

Neil H. Shubin

Personal

Born: December 22, 1960; Philadelphia, PA USA

Married (9/16/89, Michele A. Seidl)

Education

1996 A.M. (Hon.), University of Pennsylvania

1987 Ph.D. Harvard University

1985 A.M. Harvard University

1982 A.B. Columbia University

Positions

2008- Robert R. Bensley Distinguished Service Professor

2008- Associate Dean, Academic Strategy, Biological Sciences Division

2006-2008 Provost, Field Museum of Natural History

2006-2008 Associate Dean, Division of Biological Sciences, University of Chicago

2006-2008 Robert. R. Bensley Professor, University of Chicago

2006- Professor, Committee on Developmental Biology, University of Chicago

2003-2006 Associate Dean of Basic Science Education, Pritzker School of Medicine

2000-2006 Professor and Chair, Department of Organismal Biology and Anatomy, Professor
Committee on Evolutionary Biology and The College, University of Chicago

2000- Research Associate, Department of Geology, Field Museum of Natural History

1998-2000 Faculty Master, Hamilton College House, University of Pennsylvania

1996-2000 Research Associate, American Museum of Natural History

1999-2000 Professor of Biology, University of Pennsylvania

1995-1999 Associate Professor of Biology, University of Pennsylvania

1990-2000 Graduate Groups in Biology and Geology, University of Pennsylvania

1989-1995 Assistant Professor, University of Pennsylvania

1987-1989 Miller Postdoctoral Fellow, University of California at Berkeley

Awards, Honors, and Fellowships

2009 National Academy of Sciences

Science Communication Award (Best Book)

2009 Fellow, American Academy of Arts and Sciences

2008 Fellow, American Association for the Advancement of Science

2009 Royal Society of London, Best Science Book Shortlist

2008 Hitchcock Professor, University of California at Berkeley

2008 Phi Beta Kappa Science Book Award

2008 Sawyer Lecturer, Bates College

2008 Hulings Distinguished Professor, University of Tulsa

2008 Tinbergen Lectureship, University of Leiden/Naturalis Museum

2007 Distinguished Fellow, American Academy in Berlin

2007 Distinguished Fellow, Institute for Advanced Study

University of Durham, UK

2006 ABC News Person of the Week

2005 David Weill Visiting Lectureship, Cold Spring Harbor Laboratories
2001 Daniel E. Koshland, Jr. Visiting Lectureship, Cold Spring Harbor Laboratories
2000 Marcus Singer Award, Society for Developmental Biology
1998-1999 John Simon Guggenheim Memorial Foundation Fellowship
1997 Sewell Wright Speaker, Committee on Evolutionary Biology, University of Chicago
1994 Young Faculty Award, Natural Sciences Association, University of Pennsylvania
1991 Teaching Award, Biology Department, University of Pennsylvania
1989 Miller Research Fellow, University of California at Berkeley
1984-1987 Harvard-Danforth Award for Excellence in Teaching, Danforth Center, Harvard University
1981-1982 Josiah Macy Scholar, Columbia University

Graduate Students, last 5 years

Marcus C. Davis (Ph.D, 2003)
R. Adam Franssen (Ph.D., 2007)
Rebecca M. Shearman (Ph.D. 2006)
Andrew Gillis (Ph.D. 2009)
Christian Kammerer (Current)

6 theses advised, 25 Thesis Committees

Scientific Publications

Shubin, N.H. and Alberch, P. A Morphogenetic Approach to the Origin and Basic Organization of the Tetrapod Limb. **Evolutionary Biology** 1986; 20:319-387.

Olsen, P., Shubin N.H. and Anders, M. New Early Jurassic Tetrapod Assemblages Constrain Triassic-Jurassic Tetrapod Extinction Event. **Science** 1987; 237:1025-1029.

