GEORGE V. LAUDER

CURRICULUM VITAE

PERSONAL INFORMATION:

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Google Scholar Publication Profile:
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EDUCATION:

1979 Ph.D. (Biology). Harvard University, Cambridge, MA.
1978 M.A. (Biology). Harvard University, Cambridge, MA.
1976 A.B. (Biology). Harvard University, Cambridge, MA.

APPOINTMENTS:

2015 – 2017 Marine Biological Laboratory, Board of Overseers
2010 – present. Henry Bryant Bigelow Professor in the Museum of Comparative Zoology, Harvard University.
2000 – 2010. Alexander Agassiz Professor of Zoology in the Museum of Comparative Zoology, Harvard University.
1999 – present. Professor of Organismic and Evolutionary Biology, Harvard University.
1990 - 1999. Professor of Ecology and Evolutionary Biology, University of California, Irvine.
1987 - 1996. Associate Dean for Graduate Studies, School of Biological Sciences, University of California, Irvine.
1986 - 1990. Associate Professor, University of California, Irvine.
1981 - 1986. Assistant and Associate Professor of Anatomy, The College, and the Committee on Evolutionary Biology, University of Chicago.
1979 - 1981. Junior Fellow in the Society of Fellows, Harvard University.

AWARDS:

2016. Elected Fellow of the American Physical Society
1981 - 1982. Andrew W. Mellon Foundation Fellow.
1979 - 1982. Elected to the Society of Fellows, Harvard University, for a three year term as a Junior Fellow.
1977. D. Dwight Davis Prize for best student paper in Vertebrate Morphology, American Society of Zoologists.
1976. Phi Beta Kappa
1976. A.B. (Biology) awarded *Summa Cum Laude*.

RESEARCH INTERESTS:

1. Biorobotics and fish biomechanics
2. Functional morphology, biomechanics, and evolution of vertebrates
3. Experimental and conceptual approaches to the analysis of form in organisms
4. Experimental hydrodynamics of locomotion
5. Physiology of the musculoskeletal system

PROFESSIONAL SOCIETIES:

American Association for the Advancement of Science (Fellow)
American Society of Ichthyologists and Herpetologists
American Physical Society
Society for the Study of Evolution
Society for Experimental Biology
Society for Integrative and Comparative Biology
Society of Vertebrate Paleontology
Sigma Xi

RECENT EDITORIAL AND PROFESSIONAL POSITIONS:

Editorial Board, **Physiological and Biochemical Zoology**. 2001 to present.

Editorial Board, **Journal of Morphology**. 1997 to present.

Editorial Board, **Journal of Experimental Biology**. 1990 to present.

Editorial Board, **Soft Robotics**. 2013 to present.

RECENT GRANTS:

2014-2017. ONR N00014-14-1-0533. Bio-Inspired Flexible Propulsors for Fast, Efficient Swimming: What Physics Are We Missing? (co-PI).

2015-2018. ONR N00014-15-2234. Neuromechanics of Sensory-mediated Gait Control in Fish Swimming (co-PI).

2012-2015. ONR N00014-09-1-0352. Neuromechanics of Fish Pectoral Fin Sensory and Motor Control Systems as a Model for Controlling Agile, Autonomous Undersea Vehicles (co-PI).

2009-2012. ONR 204087-3667-H. Neuromechanics of Fish Pectoral Fin Sensory and Motor Control Systems as a Model for Controlling Agile, Autonomous Undersea Vehicles (co-PI).

2009-2013. NSF CDI 0941674. Cyber-Enabled Discovery in Neuromechanical Systems (co-PI).

2009-2014. NSF EFRI 478174-19838. Multifunctional materials exhibiting distributed actuation, sensing, and control: uncovering the hierarchical control of fish for developing smarter materials (co-PI).

2009-2010. ONR SBIR N09-143-0240. Bioinspired High-Performance Hydrofoils (Biofoils) for Future Naval Vehicles. With Innovative Technology Applications Co.

2009-2010. ONR SBIR N09-143-0558. Maneuver for Advanced Naval Extreme Unsteady Condition Vessel Enabling Research. With Boston Engineering Corporation.

2003 – 2008. ONR N000140310897. Development of an Integrated Artificial Muscle, High-Lift, Bio-Hydrodynamic Mechanism for Biorobotic Autonomous Undersea Vehicles. (co-PI).

