



University of California, Irvine
Dept. of Ecology and Evolutionary Biology
www.azizi.bio.uci.edu

Phone: (949) 824-7414
Fax: (949) 824-2181
Email: eazizi@uci.edu

Education and Positions Held

- 1998 B.A., Physical Science, University of California, Berkeley.
- 2003 M.S., Organismic and Evolutionary Biology, University of Massachusetts, Amherst.
- 2005 Ph.D., Organismic and Evolutionary Biology, University of Massachusetts, Amherst.
- 2006-2007 Post-doctoral Research Associate, Dept. of Ecology and Evol. Biology, Brown University.
- 2008-2009 NIH Post-doctoral Fellow, Brown University.
- 2010-2011 Assistant Professor, Department of Biology, The College of New Jersey
- 2011-Current Assistant Professor, Department of Ecology and Evolutionary Biology, University of California, Irvine

Research

I am the director of the Muscle Physiology and Biomechanics lab at the University of California, Irvine. I am broadly trained in biomechanics and muscle biology. Our research is focused broadly on the physiology and mechanics of movement as we strive to understand how the basic properties of muscle have been shaped by evolution and how shifts in these properties affect neuromuscular health and performance. We also aim to reveal how organisms use mechanical and structural mechanisms to overcome the fundamental limits of skeletal muscle.

Publications

34. Danos N, Holt NC, Sawicki, GS, **Azizi E** 2016. Modeling age-related changes in muscle tendon dynamics during cyclical contractions in the rat gastrocnemius muscle. *J. Applied Physiology*. doi: 10.1152/jappphysiol.00396.2016
33. Arellano CJ, Gidmark NJ, Konow N, **Azizi E**, & Roberts TJ 2016. Determinants of aponeurosis shape change during muscle contraction. *J Biomechanics*. 49 (9) 1812-1817.
32. Holt NC, Danos N, Roberts TJ & **Azizi E** 2016. Stuck in gear: age related loss of variable gearing in skeletal muscle. *J Experimental Biology*. 219: 998-1003.
31. Holt NC, & **Azizi E** 2016. The effect of activation level on muscle function during locomotion: are optimal lengths and velocities always used? *Proceedings of Royal Society B* doi:10.1098/rspb.2015.2832.
30. Sawicki GS, Robertson BD, **Azizi E**, & Roberts TJ 2015. Timing matters: tuning the mechanics of a muscle-tendon unit by adjusting stimulation phase during cyclic contractions. *J. Experimental Biology*. DOI: 10.1242/ jeb.121673
29. Danos N & **Azizi E** 2015. Passive stiffness of hindlimb muscles in anurans with distinct locomotor specializations. *Zoology*. 118(4): 239-247.
28. **E Azizi**, Larson NP, Abbott EM, Danos N 2015. Reduce torques and stick the landing: limb posture during landing in toads. *J. Experimental Biology*.
27. Holt NC & **Azizi E** 2014. What drives activation-dependent shifts in the force-length curve? *Biology Letter*.