Sues, H.-D., Olsen, P. and Shubin, N.H. A Diapsid Faunule from the Lower Jurassic of Nova Scotia, Canada. (in: Fourth Symposium on Mesozoic Terrestrial Ecosystems, P.M. Currie and E.H. Koster, eds. Occasional Papers of the Tyrell Museum of Paleontology, Drumheller) 1987; Pp.205-207.

Olsen, P., Shubin, N.H. and Anders, M. Triassic-Jurassic Extinctions. **Science** 1988; 241:1358-1360.

Oster, G., Shubin, N., Murray, J. and Alberch, P. Morphogenetic Rules and Evolution: The Tetrapod Limb in Ontogeny and Phylogeny. **Evolution** 1988; 41:232-267.

Prothero, D. and Shubin, N. The Phylogeny of Oligocene Horses of North America (in: The Evolution of Perissodactyls, D. Prothero, and R. Schoch, eds. Oxford University Press, Oxford) 1990; Pp. 142-176.

Shubin, N., Crompton, A.W., Sues, H.-D., and Olsen, P. New Fossil Evidence on the Sister-Group of Mammals and Early Mesozoic Faunal Distributions. **Science** 1991; 251:1063-1065.

- Shubin, N. The Implications of the Bauplan for Evolutionary and Developmental Biology (in: Limb Development and Evolution, J. Hurle and J.R. Hinchliffe, eds. Plenum Press, N.Y.) 1991; Pp. 411-421.
- Shubin, N and Sues, H.-D. Biogeography of early Mesozoic continental tetrapods: Patterns and Implications. **Paleobiology** 1991; 17:214-230.
- Sues, H.-D., Hopson, J., and Shubin, N.H. Affinities of Scalenodontoides Plemmyridon Hopson, 1984 (Synapsida: Cynodontia) from The Upper Triassic of Nova Scotia. **Journal of Vertebrate Paleontology** 1992; 12:168-171.
- Shubin, N. The Phylogeny of Development and the Origin of Homology (in: Interpreting the Hierarchy of Nature, O. Rieppel and L. Grande, eds. Academic Press, San Diego) 1994; Pp. 201-225.
- Shubin, N. History, Ontogeny, and the Origin of the Archetype. (in: Homology: The Hierarchical Basis of Comparative Biology, B. Hall, ed. Academic Press, San Diego) 1994; Pp. 250-271.
- Daeschler, E.B., Shubin, N., Thomson, K., and Amaral, W. A Devonian Tetrapod from North America. **Science** 1994; 265:639-642.
- Sues, H., Shubin, N., and Olsen, P. Jurassic Sphenodontids from the McCoy Brook Formation, Nova Scotia, Canada. **Journal of Vertebrate Paleontology** 1994; 14:327-340.
- Shubin, N.H., Olsen, P., and Sues, H.-D. Early Jurassic Small Tetrapods from the McCoy Brook Formation of Nova Scotia (in: Early Mesozoic Small Vertebrates, N. Fraser, and H. Sues, eds. Cambridge University Press) 1994; Pp. 241-252.
- Jenkins, F.A., Jr., Shubin, N., Amaral, W., Gatesy, S., Schaff, C., Downs, W., Clemmensen, L., Bonde, N., Davidson, A., and Osbaeck, F. Late Triassic Continental Vertebrates and Depositional Environments of the Fleming Fjord Formation, Jameson Land, East Greenland. *Meddelelser om Grønland* 1994; 32:1-25.
- Shubin, N. The Evolution of Paired Fins and the Origin of the Tetrapod Limb: Phylogenetic and Transformational Approaches. **Evolutionary Biology** 1995; 28:39-86.
- Shubin, N. and Jenkins, F.A., Jr. An Early Jurassic Jumping Frog. **Nature** 1995; 377:49-52.
- Shubin, N., Wake, D., and Crawford A. Morphological Variation in the Limbs of Taricha granulosa: Evolutionary and Phylogenetic Implications. **Evolution** 1995; 49:874-884.
- Daeschler, E.B. and Shubin, N. Tetrapod Origins. **Paleobiology** 1995; 21:404-409
- Shubin, N. and Wake, D. Phylogeny, variation and morphological integration. **American Zoologist** 1996; 36:51-60.