2002 – 2005. NSF DBI-0301649. A Volumetric Imaging System for Reconstruction of Macroscopic Fluid Flows in Organismic Biology.

2003 – 2006. NSF IBN-0316675. Experimental Hydrodynamics and Evolution: Function of Median Fins in Ray-finned Fishes.

2001 – 2003. NSF IBN-0090896. Experimental Hydrodynamics and Evolution: Locomotor Design and Function of Pectoral Fins in Fishes.

PUBLICATIONS:

Citations >18,500; H 81

Google Scholar Publication Profile:
http://scholar.google.com/citations?user=s-FMUNgAAAAJ&hl=en

1979. Lauder, G. V. Feeding mechanisms in primitive teleosts and in the halecomorph fish *Amia calva*. J. Zool., Lond. 187:543-578.

1979. Lauder, G. V. "Review of Anatomie de Latimeria chalumnae, Tome III. Copeia 1979:560-562.

1980. Lauder, G. V. and L. E. Lanyon. Functional anatomy of feeding in the bluegill sunfish *Lepomis macrochirus*: in vivo measurement of bone strain. Journal of Experimental Biology 84:33-55.

1980. Lauder, G. V. and S. F. Norton. Asymmetrical muscle activity during feeding in the gar, *Lepisosteus oculatus*. Journal of Experimental Biology 84:17-32.

1980. Lauder, G. V. The role of the hyoid apparatus in the feeding mechanism of the living coelacanth, *Latimeria chalumnae*. Copeia 1980:1-9.

1980. Lauder, G. V. On the evolution of the jaw adductor musculature in primitive gnathostome fishes. Breviora, 473:1-9.

1980. Lauder, G. V. Hydrodynamics of prey capture in teleost fishes. In: Biofluid Mechanics, Volume II, pp. 16l-181. D. Schenck, Ed. Plenum Press, New York.

1980. Lauder, G. V. On the relationship of the myotome to the axial skeleton in vertebrate evolution. Paleobiology 6:51-56.

1980. Lauder, G. V. The suction feeding mechanism in sunfishes (*Lepomis*): an experimental analysis. Journal of Experimental Biology 88:49-72.

1980. Lauder, G. V. Review of "The Biology and Physiology of the Living Coelacanth." Copeia 1980:942-944.

1980. Fink, W. L. and G. V. Lauder. Review of "Biology of the Cyclostomes." Copeia 1980:948-949.

1981. Lauder, G. V. Intraspecific functional repertoires in the feeding mechanism of the characoid fishes *Lebiasina*, *Hoplias*, and *Chalceus*. Copeia 1981:154-168.

1981. Lauder, G. V. Form and function: structural analysis in evolutionary morphology. Paleobiology 7:430-442.

1981. Rand, D. M. and G. V. Lauder. Prey capture in the chain pickerel *Esox niger*: correlations between feeding and locomotor behavior. Can. J. Zool. 59:1072-1078.

1981. Lauder, G. V. and K. F. Liem. Prey capture by *Luciocephalus pulcher*: implications for models of jaw protrusion in teleost fishes. Env. Biol. Fish. 6:257-268.

1981. Greenwood, P. H. and G. V. Lauder. The protractor pectoralis muscle and the classification of teleost fishes. Bull. Br. Mus. Nat. Hist. Zool. 41:213-234.

1981. Lauder, G. V. Edward Phelps Allis: discovery of his anatomical illustrations. Biol. J. Linn. Soc. 16:285-291.

1982. Lauder, G. V. Patterns of evolution in the feeding mechanism of actinopterygian fishes. Amer. Zool. 22:275-285.

1982. Lauder, G. V. and K. F. Liem. Symposium summary: evolutionary patterns in actinopterygian fishes. Amer. Zool. 22:343-345.

1982. Lauder, G. V. Historical biology and the problem of design. J. Theor. Biol. 97:57-67.

1982. Lauder, G. V. Review of "Lungfishes, tetrapods, paleontology and plesiomorphy" by D.E. Rosen, P.L. Forey, C. Patterson and B. Gardiner. Copeia 1982:235-237.

1982. Lauder, G. V. Introduction to a reprint of Form and Function, a contribution to the history of animal morphology (1916), by E.S. Russell. pp. xi-xlv, The University of Chicago Press.