26. **Azizi E** & Deslauriers AR. 2014. Regional heterogeneity in muscle fiber strain: the role of fiber architecture. *Frontiers in Physiology*. DOI: 10.3389/fphys.2014.00303.
25. Gillis GB, Ekstrom L, & **Azizi E**. 2014. Biomechanics and control of landing in toads. *Integrative and Comparative Biology*. DOI:10.1093/icb/icu053.
24. **Azizi E** 2014. Locomotor function shapes the passive mechanical properties and operating lengths of muscle. *Proceedings of Royal Society B*. 281:1783. DOI: 10.1098/rspb.2013.2914.
23. **Azizi E**, Roberts TJ 2014 Geared up to stretch: pennate muscle behavior during active lengthening. *J Experimental Biology*. 217: 376-381.
22. Astley HC, Abbott EM, **Azizi E**, Marsh RL, Roberts TJ 2013. Chasing maximal performance: a cautionary tale from the celebrated jumping frogs of Calaveras County. *J Experimental Biology*. 216: 3947-3953.
21. **Azizi E** & Roberts TJ 2013. Variable gearing in a biologically inspired pneumatic actuator array. *Bioinspiration and Biomimetics*. 8: DOI: 10.1088/1748-3182/8/2/026002.
20. **Azizi E** & Abbott EM. 2013. Anticipatory motor patterns limit muscle stretch during landing in toads. *Biology Letters*. 9(1): DOI 20121045.
19. Konow N, **Azizi E**, Roberts TJ. 2012. Muscle power attenuation by tendon during energy dissipation. *Proceedings of the Royal Society B*. 279(1731): 1108-13.
18. Roberts TJ, Abbott EM, & **Azizi E** 2011. The weak link: do muscle properties determine locomotor performance in frogs. *Philosophical Transactions of Royal Society B*. 366: 1488-1495.
17. Roberts TJ & **Azizi E** 2011. Flexible mechanisms: The diverse roles of biological springs in vertebrate movement. *J. Experimental Biology*. 214: 353-361.
16. Roberts TJ & **Azizi E** 2010. The series elastic shock absorber: Tendons attenuate muscle power during energy absorbing actions. *J. Applied Physiology*. 109: 396-404.
15. **Azizi E** & Roberts TJ 2010. Muscle performance during frog jumping: influence of elasticity on muscle operating lengths. *Proceedings of the Royal Society B*. 277: 1523-1530.
14. Landberg T, & **Azizi E** 2010. Ontogeny of escape swimming performance in the spotted salamander. *Functional Ecology*. 24(3): 576-587.
13. **Azizi E**, & Roberts TJ 2009. Biaxial strain and variable stiffness in aponeuroses. *J. Physiology-London*. 587: 4309-4318.
12. **Azizi E**, & Roberts TJ 2009. Sheet-like tendons are stiffened by bulging muscles. *Physiology News*. 77: 28-29. (Not peer-reviewed)
11. **Azizi E**, *Halenda GM, & Roberts TJ 2009. Mechanical properties of the gastrocnemius aponeurosis in wild turkeys. *Integrative and Comparative Biology*. 49: 51-58.
10. **Azizi E**, Brainerd EL, & Roberts TJ 2008. Variable gearing in pennate muscles. *Proceeding of the National Academy of Sciences*. 105: 1745-1750.
9. Dean MN, **Azizi E**, & Summers AP 2007. Uniform strain in broad muscles: Active and passive effects of the twisted tendon of the ratfish, *Hydrolagus colliei*. *J. Experimental Biology*. 210: 3395-3406.
8. **Azizi E**, & Brainerd EL 2007. Architectural gear ratio and strain homogeneity in segmented musculature. *J. Experimental Zoology A: Ecological Genetics and Physiology*. 307 A: 145-155. (Cover illustration)
7. **Azizi E**, Landberg T, & Wassersug, RJ 2007. Vertebral function during tadpole locomotion. *Zoology*. 110: 290-297.

6. Brainerd EL, & **Azizi E** 2005. Muscle fiber angle, segment bulging and gear ratio in segmented musculature. *J. Experimental Biology*. 208: 3249-3261.
5. Ward AD, & **Azizi E** 2004. Convergent evolution of the head retraction startle response in elongate fishes and amphibians. *Zoology*. 107: 205-217.
4. **Azizi E**, & *Horton JM 2004. Patterns of axial and appendicular movements during aquatic walking in the salamander, *Siren lacertina*. *Zoology*. 107: 111-120.
3. McHenry MJ, **Azizi E**, & Strother JA 2003. The hydrodynamics of locomotion at intermediate Reynolds Numbers: Undulatory swimming in ascidian larvae (*Botrylloides sp.*). *J. Experimental Biology*. 206: 327-343.
2. **Azizi E**, Gillis GB, & Brainerd EL 2002. Morphology and mechanics of myosepta in a swimming salamander, *Siren lacertina*. *Comparative Biochemistry and Physiology A*. 133: 967-978.
1. **Azizi E**, & *Landberg T 2002. Effects of metamorphosis on the escape response of the two-lined salamander *Eurycea bislineata*. *J Experimental Biology*. 205: 841-849.