- Sues, H.-D., Shubin, N.H., Olsen, P., and Amaral, W. On the cranial structure of a new protosuchid (Archosauria, Crocodyliformes) from the McCoy Brook Formation (Lower Jurassic) of Nova Scotia, Canada. **Journal of Vertebrate Paleontology** 1996; 16:34-41.
- Jenkins, F.A., Jr., Gatesy, S.M., Shubin, N., and Amaral, W. Haramiyids and Triassic mammalian evolution. **Nature** 1997; 385: 715-718.
- Shubin, N., Tabin, C., and Carroll, S. Fossils, genes, and the evolution of animal limbs. **Nature** 1997; 388:639-648.
- Daeschler, E.B. and Shubin, N. A fish with fingers? **Nature** 1998; 391:133.
- Torok, M.A., Gardiner, D.M., Shubin, N.H., Bryant, S.V. Expression of HoxD genes in developing and regenerating axolotl limbs. **Developmental Biology** 1998; 200: 225-233.
- Thomson, K.S., Shubin, N., Poole, F.G. A problematic early tetrapod from the Mississippian of Nevada. **Journal of Vertebrate Paleontology** 1998; 18:315-320.
- Jenkins, F.A., Jr. and Shubin, N. Prosalirus bitis and the anuran caudopelvic mechanism. **Journal of Vertebrate Paleontology** 1998; 18:495-510.
- Wake, D.B. and Shubin, N. Limb development in the Pacific giant salamanders, Dicamptodon (Amphibia, Caudata, Dicamptodontidae). **Canadian Journal of Zoology** 1999; 76:11 2058-2066.
- Gatesy, S.M., Middleton, K., Jenkins, F.A., Jr., Shubin, N. Three-dimensional preservation of foot movements in theropod dinosaurs. **Nature** 1999; 389: 141-144.
- Shubin, N. and C. Marshall. Fossils, genes and the origin of novelty. **Paleobiology** 2000; 26(4): 324-340. Supplement.
- Davis, M.C., Shubin, N., and Daeschler, E.B. Immature rhizodontids from the Devonian of North America. **Bull. Mus. Comp. Zool.** 2001; 156(1): 171-187.
- Gao, K. and Shubin, N. Late Jurassic salamanders from Northern China. **Nature** 2001; 410(6828): 574-577.
- Jenkins, F.A., Jr., Shubin, N.H., Gatesy, S.M., and Padian, K. A diminutive pterosaur (pterosaur: eudimorphodontidae) from the Greenlandic triassic. **Bull. Mus. Comp. Zool.** 2002; 156(1): 151-170.
- Jeffery, J. E., M. C. Davis, N. H. Shubin and E. B. Daeschler. 2002. *Sauripterus* Hall, 1843 (Osteichthyes, Sarcopterygii): proposed conservation as the correct original spelling. **Bulletin of Zoological Nomenclature** 59(3):198-202.
- Shubin, N. The origin of Evolutionary Novelty; examples from limbs. **Journal of Morphology** 2002; 252:15-28.