1982. Lauder G. V. Historical biology. Review of "Problems of phylogenetic reconstruction." Science 218:781-782.

1982. Lauder, G. V. Structure and function of the caudal skeleton in the pumpkinseed sunfish, *Lepomis gibbosus*. J. Zool., Lond. 197:483-495.

1983. Lauder, G. V. Functional design and evolution of the pharyngeal jaw apparatus in euteleostean fishes. Zool. J. Linn. Soc. 77:1-38.

1983. Lauder, G. V. and K. F. Liem. Patterns of diversity and evolution in ray-finned fishes. Chapter 1, pp. 1-14. In: Fish Neurobiology. Volume 1: Brain Stem and Sense Organs. R. Davis and R. G. Northcutt, Eds. University of Michigan Press, Ann Arbor.

1983. Lauder, G. V. and K. F. Liem. The evolution and interrelationships of the actinopterygian fishes. Bull. Mus. Comp. Zool. 150:95-197.

1983. Lauder, G. V. Neuromuscular patterns and the origin of trophic specialization in fishes. Science 219:1235-1237.

1983. Lauder, G. V. Functional and morphological bases of trophic specialization in sunfishes (Teleostei: Centrarchidae). J. Morphol. 178:1-21.

1983. Lauder, G. V. Food capture. Chapter 9, pp. 280-311. In: Fish Biomechanics, P.W. Webb and D. Weihs, Eds. Praeger Publishing Company, New York.

1983. Lauder, G. V. Prey capture hydrodynamics in fishes: experimental tests of two models. Journal of Experimental Biology 104:1-13.

1984. Lauder, G. V. Review of "Fish Locomotion" by R.W. Blake. BioScience 34:592.

1984. Lauder, G. V. Pressure and water flow patterns in the respiratory tract of the bass (Micropterus salmoides). Journal of Experimental Biology 113:151-164.

1984. Lauder, G. V. and B. D. Clark. Water flow patterns during prey capture by teleost fishes. Journal of Experimental Biology 113:143-150.

1985. Shaffer, H. B. and G. V. Lauder. Patterns of variation in aquatic ambystomatid salamanders: kinematics of the feeding mechanism. Evolution 39:83-92.

1985. Lauder, G. V. Aquatic feeding in lower vertebrates. Chapter 12, Pp. 210-229, In: Functional Vertebrate Morphology, M. Hildebrand, D. M. Bramble, K. F. Liem, and D. Wake, Eds. Harvard University Press.

1985. Shaffer, H. B. and G. V. Lauder. Aquatic prey capture in ambystomatid salamanders: patterns of variation in muscle activity. J. Morphol. 183:273-284.

1985. Lauder, G. V. and H. B. Shaffer. Functional morphology of the feeding mechanism in aquatic ambystomatid salamanders. J. Morphol. 185:297-326.

1985. Lauder, G. V. Functional morphology of the feeding mechanism in lower vertebrates. pp. 179-188 In: Functional Morphology in Vertebrates, H.-R. Duncker and G. Fleischer, Eds. Gustav Fischer Verlag, New York.

1986. Feder, M. and G. V. Lauder. (Eds.) Predator-prey Relationships: Perspectives and Approaches from the Study of Lower Vertebrates. University of Chicago Press: Chicago.

Includes: G. V. Lauder and M. E. Feder, Introduction, pp. 1-5.
M. E. Feder and G. V. Lauder, Commentary and Conclusion, pp. 180-189.

1986. Bemis, W. E. and G. V. Lauder. Morphology and function of the feeding apparatus of the lungfish, Lepidosiren paradoxa (Dipnoi). J. Morphol. 187:81-108.

1986. Lauder, G. V. Homology, analogy, and the evolution of behavior. Chapter 1, pp. 9-40 In: The Evolution of Behavior, M. Nitecki and J. Kitchell, Eds. Oxford University Press.

1986. Wainwright, P. and G. V. Lauder. Feeding biology of sunfishes: patterns of variation in prey capture. Zool. J. Linn. Soc. Lond. 88:217-228.

1986. Lauder, G. V. and H. B. Shaffer. Functional design of the feeding mechanism in lower vertebrates: unidirectional and bidirectional flow systems in the tiger salamander. Zool. J. Linn. Soc. Lond. 88:277-290.