Manuscripts Under Review or In Preparation (available upon request)

- Azizi E**, Deslauriers AR, Holt NC & Eaton CE. (in review) Resistance to radial expansion limits muscle strain and work. *Biomechanics and Modeling in Mechanobiology*.
- Bhamla SM, **Azizi E**, Ilton M, Bergbreiter S, Cox S, Crosby AJ, Kim YJ, Koh JS, Kuo CY, Ma X, Prakash M, Sutton GP, Temel Z, Wood RJ, Patek SN, (in prep) The dynamics of extreme mechanical power amplification in biological and engineered impulsive systems. To be submitted to *Science*.
- Balaban JP, **Azizi E** (in prep) Metabolic rate mitigates muscle atrophy in western fence lizards. To be submitted to *J Experimental Biology*.
- Reynaga CM, Astley HC, **Azizi E** (in prep) Morphological and kinematic constraints of quadrupedal walking in frogs. To be submitted to *J Experimental Biology*.
- Abbott EM & **Azizi E** (in prep). The timing of muscle activation alters series elastic function during energy dissipating tasks. To be submitted to *J Applied Physiology*.

Honors

- | | |
|-----------|---|
| 2012 | George A. Bartholomew Award, The Society for Integrative and Comparative Biology. Awarded to an early career scientist with distinguished contribution to comparative physiology and integrative biology. |
| 2005 | Outstanding Graduate Student Award, College of Natural Sciences and Mathematics, University of Massachusetts, Amherst. |
| 2003-2004 | University Fellowship, University of Massachusetts, Amherst. |
| 2003 | Organismic and Evolutionary Biology GAANN fellowship, University of Massachusetts, Amherst. |

Grant and Awards

- | | |
|-----------|---|
| 2015-2020 | Co-PI, Army Res. Office “Evolutionary mechanics of impulsive biological systems: Guiding scalable synthetic design”. \$6,192,181 |
| 2014-2017 | PI, National Science foundation, Division of Civil, Mechanical, and Manufacturing Innovation. “The Effects of Age related Changes in Muscle Extracellular Matrix on Muscle Performance and Gait”. \$297,724 |

- 2012-2016 Co-PI, National Institute of Health, “Elastic Mechanisms in Locomotion”. \$1,432,019
- 2013-2014 Co-PI, National Science Foundation, Division of Integrative and Organismal Systems “MEETING: International Congress of Vertebrate Morphology”. \$25,000
- 2011-2014 PI, National Science Foundation, Division of Integrative and Organismal Systems, “RUI collaborative: Biomechanics and Control of Landing in Toads”. \$185,895
- 2008-2011 PI, National Institute of Health, Ruth Kirchstein National Research Service Award, “Mechanical role of titin in limiting eccentric muscle damage”. \$153,822
- 2006 American Physiological Society travel award. \$500
- 2003 Sigma Xi, Grant in Aid of Research, “Strain measurements of angled muscle fibers”. \$875
- 2000 Woods Hole Travel Fellowship, University of Massachusetts, Amherst. \$1000

Teaching Experience

- 2013-2016 Animal Sensation and Motion. University of California, Irvine
- 2013 Comparative Animal Physiology, University of California, Irvine
- 2012-2016 Human Physiology, University of California, Irvine
- 2010 Comparative Animal Physiology. The College of New Jersey
- 2010 Capstone Seminar: Physiology. The College of New Jersey
- 2010 Introductory Biology. The College of New Jersey
- 2008 Guest Lecturer, Comparative Biology of Vertebrates. Brown University
- 2006 Guest Lecturer, The Body: Introduction to Human Anatomy. Brown University
- 2004 Teaching Fellow, Functional Morphology and Ecology of Marine Fish, Friday Harbor Laboratories, University of Washington
- 2003 Seminar Organizer, Ecology and Evolution of Phenotypic Plasticity, University of Massachusetts, Amherst
- 2002 Teaching Assistant, Evolution, University of Massachusetts, Amherst
- 2001 Teaching Assistant, Herpetology, University of Massachusetts, Amherst
- 1999-2001 Teaching Assistant, Introductory Biology, University of Massachusetts, Amherst

Student Advising

Post-doctoral:

Nicole Danos (2012-2014), Natalie Holt (2013-Present), Caitrin Eaton (2015-present)

Graduate Students:

PhD Committee Chair: Emily Abbott (2012-present), Crystal Reynaga (2013-present), Jordan Balaban (2013-present)

PhD Committee Member: Arjun Nair (2012-present), Alberto Soto (2014-present)