- Gao, K. and Shubin, N.S. 2003. Earliest known crown group salamanders. **Nature** 2003; 422:424-429.
- You, H., Luo, Z., Shubin, N., Witmer, L., Tang, Z., Tang, F. The earliest-known duck-billed dinosaur from deposits of late Early Cretaceous age in northwest China and hadrosaur evolution. **Cretaceous Research**. 2003; 24:347-355.
- Shapiro, M.D., You, H., Shubin, N.H., Luo, Z., and Downs, J.P. A large Ornithomimid pes from the early cretaceous of the Mazongshan area, Northern Gansu Province, People's Republic of China. **Journal of Vertebrate Paleontology** 2003; 23:695-698.
- Shubin, N. and Wake, D. Morphological variation, development, and evolution of the limb skeleton of salamanders (in Biology of the Amphibia, H. Heatwole, ed. Surrey Beatty and sons), 2003; 1782-1808.
- Davis, M. C., Shubin, N. H. & Force, A. 2004. Pectoral fin and girdle development in the basal actinopterygians *Polyodon spathula* and *Acipenser transmontanus*. **Journal of Morphology** 262, 608-628.
- Shubin, N. Daeschler, E. and Coates, M.I. The early evolution of the tetrapod humerus. **Science** 2004; 304:90-93. AND Coates M.I., N.H. Shubin, and E.B. Daeschler. Response to comment on "The early evolution of the tetrapod humerus." **Science** 2005; 305:1715.
- Davis, M.C., Shubin, N., and Daeschler, E.B. A new specimen of *Sauripterus taylori* (Sarcopterygii, Osteichthyes) from the Fammenian Catskill Formation of North America. **Journal of Vertebrate Paleontology** 2004; 24:26-40.
- Franssen, R.A., S. Marks, D. Wake, and N. Shubin. Limb chondrogenesis of the Seepage salamander, *Desmognathus aeneus* (amphibia: plethodontidae). **Journal of Morphology** 2005; 265:87-101.
- Gatesy, S. M., Shubin, N. H., and Jenkins, F. A., Jr. Anaglyph stereo imaging of dinosaur track morphology and microtopography. **Palaeontologia Electronica** 2005; 8:1, 10a, 12p.
- Daeschler E.B., Shubin, N.H. and Jenkins, F.A., Jr. A Devonian tetrapod-like fish and the origin of the tetrapod body plan. **Nature** 2006; 440:757-763.
- Shubin, N.H., Daeschler E.B., and Jenkins, F.A. Jr. The pectoral fin of *Tiktaalik roseae* and the origin of the tetrapod limb. **Nature** 2006; 440:764-771.
- Dahn, R.D., Davis, M.C., Pappano, W.N., and Shubin, N.H. Sonic hedgehog function in chondrichthyan fins and the evolution of appendage patterning. **Nature** 2007; 445: 311-314.

- Davis, M.C., Dahn, R.D. and Shubin, N. An autopodial-like pattern of Hox expression in a basal actinopterygian fish. **Nature** 2007: 447:476-479.
- Shapiro, M.D., Shubin, N.H., and Downs, J.P. Limb diversity and digit reduction in reptilian evolution. (In Fins into Limbs; B.K. Hall, ed, University of Chicago Press Chicago) 2007; 225-244.
- Downs, J.P., Daeschler, E.B., Jenkins, F.A. and Shubin, N. (2008) The cranial endoskeleton of *Tiktaalik roseae*. **Nature** 455:925-929.
- Jenkins, F.A., Jr., Shubin, N.H., Gatesy, S.M., and Warren, A. (2009) *Gerrothorax pulcherrimus* from the Upper Triassic Fleming Fiord Formation of East Greenland and a reassessment of the contribution of head lifting to feeding in temnospondyls. **Journal of Vertebrate Paleontology** 26:223-247.
- Gillis, J.A., Dahn, R.D. and Shubin, N.H. (2009) Chondrogenesis and homology of the visceral skeleton in the little skate, *Leucoraja erinacea* (Chondrichthyes: Batoidea). **Journal of Morphology** 270:628-643.
- Daeschler, E.B., Clack, J.A., and Shubin, N. H. (2009) Late Devonian tetrapod remains from Red Hill, Pennsylvania, USA: How much diversity? **Acta Zoologica** 136:99-128.
- Shubin, N.H., Tabin, C., Carroll, S.B. (2009) Deep homology and the origins of evolutionary novelty. **Nature** 457:818-823.
- Gillis, J.A., Dahn, R.D., and Shubin, N.H. (2009) Shared developmental mechanisms pattern the vertebrate gill arch and paired fin skeletons. **PNAS**. 106:5720-4.
- (Books, News and Views pieces, book reviews, and other writings in the non-science media not included)

184 public lectures and invited seminars, last 5 years.