1986. Lauder, G. V., P. C. Wainwright, and E. Findeis. Physiological mechanisms of aquatic prey capture in sunfishes: functional determinants of buccal pressure changes. Comp. Biochem. Physiol. 84A:729-734.

1986. Lauder, G. V. Aquatic prey capture in fishes: experimental and theoretical approaches. Journal of Experimental Biology 125:411-416.

1986. Schaefer, S. A. and G. V. Lauder. Historical transformation of functional design: evolutionary morphology of the feeding mechanism in loricarioid catfishes. Syst. Zool. 35:489-508.

1988. Reilly, S. M. and G. V. Lauder. Ontogeny of aquatic feeding performance in the eastern newt, *Notophthalmus viridescens* (Salamandridae). Copeia 1988:87-91.

1988. Lauder, G. V. and S. M. Reilly. Functional design of the feeding mechanism in salamanders: causal bases of ontogenetic changes in function. Journal of Experimental Biology 134:219-233.

1988. Lauder, G. V. Vertebrate Phylogeny: Review of "The Biology and Evolution of Lungfishes" by W. E. Bemis et al. Science 239: 1547-1548.

1988. Lauder, G. V. Review of "Phylogenetic reconstruction in paleontology" by R. M. Schoch. Amer. Sci. 76:202.

1988. Lauder, G. V. Review of "Functional Anatomy of the Vertebrates: an evolutionary perspective" by W. F. Walker. Quart. Rev. Biol. 63:102.

1988. Reilly, S. M. and G. V. Lauder. Atavisms and the homology of hyobranchial elements in lower vertebrates. J. Morphol. 195:237-245.

1988. Lauder, G. V. and H. B. Shaffer. The ontogeny of functional design in tiger salamanders (*Ambystoma tigrinum*): are motor patterns conserved during major morphological transformations? J. Morphol. 197:249-268.

1988. Lauder, G. V. Phylogeny and physiology. Review of "Evolutionary Biology of Primitive Fishes" by R. E. Foreman et al. Evolution 42:1113-1114.

1988. Shaffer, H. B. and G. V. Lauder. The ontogeny of functional design: metamorphosis of feeding behavior in the tiger salamander (*Ambystoma tigrinum*). J. Zool., Lond. 216:437-454.

1989. Reilly, S. M. and G. V. Lauder. Physiological bases of feeding behavior in salamanders: do motor patterns vary with prey type? Journal of Experimental Biology 141:343-358.

1989. Reilly, S. M. and G. V. Lauder. Kinetics of tongue projection in *Ambystoma tigrinum*: quantitative kinematics, muscle function, and evolutionary hypotheses. J. Morphol. 199:223-243.

1989. Lauder, G. V. Caudal fin locomotion in ray-finned fishes: historical and functional analyses. Amer. Zool. 29:85-102.

1989. Lauder, G. V. Review of "Genetics, Paleontology, and Macroevolution" by J. Levinton. J. Vert. Paleo. 9:122-123.

1989. Lauder, G. V. and K. F. Liem. The role of historical factors in the evolution of complex organismal functions. Pp 63-78, In: Complex Organismal Functions: Integration and Evolution in Vertebrates. D. B. Wake and G. Roth, Eds. Dahlem Konferenzen. Chichester: John Wiley and Sons.

1989. Lauder, G. V. et al.. How are feeding systems integrated and how have evolutionary innovations been introduced? Group Report #1. pp 97-115, In: Complex Organismal Functions: Integration and Evolution in Vertebrates. D. B. Wake and G. Roth, Eds. Dahlem Konferenzen. Chichester: John Wiley and Sons.

1989. Sanford, C. P. J. and G. V. Lauder. Functional morphology of the `tongue-bite' in the osteoglossomorph fish *Notopterus*. J. Morphol. 202:379-408.

1989. Lauder, G. V. Review of "Neural Control of Rhythmic Movements in Vertebrates." Brain Behav. Evol. 34:327-328.

1989. Wainwright, P. C., C. P. Sanford, S. M. Reilly, and G. V. Lauder. Evolution of motor patterns: aquatic feeding in salamanders and ray-finned fishes. Brain Behav. Evol. 34:329-341.

