juvenile plesiosaur fossil assemblage and paleocommunity of the upper Redwater Shale (Oxfordian-Callovian) of the Sundance Formation, Natrona County, Wyoming. *J. Vert. Paleo.* 24(3) supp.
- O'Keefe, F. R. and M. T. Carrano. 2003. Scaling and ecomorphological trends in the evolution of the plesiosaur locomotor system. *J. Vert. Paleo.* 23 (3) supp.
- Sidor, C. A., H. C. E. Larsson, J. S. Steyer, F. R. O'Keefe, and R. M. H. Smith. 2003. Late Permian tetrapods from the Sahara. *J. Vert. Paleo.* 23 (3). supp.
- O'Keefe, F. R. 2002. Inference of plesiosaur hunting styles from flipper geometry: parallels among birds, bats, and airplanes. *J. Vert. Paleo.* 22 (3) supp.
- O'Keefe, F. R. 2001. Cladistic character dependence in the Plesiosauria, with functional interpretations of correlated character sets. *J. Vert. Paleo.* 21 (3) supp.
- O'Keefe, F. R. 2001. Review of Encyclopedia of Paleoherpetology 12A: Sauropterygia 1, by Olivier Rieppel. Newsletter of the Palaeontological Association.
- O'Keefe, F. R. 1999. Review of Dinosaur Impressions, by Philippe Taquet. *J. of Geo.*, 107 (5): 641-642.
- O'Keefe, F. R. 1999. Phylogeny and convergence in the Plesiosauria. *J. Vert. Paleo.* 19 (3) supp.
- O'Keefe, F. R. and P. J. Wagner. 1999. A compatibility-based method for assessing the independence of cladistic characters. Abstracts with Programs of the 1999 Annual Meeting of the Geological Society of America: A42.
- O'Keefe, F. R. 1998. First occurrence of the plesiosaur genus *Peloneustes* in the German Jurassic. *J. Vert. Paleo.* 18 (3) supp.
- O'Keefe, F. R., O. Rieppel, and P. M. Sander. 1997. Multivariate allometry and complex heterochrony in an anagenic lineage of pachypleurosaurs (Reptilia: Sauropterygia) from San Giorgio, Switzerland (Triassic, Anisian-Ladinian.) *J. Vert. Paleo* 17(3) supp.

### **Grants and Funding** *(awarded and pending)*

- |           |  |
|-----------|--|
| 2011      | URSP for disabled undergraduate, N. Gardner \$5000               |
| 2010      | <b>China NSF</b> , Travel, Marine Reptile Symposium \$5000       |
| 2009      | Marshall Graduate Research Committee \$2000                      |
| 2008      | <b>WV NSF EPSCoR</b> Student Travel Grant \$5000 (to students)   |
| 2007      | Marshall Graduate Research Committee \$2000                      |
| 2007      | <b>NASA WV</b> Space Grant Consortium \$19,964                   |
| 2007      | <b>WV EPSCoR</b> Mini-Grant, Proposal Preparation \$5000         |
| 2003      | <b>Nat'l Geographic Society</b> . Sundance Plesiosaurs \$10,530  |
| 1999-2000 | <b>Hinds Fund Grant Recipient</b> . University of Chicago \$4000 |
| 1999-2000 | <b>Samuel P. Wells Award Winner</b> . UC Berkeley \$1000         |
| 1998-1999 | <b>Travel Grant</b> . University of Chicago Women's Board \$2500 |
| 1991      | <b>REU Grant Recipient</b> . National Science Foundation         |

### **Unfunded Proposals**

- 2009      **NSF DEB-EAR**, La Brea Dating Project \$505,818  
 2008      **NSF CAREER**, La Brea Database Project \$1,000,000  
 2005      **NSF DEB-EAR**, Sundance Plesiosaurs \$49,000  
 2004      **NSF DEB-EAR**, Sundance Plesiosaurs \$103,000

### Graduate Student Advising

- 2011      Helen Zhu: MS, Plastron reduction and associated myology in turtles, and its implications for functional morphology and natural history.  
 2011      Courtney Richards: MS, Plesiosaur body shape and its impact on hydrodynamic properties  
 2011      Waymon Holloway: MS, A virtual phytosaur endocast and its implications for the behavior and evolution of archosaurs.  
 2010      Benjamin C. Wilhelm: MS, Novel anatomy of cryptoclidid plesiosaurs with comments on axial locomotion.  
 2009      Hallie P. Street: MS, A study of the morphology of *Tatenectes laramienseis*, a cryptocleidoid plesiosaur from the Sundance Formation (Wyoming, USA).

