Curriculum Vitae
Timothy Edward Higham

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ACADEMIC POSITIONS:

2021 to present: Full Professor, University of California, Riverside
2015 2021: Associate Professor, University of California, Riverside
2017 to 2018: Alexander von Humboldt Fellow, University of Freiburg and the Museum Koenig, Germany
2011 to 2015: Assistant Professor, University of California, Riverside
2008 to 2011: Assistant Professor, Clemson University

POST-DOCTORAL:

2006 to 2008: Harvard University.

EDUCATION:

2006: Ph.D. University of California, Davis (with Peter Wainwright)
2003: M.S. University of Cincinnati (with Bruce Jayne)
2000: B.S. University of Calgary. Zoology

PUBLICATIONS:

133) Axlid, E.G., Shirazi, S., and **T.E. Higham**. In review. Feeding in flow: environmental flow conditions alter prey capture kinematics in fish.

132) **Higham, T.E.**, Ryan, D., Antos, C., and M. Bradley. In revision. Sidewinding, swimming, and slithering: Garter snakes modulate performance and kinematics in response to substrate and medium.

131) Ginal, P., Ecker, Y., **Higham, T.E.**, Grismer, L.L, Wipfler, B., Rödder, D., Russell, A.P., and J. Riedel. 2026. Subdigital integumentary microstructure in *Cyrtodactylus* (Squamata: Gekkota): do those lineages with incipiently expressed toepads exclusively exhibit adhesive setae? *Beilstein Journal of Nanotechnology.* 17: 38-56.

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127) Remington, M.J., Clark, R.W., Hanscom, R.J., **Higham, T.E.**, and J. Sukumaran. 2025. Thermal dynamic of ectotherm behavioral strategies: Insights from agent-based simulations. *bioRxiv*. 30.651512.

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124) **Higham, T.E.** 2025. Frictional adhesion of geckos predicts maximum running performance in nature. *Journal of Experimental Biology.* 228: jeb247906.

123) Shirazi, S. and **T.E. Higham**. 2024. How do fish miss? Attack strategies of threespine stickleback capturing non-evasive prey. *Journal of Experimental Biology.* 227: jeb247814.

122) Riedel, J., Eisele, K, Gabelaia, M, **Higham, T.E.**, Wu, J. Hanh Do, Q., Quang Nguyen, T., Meneses, C.G., Brown, R.M., Ziegler, T., Grismer, L.L., Reinhold, K., Russell, A.P., and D. Rödder. 2024. Ecologically-related variation in digit morphology in *Cyrtodactylus* (Gekkota, Squamata) reveals repeated origins of incipient adhesive toepads. *Functional Ecology.* 38: 1630-1648.

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accelerometry: a case study of Merriam's kangaroo rats (*Dipodomys merriami*). *Movement Ecology.* 11:72.

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100) Vollin, M.F. and **T.E. Higham**. 2021. Tail autotomy alters prey capture performance and kinematics, but not success, in banded geckos. *Integrative and Comparative Biology*. 61, 538-549.

99) Clark, J, C. Clark, and **T.E. Higham**. 2021. Tail control enhances gliding in arboreal lizards: an integrative study using a 3D geometric model and numerical simulation. *Integrative and Comparative Biology*. 61, 579-588.

98) **Higham, T.E.**, M. Hofmann, M. Modert, M. Thielen, and T. Speck. 2021. Jumping with adhesion: landing surface incline alters impact force and body kinematics in crested geckos. *Scientific Reports*. 11, 23043.

97) Wright, A.N., R. Screen, E.R. Naylor, C. Piantoni, S. Kennedy-Gold, and **T.E. Higham**. 2021. Clinging performance on natural substrates predicts habitat use in anoles and geckos. *Functional Ecology.* 35, 2472-2482.

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92) Zhuang, M.V. A.P. Russell, and **T.E. Higham**. 2019. Evolution of digit orientation and morphology in relation to the acquisition of the adhesive system in geckos. *Journal of Morphology.* 280, 1582-1599.

91) Russell, A.P., A.Y. Stark, and **T.E. Higham**. 2019. The Integrative Biology of Gecko Adhesion: historical review, current understanding and grand challenges. *Integrative and Comparative Biology.* 59, 101-116.

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87) Whitford, M.D, G.A Freymiller, **T.E. Higham**, and R.W. Clark. 2019. Determinants of predation success: how to survive an attack from a rattlesnake. *Functional Ecology.* 33, 1099-1109.