1990. Reilly, S. M. and G. V. Lauder. Metamorphosis of cranial design in tiger salamanders (*Ambystoma tigrinum*): a morphometric analysis of ontogenetic change. J. Morphol. 204:121-137.

1990. Lauder, G. V. Functional morphology and systematics: studying functional patterns in an historical context. Ann. Rev. Ecol. Syst. 21:317-340.

1990. Jayne, B. C., A. F. Bennett, and G. V. Lauder. Muscle recruitment during terrestrial locomotion: how speed and temperature affect fibre type use in a lizard. Journal of Experimental Biology 152:101-128.

1990. Lauder, G. V. and S. M. Reilly. Metamorphosis of the feeding mechanism in tiger salamanders (*Ambystoma tigrinum*): the ontogeny of cranial muscle mass. J. Zool., Lond. 222:59-74.

1990. Sanford, C. P. J. and G. V. Lauder. Kinematics of the tongue-bite apparatus in osteoglossomorph fishes. Journal of Experimental Biology 154:137-162.

1990. Jayne, B. C., G. V. Lauder, S. M. Reilly, P. C. Wainwright. The effect of sampling rate on the analysis of digital electromyograms from vertebrate muscle. Journal of Experimental Biology 154:557-565.

1990. Reilly, S. M. and G. V. Lauder. The evolution of tetrapod prey transport behavior: kinematic homologies in feeding function. Evolution 44:1542-1557.

1990. Reilly, S. M. and G. V. Lauder. The strike of the tiger salamander: quantitative electromyography and muscle function during prey capture. J. Comp. Physiol. A 167:827-839.

1991. Lauder, G. V. Review of "Evolutionary Innovations." Trends in Ecol. Evol. 6:33-34.

1991. Ashley, M., S. M. Reilly, and G. V. Lauder. Ontogenetic scaling of hindlimb muscles across metamorphosis in the tiger salamander *Ambystoma tigrinum*. Copeia 1991:767-776.

1991. Lauder, G. V. An evolutionary perspective on the concept of efficiency: how does function evolve? pp. 169-184, In: Efficiency and Economy in Animal Physiology. R. W. Blake, Ed. Cambridge: Cambridge Univ. Press.

1991. Reilly, S. M. and G. V. Lauder. Experimental morphology of the feeding mechanism in salamanders. J. Morphol. 210:33-44.

1991. Reilly, S. M. and G. V. Lauder. Prey transport in the tiger salamander: quantitative electromyography and muscle function in tetrapods. J. Exp. Zoology. 260:1-17.

1991. Wainwright, P. C., G. V. Lauder, C. W. Osenberg, and G. G. Mittelbach. The functional basis of intraspecific trophic diversification in sunfishes. In, The Unity of Evolutionary Biology, E. C. Dudley, Ed. Portland: Dioscorides Press.

1991. Lauder, G. V. Biomechanics and evolution: integrating physical and historical biology in the study of complex systems. Chapter 1, pp 1-19 In: Biomechanics in Evolution, J. M. V. Rayner and R. J. Wootton, Eds. Cambridge Univ. Press, Cambridge.

1992. Lauder, G. V. and T. Prendergast. Kinematics of aquatic prey capture in the snapping turtle, *Chelydra serpentina*. Journal of Experimental Biology 164:55-78.

1992. Reilly, S. M., G. V. Lauder, J. P. Collins. Performance effects of a trophic polymorphism: feeding behavior in typical and cannibal morphs of *Ambystoma tigrinum*. Copeia 1992(3):672-679.

1992. Reilly, S. M. and G. V. Lauder. Morphology, behavior, and evolution: comparative kinematics of aquatic feeding in salamanders. Brain, Behavior, and Evolution 40:182-196.

1992. Wainwright, P. C. and G. V. Lauder. The evolution of feeding biology in sunfishes (Centrarchidae). pp. 472-491, In: Systematics, Historical Ecology, and North American Freshwater Fishes. R. L. Mayden, Ed. Stanford: Stanford Univ. Press.

1992. Lauder, G. V. and P. C. Wainwright. Function and history: the pharyngeal jaw apparatus in primitive ray-finned fishes. pp. 455-471, In: Systematics, Historical Ecology, and North American Freshwater Fishes. R. L. Mayden, Ed. Stanford: Stanford Univ. Press.