### Public Outreach & Appearances

- 2011      Interview and Research Write-up, **Marshall Magazine**  
 2010      Interview, West Virginia Public Radio  
 2010      TV Appearance and Scientific Advisor, "Prehistoric Assassins", **Discovery Channel** Worldwide. Aired 11/2010 globally.  
 2009      Invited Talk, **Clay Center** Lunchtime Lecture Series. Charleston, WV  
 2009      **Charleston Gazette** Research Write-up  
 2009      **Charleston Daily Mail** Research Write-up  
 2009      **Marshall Parthenon** Research Write-up  
 2008      Scientific Advisor, "Living Loch Ness", **Discovery Channel**  
 2008      Published Interview and Photos, **PEN Magazine**, Japan  
 2008      Review of *Kronosaurus*, Marshall Cavendish (grades 2-4)  
 2007      Negotiation of **\$1 million fossil donation**, Burke Museum  
 2007      **Irish Times** Research Write-up  
 2007      **Irish Public Radio** Appearance  
 2006      Published Interview, **Swimming with Saurs**, Scholastic (grades 4-6)  
 2005      **National Geographic Magazine** Scientific Advisor  
 2002      **New Scientist Magazine** Research Write-up  
 2002      **Scientific American** Research Write-up

### Manuscript and Proposal Reviews

Acta Paleontologica Polonica; American Naturalist; Biological Reviews; Canadian Journal of Earth Science; Cretaceous Research, Journal of Paleontology; Journal of Systematic Paleontology,

Journal of Vertebrate Paleontology; National Geographic Society; National Science Foundation; Naturwissenschaften; Palaeontology; Paleobiology; Paludicola; Royal Society Biology Letters; Systematic Biology; Zoological Journal of the Linnean Society

### **Invited Research Seminars**

4/2011 University of Milwaukee  
2/2011 University of Pittsburgh  
11/2010 Virginia Polytechnic Institute (Virginia Tech)  
8/2010 Peking University, Beijing, People's Republic of China  
9/2009 Clay Center, Charleston, West Virginia  
3/2007 University College, Dublin, Republic of Ireland  
6/2006 Natural History Museum, England  
3/2006 Marshall University  
4/2005 Burke Museum/University of Washington  
3/2005 Holy Cross College  
1/2004 University of Wyoming  
1/2003 Brown University  
3/2002, 3/2004 SUNY Stony Brook  
2/2000 University of Chicago  
4/1999 Beloit College

### **Paleontological Field Experience**

2011 Portugal. Marine reptile prospecting.  
2010 Utah. Marine reptile prospecting and collection, Cretaceous Tropic Shale Formation.  
2002-11 Wyoming. Plesiosaur prospecting and collection, Jurassic Sundance Formation (Sundance Plesiosaur Project).  
2003 Niger. Permian vertebrate prospecting and collection, five weeks, with C.A. Sidor.  
2001 Madagascar. Cretaceous terrestrial vertebrates, six weeks. With D. Krause.  
1999 Bahamas. Univ. of Chicago field course, modern and fossil carbonate environments.  
1998 Southern Utah. Permian terrestrial vertebrate prospecting. With E. Lombard and J. Bolt.  
1997 Jamaica. Univ. of Chicago field course, modern and fossil carbonate environments.  
1996, 98, 00, 11 Big Bend National Park. Univ. of Chicago & Marshall Univ. field courses, Cretaceous terrestrial and marine environments.  
1991 Rocky Mountain Biology Lab, Gothic, Colorado. Alpine ecology, seven weeks.

## **References**

### **James A. Hopson**

Professor Emeritus  
Dept. of Organismal Biology and  
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### **Olivier C. Rieppel**

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### **Blaire Van Valkenburgh**

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