MS Committee Chair: Amber Deslauriers (2012-2015)

MS Committee member: Victoria Ngo (2011-2013), Alexander Beechko (2015-present), Elizabeth Mendoza (2016-present)

Undergraduate Students: Chloe Nouzille (2016-present), Galatea Strong (2016-present), Nuria Varela (2016-present), Gilbert Hernandez (2015-present), Eliz Santos (2015-present), Juliana Vanni (2015-2016),

Itohan Aikhionbare (2015-2016), William Thomsen (2014-present), Yasmin Gutierrez (2014-present), Ashley Hughes (2013-present), Priyanka Satish (2013-2014), Matthew Dunlevie (2013-2014), Michael Kennedy (2013-2014), Marla Goodfellow (2013-2014), Neil Larson (2012-2013), Andres Ixtlahuac (2013), Christina Cheung (2012-2013), Pooja Rana (2011-2013), Andrew Yang (2011-2012), Harleen Dhaliwal (2011-2012)

Invited Seminars and Symposia

24. "Contractile and connective tissue interactions in skeletal muscle". International Congress of Vertebrate Morphology. Washington DC. 2016.
23. "Mechanical consequences of age-related changes in muscles and tendons". Department of Applied Physiology. Georgia Tech. 2016.
22. "Mechanical consequences of age-related changes in muscles and tendons". Department of Kinesiology. Penn State University. 2015.
21. "Experimental approaches to tendon research: tissues, organs, organisms". Advances in tendon research - from bench to bedside. London, UK. 2015.
20. "Skeletal muscle as a biological composite". Max Planck Institute of Colloids & Interfaces Potsdam, Germany, 2015.
19. "Mechanical consequences of age-related changes in muscles and tendons". Department of Biological Sciences. California State University at Fullerton. 2015.
18. "Determinants of tendon recoil during energy dissipating tasks". World Congress of Biomechanics. Boston, MA. 2014.
17. "Variation in locomotor function shapes neuromuscular properties". Department of Biological Sciences. California State University at San Bernardino. 2014.
16. "Function and evolution of the extracellular matrix in muscle". International Congress of Vertebrate Morphology. Barcelona, Spain. 2013.
15. "The emergent properties of muscles functioning as motors or brakes". Department of Orthopedic Surgery. University of California, San Diego. 2012.
14. "How the passive properties of muscle fascicles affect muscle performance". International Symposium on Multi-scale Muscle Mechanics". Kanagawa, Japan. 2012.
13. "Beyond the limits of the sarcomere: extending organismal performance through muscle-tendon architecture". Bartholomew Lecture, Society for Integrative and Comparative Biology. 2011.
12. "Muscle performance during frog jumping: influence of elasticity on muscle operating lengths". Invited symposium *Function and Control of Elastic Mechanisms*. Society of Experimental Biology. 2010.
11. "Beyond the limits of the sarcomere: extending organismal performance through muscle-tendon architecture". Department of Biology. The College of New Jersey. 2010.
10. "Beyond the limits of the sarcomere: extending organismal performance through muscle-tendon architecture". Structure-function seminar series. Harvard University. 2009.
9. "Gears, springs and the functional significance of muscle architecture". Department of Biology, Providence College. 2009.
8. "Mechanical behavior of aponeuroses". Invited symposium *Biomaterials: properties, variation, and evolution*. Society for Integrative and Comparative Biology, Boston MA. 2009.
7. "Gear, springs and the functional significance of muscle architecture". Biology seminar series, Northern Arizona University. 2008.

6. "Shifting gears: A functional analysis of muscle architecture". Biology Colloquium, Department of Biology, Harvey Mudd College. 2008.
5. "Shifting gears: A functional analysis of muscle architecture". Colloquium series in Biology, Department of Biological Sciences, University of Rhode Island. 2007.
4. "Fiber architecture: muscle function's black box". Department of Ecology and Evolutionary Biology, Brown University. 2006.
3. "Functional requirements of underwater walking: implications for early tetrapod gaits". Department of Ecology and Evolutionary Biology. Univ. of Connecticut, Storrs. 2005.
2. "Biomechanics of segmented muscle". Department of Kinesiology, University of Massachusetts, Amherst. 2003.
1. "Biomechanics of myosepta in a swimming salamander, *Siren lacertina*" Invited Symposium *Tendons: bridging the gap*. Society for Integrative and Comparative Biology, Anaheim, CA. 2002.