1993. Lauder, G. V. and H. B. Shaffer. Design of feeding systems in aquatic vertebrates: major patterns and their evolutionary interpretations. Chapter 3 In: The Vertebrate Skull, Vol. 3: functional and evolutionary mechanisms, pp 113-149. J. Hanken and B. K. Hall, Eds. Univ. of Chicago Press.

1993. Lauder, G. V., A. Leroi, and M. R. Rose. Adaptations and history. Trends in Ecology and Evolution 8: 294-297.

1993. Lauder, G. V. Review of Environmental Physiology of the Amphibians, Martin E. Feder and W. W. Burggren (Eds). Quarterly Review of Biology 68:440-441.

1993. Jayne, B. C. and G. V. Lauder. Red and white muscle activity and kinematics of the escape response of the bluegill sunfish during swimming. J. Comparative Physiology A 173:495-508.

1994. Lauder, G. V. and S. M. Reilly. Amphibian feeding behavior: comparative biomechanics and evolution. pp. 163-195, In: Biomechanics of Feeding in Vertebrates: Advances in Comparative and Environmental Physiology, Vol. 18; V. Bels, M. Chardon, and P. Vandewalle (Eds.). Springer-Verlag, Berlin.

1994. Gillis, G. and G. V. Lauder. Aquatic prey transport and the comparative kinematics of *Ambystoma tigrinum* feeding behaviors. Journal of Experimental Biology 187:159-179.

1994. Lauder, G. V. Homology, form, and function. pp. 151 - 196, In: Homology: the hierarchical basis of comparative biology. B. Hall, Ed. Academic Press: New York.

1994. Leroi, A. M., Rose, M. R., and G. V. Lauder. What does the comparative method reveal about adaptation? American Naturalist 143:381-402.

1994. Gibb, A., Jayne, B. C., and G. V. Lauder. Kinematics of pectoral fin locomotion in the bluegill sunfish *Lepomis macrochirus*. Journal of Experimental Biology 189:133-161.

1994. Jayne, B. C. and G. V. Lauder. Comparative morphology of the myomeres and axial skeleton in four genera of centrarchid fishes. J. Morphol. 220:185-205.

1994. Jayne, B. C. and G. V. Lauder. How swimming fish use slow and fast muscle fibers: implications for models of vertebrate muscle recruitment. J. Comp. Physiol. A. 175:123-131.

1994. Johnson, T. P., Syme, D. A, Jayne, B. C., Lauder, G. V. and Bennett, A. F. Modeling red muscle power output during steady and unsteady swimming in largemouth bass. American Journal of Physiology 267:R481-R488.

1994. Amundson, R. and G. V. Lauder. Function without purpose: uses of causal role function in evolutionary biology. Biology and Philosophy 9:443-469.

1995. Lauder, G. V. On the inference of function from structure. pp. 1-18, In: Functional Morphology in Vertebrate Paleontology. J. J. Thomason (Ed). Cambridge Univ. Press: Cambridge.

1995. Jayne, B. C. and G. V. Lauder. Speed effects on midline kinematics during steady undulatory swimming of largemouth bass, *Micropterus salmoides*. Journal of Experimental Biology 198:585-602.

1995. Lauder, G. V. A model of variability. Review of "The Evolutionary Biology of the Threespine Stickleback," M. A. Bell and S. A Foster eds. Science 267:1192.

1995. Gillis, G. B. and G. V. Lauder. Kinematics of feeding in bluegill sunfish: is there a general distinction between aquatic capture and transport behaviors? Journal of Experimental Biology 198:709-720.

1995. Jayne, B. C. and G. V. Lauder. Are muscle fibers within fish myotomes activated synchronously? Patterns of recruitment within deep myomeric musculature during swimming in largemouth bass. Journal of Experimental Biology 198: 805-815.

1995. Lauder, G. V. Metazoan Transitions. Review of "Invasions of the Land. The transitions of organisms from aquatic to terrestrial life," M. Gordon and E. C. Olson eds. Science 268:1208.

1995. Jayne, B. C. and G. V. Lauder. Red muscle motor patterns during steady swimming in largemouth bass: effects of speed and correlations with axial kinematics. Journal of Experimental Biology 198: 1575-1597.