Published Abstracts

50. **Azizi E**, Balaban JP, Holt NC 2016. Contractile and connective tissue interactions in skeletal muscles. *Anatomical Record*, 299, 172. 1932-8494.
49. Reynaga CM, Astley HC, **Azizi E** 2016. Morphological and kinematic constraints of quadrupedal walking in frogs. *Integrative and Comparative Biology*, 56(1), E182. 1540-7063.
48. Balaban JP, **Azizi E** 2016. Reduced metabolic rate mitigates muscle atrophy in western fence lizards. *Integrative and Comparative Biology*, 56(1), E10. 1540-7063.
47. Abbott EM, Aikhionbare I, **Azizi E** 2016. Skeletal muscle architecture determines propensity for muscle damage during eccentric contractions. *Integrative and Comparative Biology*, 56(1), E1. 1540-7063.
46. Holt NC, **Azizi E** 2016. The effect of activation level on in vivo muscle lengths and velocities: do fibers always operate at their optima?. *Integrative and Comparative Biology*, 56(1), E94. 1540-7063.
45. Beechko AN, *Ghossein N, Horner A, Garland T, **Azizi E**. 2016. The effect of activation level on in vivo muscle lengths and velocities: do fibers always operate at their optima?. *Integrative and Comparative Biology*, 56(1), E14. 1540-7063.
44. Holt NC, **Azizi E** 2016. The effect of muscle compliance on the relationship between activation level and optimum length. *Integrative and Comparative Biology*, 56(1), E303. 1540-7063.
43. Danos N, Holt N, **Azizi E** 2015. Age-related changes in the material properties of muscle-tendon units. *Integrative and Comparative Biology*, 55(1), E40. 1540-7063.
42. Abbott EM, Sawicki GS, **Azizi E** 2015. Modeling the effective utilization of tendons during eccentric contractions. *Integrative and Comparative Biology*, 55(1), E1. 1540-7063.
41. Balaban JP, **Azizi E** 2015. Muscle Atrophy and Contractile Properties in the Fence Lizard, *Sceloporus occidentalis*. *Integrative and Comparative Biology*, 55(1), E216. 1540-7063.
40. Holt NC, Danos N, **Azizi E** 2015. Unable to shift gears: the loss of variable gearing in aged muscles. *Integrative and Comparative Biology*, 55(1), E81. 1540-7063.
39. **Azizi E**, *Dunlevie MD 2014. Boundaries of skeletal muscle instability at long sarcomere lengths. *Integrative and Comparative Biology*, 54, E8-E8. 1540-7063.
38. Holt NC, Abbott EM, **Azizi E**. 2014. Compliance, activation and the force-length relationship in skeletal muscle. *Integrative and Comparative Biology*, 54, E93-E93. 1540-7063.

37. Reynaga CM, Danos N, **Azizi E**. 2014. Conflicts between locomotor modes: terrestrial and aquatic locomotion in the Senegal running frog, *Kassina senegalensis*. *Integrative and Comparative Biology*, 54, E337-E337. 1540-7063.
36. Deslauriers AR, **Azizi E**. 2014. Do visual cues modulate motor control strategies during landing in toads?. *Integrative and Comparative Biology*, 54, E264-E264. 1540-7063.
35. Danos N, **Azizi E**. 2014. Passive Properties of Anuran Hindlimb Muscles. *Integrative and Comparative Biology*, 54, E47-47. 1540-7063.
34. Abbott EM, **Azizi E**. 2014. The effect of muscle relaxation rate on tendon recoil during energy dissipating tasks. *Integrative and Comparative Biology*, 54, E1-E1.
33. Gillis GB, Ekstrom L, **Azizi E**. 2014. Using Anuran Landing as a Model for Studying Controlled Deceleration. *Integrative and Comparative Biology*, 54, E75-E75.
32. Danos N, **Azizi E**. 2013. Functional Morphology of Intramuscular Connective Tissue: Review. *Anatomical Record*, 296, 149. 1932-8494.
31. **Azizi E**, Abbott EM 2013. Anticipatory motor patterns limit muscle stretch during landing in toads. *Integrative and Comparative Biology*, 53, E8-E8. 1540-7063.
30. *Rana PV, *Larson NP, Abbott EM, **Azizi E**. 2013. How toads minimize torques to stick their landings. *Integrative and Comparative Biology*, 53, E356-E356. 1540-7063.
29. Danos N, **Azizi E**. 2013. Muscle-collagen interaction at the fiber bundle level. *Integrative and Comparative Biology*, 53, E47-E47. 1540-7063.
28. Abbott EM, **Azizi E**. 2013. The timing of muscle recruitment alters series elastic function during lengthening contractions. *Integrative and Comparative Biology*, 53, E1-E1. 1540-7063.
27. Abbott EM, **Azizi E**, Roberts TJ 2012. Extrinsic Loading in Cuban treefrog jumping. *Integrative and Comparative Biology*, 52, E1-E1.
26. **Azizi E** 2012. Muscle properties are tuned to mechanical function: Lessons from hopping toads. *Integrative and Comparative Biology*, 52, E8-E8.
25. Harper CJ, **Azizi E**, Nowroozi BN, *Sullivan AC, & Swartz SM 2010. Hovering and hovering: tongue and wing movements in nectar-feeding bats *Glossophaga soricina*. *Integ. & Comp. Biol.* 50(1): e239
24. *Crynes GL, **Azizi E**, & Roberts TJ 2010. Variable gearing in artificial pneumatic muscles. *Integ. & Comp. Biol.* 50(1): e219
23. Konow N, **Azizi E**, & Roberts TJ 2010. Avian all-terrain: Tendons as power attenuators during rapid energy absorption. *Integ. & Comp. Biol.* 50(1): e93
22. **Azizi E** & Roberts TJ 2010. Geared up to stretch: pinnate muscle behavior during active lengthening. *Integ. & Comp. Biol.* 50(1): e6
21. Abbott EM, Marsh RL, Astley HC, **Azizi E**, & Roberts TJ 2010. The celebrated frogs of Calaveras county: how far can a frog really jump? *Integ. & Comp. Biol.* 50(1): e1
20. **Azizi E** & Roberts TJ 2009. Biaxial strain and variable stiffness in aponeuroses. *Comp. Biochem. & Physiol.* 153A, 2: S128
19. Roberts TJ & Azizi E 2009. Tendons as power attenuators. *Comp. Biochem. & Physiol.* 153A, 2: S127
18. **Azizi E** & Roberts TJ 2009. Mechanical behavior of aponeuroses. *Integ. & Comp. Biol.* 49(S1): e7
17. **Azizi E** & Roberts TJ 2009. Muscle performance during frog jumping: influence of series elasticity on muscle length-tension behavior. *Integ. & Comp. Biol.* 49 (S1): e7