1995. Lauder, G. V., Huey, R. B., R. K. Monson, and R. Jensen. Systematics and the study of organismal form and function. BioScience 45: 696-704.

1996. Lauder, G. V. The Rise of Fishes. Review of "The Rise of Fishes" by J. H. Long. Science 271:309-310.

1996. Lauder, G. V. and S. M. Reilly. The mechanistic bases of behavioral evolution: a multivariate analysis of musculoskeletal function. pp. 104-137, In: E. Martins, Ed. Phylogenies and the Comparative Method in Animal Behavior. Oxford: Oxford Univ. Press.

1996. Jayne, B. C., Lozada, A., and G. V. Lauder. Function of the dorsal fin in bluegill sunfish: motor patterns during four locomotor behaviors. J. Morph. 228:307-326.

1996. Schaefer, S. A. and G. V. Lauder. Testing historical hypotheses of morphological change: biomechanical decoupling in loricaroid catfishes. Evolution 50:1661-1675.

1996. Rose, M. and G. V. Lauder. Post-spandrel adaptationism. Pp. 1-8 In: Adaptation. M. R. Rose and G. V. Lauder, eds. San Diego: Academic Press.

1996. Lauder, G. V. The argument from design. Pp. 55-91 In: Adaptation. M. R. Rose and G. V. Lauder, eds. San Diego: Academic Press.

1996. M. R. Rose and G. V. Lauder, eds. Adaptation. San Diego: Academic Press.

1996. Ferry, L. and G. V. Lauder. Heterocercal tail function in leopard sharks: a three-dimensional kinematic analysis of two models. Journal of Experimental Biology 199: 2253-2268.

1996. Jayne, B. C. and G. V. Lauder. New data on axial locomotion in fishes: how speed affects diversity of kinematics and motor patterns. Amer. Zool. 36: 642-655.

1996. Lauder, G. V. and B. C. Jayne. Pectoral fin locomotion in fishes: testing drag-based models using three-dimensional kinematics. Amer. Zool. 36: 567-581.

1996. Lauder, G. V. and J. H. Long. Aquatic locomotion: new approaches to invertebrate and vertebrate biomechanics. Amer. Zool. 36: 535-536.

1997. Lauder, G. V. and G. B. Gillis. Origin of the amniote feeding mechanism: experimental analyses of outgroup clades. In, Amniote Origins: completing the transition to land. S. Sumida and K. Martin , eds. San Diego: Academic Press.

1997. Lauder, G. V. Evolutionary Transformations. Review of "Early Vertebrates," by P. Janvier. Science 276: 46.

1997. Lauder, G. V. Interrelationships of Fishes. Review of "Interrelationships of Fishes," M. L. J. Stiassny, L. R. Parenti, and G. D. Johnson eds.. American Zoologist 37: 325.

1997. Lauder, G. V. Review of "Fish Morphology: horizon of new research," J. S. Datta Munshi and H. M. Dutta, eds. Copeia 1997: 642-643.

1997. Ashley-Ross, M. A. and G. V. Lauder. Motor patterns and kinematics during backward walking in the Pacific Giant Salamander: evidence for novel motor output. J. Neurophysiol. 78: 3047-3060.

1998. Allen, C. , Bekoff, M., and G. V. Lauder (eds). Nature's Purposes: Analyses of Function and Design in Biology. MIT Press, Cambridge.

1998. Allen, C. , Bekoff, M., and G. V. Lauder. Introduction. Pp. 1-25, In: Nature's Purposes: Analyses of Function and Design in Biology

1999. Lauder, G. V. Review of A Comprehensive Phylogenetic Study of Amiid Fishes (Amiidae) Based on Comparative Skeletal Anatomy. An Empirical Search for Interconnected patterns of Natural History. By Lance Grande and William E. Bemis. 1998. Society of Vertebrate Paleontology Memoir, supplement to Journal of Vertebrate Paleontology Vol. 18. Quarterly Review of Biology 74:94.

1999. Drucker, E. G. and G. V. Lauder. Locomotor forces on a swimming fish: three-dimensional vortex wake dynamics quantified using digital particle image velocimetry. Journal of Experimental Biology 202: 2393-2412.

1999. Wilga, C. D. and G. V. Lauder. Locomotion in sturgeon: function of the pectoral fins. Journal of Experimental Biology 202: 2413-2432.

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