16. Roberts TJ & **Azizi E** 2009. The series elastic shock absorber: tendon elasticity reduces peak muscle forces during active lengthening. *Integ. & Comp. Biol.* 49 (S1): e145
15. Sawicki GS, **Azizi E**, & Roberts TJ 2008. Muscle activation timing influences muscle-tendon mechanical performance during cyclic contractions. *Proc. North Am. Cong. Biomechanics.*
14. **Azizi E**, & Roberts TJ 2008. Three-dimensional strain patterns in aponeuroses. *Integ. & Comp. Biol.* 47(S1): e4.
13. **Azizi E**, & Roberts TJ 2007. Variable gearing in pennate muscles. *Integ. & Comp. Biol.* 46(S1): e5.
12. **Azizi E**, Landberg T, & Wassersug RJ 2006. Trunk mechanics during tadpole locomotion. *Integ. & Comp. Biol.* 45(6): 1107.
11. Dean MN, **Azizi E**, & Summers AP 2006. Uniform strain in broad muscles: A new twist on tendons. *Integ. & Comp. Biol.* 45(6): 1223.
10. *Flammang B, & **Azizi E** 2005. The radial muscle: A new chapter in shark tails. *Integ. & Comp. Biol.*, 44(6): 553.
9. **Azizi E**, Levine RP, Ward AB, and Zottoli SJ 2004. Startle response motor patterns and Mauthner Cell morphology in three elongate fish species: *Anguilla rostrata*, *Mastacembelus armatus*, and *Protopterus annectens*. *J. Morphology*, 260 (3): 275.
8. **Azizi E**, and *Horton JM 2004. Patterns of axial and appendicular movements during aquatic walking in the Salamander, *Siren lacertina*. *Integ. & Comp. Biol.*, 43(6): 986.
7. Landberg T, and **Azizi E** 2004. Size, shape and metamorphosis: Ontogeny of the aquatic escape response of spotted salamanders, *Ambystoma maculatum*. *Integ. & Comp. Biol.*, 43(6): 906.
6. Brainerd EL, and **Azizi E** 2003. A planar, isovolumetric model of segmented axial musculature. *Comp. Biochem. & Physiol*, 134A (3): S56.
5. **Azizi E**, and Brainerd EL 2003. Strain measurements of angled muscle fibers during swimming in an aquatic salamander *Siren lacertina*. *Comp. Biochem. & Physiol*, 134A (3): S49.
4. **Azizi E**, and Brainerd EL 2001. Biomechanics of hypaxial myosepta in a swimming salamander, *Siren lacertina*. *Am. Zool.*, 41(6): 1383.
3. Ward AD, and **Azizi E** 2001. Kinematics of the startle response of elongate fishes and amphibians. *Am. Zool.* 40(6): 1620.
2. **Azizi E**, * Landberg T, and Brainerd EL 2000. Kinematics and performance of the escape response in an aquatic salamander, *Eurycea bislineata*. *Am. Zool.*, 41(6): 933.
1. McHenry MJ, and **Azizi E** 1998. 3D kinematics of swimming maneuvers by ascidian larvae (*Distaplia occidentalis*). *Am. Zool.*, 38(5): 57A.

*undergraduate co-author

Service

Department of Ecology and Evolutionary Biology:

- 2011-present Prescription Committee, Member
- 2011-2014 Commencement Committee, Member
- 2013 GAANN Fellowship Committee, Member
- 2012 Search Committee, PSOE position in Physiology, Member

School of Biological Sciences:

- 2014-present Committee on Honors Biology, Member
- 2015 Eugene Cota Robles Fellowship, Application Reviewer

Societies:

- 2014-2016 Program Officer (elected), Division of Vertebrate Morphology, Society for Integrative and Comparative Biology
- 2014 Chair of Symposium “Determinants of Skeletal Muscle Diversity” American Physiological Society, San Diego, CA
- 2013 Chair of Symposium “Muscle-tendon Interactions”, Society of Experimental Biology, Valencia, Spain
- 2013 Chair of Symposium “Function and Evolution of Muscle Extra-cellular Matrix”, International Congress of Vertebrate Morphology
- 2012 Panelist, Workshop “Improve your presentation skills” Society for Integrative and Comparative Biology meeting. San Francisco, CA
- 2007, 2010 Judge, Best Student Presentation Award. Society for Integrative and Comparative Biology. Division of Vertebrate Morphology

Editorial:

- 2013-present Editorial Review Board, Journal of Experimental Zoology: Ecological Genetics and Physiology.
- 2015-present Editorial Review Board, Zoology.
- 2016-present Editorial Review Board, Integrative and Comparative Biology.

Peer Review:**Journals**

- | | |
|---|---|
| 1. Journal of Biomechanics | 2. Biology Letters |
| 3. Journal of Applied Physiology | 4. Journal of Experimental Biology |
| 5. Journal of the Royal Society: Interface | 6. Evolution |
| 7. Zoology | 8. Behavioral Ecology and Sociobiology |
| 9. Functional Ecology | 10. Journal of Comparative Physiology |
| 11. Philosophical Trans. of the Royal Society | 12. Journal of Experimental Zoology |
| 13. Annals Biomedical Engineering | 14. Biomech. & Modeling in Mechanobiology |
| 15. <i>PNAS</i> | 16. Nature Communications |
| 17. Journal of Theoretical Biology | 18. European J. of Applied Physiology |

Panelist

National Science Foundation, Integrative and Organismal Systems

Grant Proposals

National Science Foundation

German Research Foundation (Deutsche Forschungsgemeinschaft)

Research Council UK