86) Pinto, B.J., G.R. Colli, **T.E. Higham**, A.P. Russell, D.P. Scantlebury, L.J. Vitt, and T. Gamble. 2019. Population Genetic Structure and Species Delimitation of a Widespread, Neotropical Dwarf Gecko, *Gonatodes humeralis* (Sphaerodactylidae: Gekkota). *Molecular Phylogenetics and Evolution.* 133, 54-66.

85) Kumar, C., A. Palacios*, V.A. Surapaneni, G. Bold, M. Thielen, **T.E. Higham**, T. Speck, and V. Le Houerou. 2019. Replicating the complexity of natural surfaces: technique validation and applications for biomimetics, ecology, and evolution. *Philisophical Transactions of the Royal Society A.* 377, 20180265.

84) **Higham, T.E.** 2019. Lizard locomotion: behavior, performance, and function. In: Lizard Behavior: Evolutionary and Mechanistic Perspectives. V. Bels and A.P. Russell (eds.). CRC Press. pp. 47-86.

83) Thompson, K.*, S. Van Wassenbergh, S.M. Rogers, S.G. Seamone, and **T.E. Higham**. 2018. Suction feeding performance and hydrodynamics are negatively impacted by angling-induced injuries in marine shiner perch, *Cymatogaster aggregata*. *Journal of Experimental Biology.* 221, 180935.

82) Foster, K.L., T. Garland, Jr., L. Schmitz, and **T.E. Higham**. 2018. Skink ecomorphology: forelimb and hind limb lengths, but not static stability, correlate with habitat use and demonstrate multiple solutions. *Biological Journal of the Linnean Society*. 125, 673-692.

81) Jagnandan, K. and **T.E. Higham**. 2018. Neuromuscular control of locomotion is altered by tail autotomy in geckos. *Journal of Experimental Biology*. 221, 179564.

80) **Higham, T.E.** S.G. Seamone, A. Arnold, D. Toews, Z. Janmohamed, S.J. Smith, and S.M. Rogers. 2018. The ontogenetic scaling of form and function in the spotted ratfish, *Hydrolagus colliei* (Chondrichthyes: Chimaeriformes): fins, muscles, and locomotion. *Journal of Morphology*. 279, 1408-1418.

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78) Jagnandan, K. and **T.E. Higham**. 2018. How rapid changes in body mass affect the locomotion of terrestrial vertebrates: ecology, evolution and biomechanics of a natural perturbation. *Biological Journal of the Linnean Society.* 124, 279-293.

77) Gamble, T., E. McKenna, W. Meyer, S.V. Nielsen, B.J. Pinto, D.P. Scantlebury, and **T.E. Higham**. 2018. XX/XY Sex Chromosomes in the South American Dwarf Gecko (*Gonatodes humeralis*). *Journal of Heredity.* 109, 462-468.

76) Harrington, S., B. Hollingsworth, **T.E. Higham**, and T. Reeder. 2018. Pleistocene climatic fluctuations drive historical isolation and secondary contact in the Red Diamond Rattlesnake (*Crotalus ruber*) in Baja California. In Press. *Journal of Biogeography.* 45, 64-75.

75) Collins, C.E. and **T.E. Higham**. 2017. Individuals of the common Namib day gecko vary in how adaptive simplification alters sprint biomechanics. *Scientific Reports.* 7, 15595.

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72) **Higham, T.E.**, H.A. Jamniczky, K. Jagnandan, S.J. Smith, T.N. Barry, and S.M. Rogers. 2017. Comparative dynamics of suction feeding in marine and freshwater three-spined stickleback,

Gasterosteus aculeatus: kinematics and geometric morphometrics. *Biological Journal of the Linnean Society.* 122, 400-410.

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68) **Higham, T.E.**, R.W. Clark, C.E. Collins, M.D. Whitford, and G.A. Freymiller. 2017. Rattlesnakes are extremely fast and variable when striking at kangaroo rats in nature: Three-dimensional high-speed kinematics at night. *Scientific Reports*. 7, 40412.

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66) **Higham, T.E.**, S.M. Rogers, R.B. Langerhans, H.A. Jamniczky, G.V. Lauder, W.J. Stewart, C.H. Martin, and D.N. Reznick. 2016. Speciation through the lens of biomechanics: locomotion, prey capture, and reproductive isolation. *Proceedings of the Royal Society B*. 283, 20161294.

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61) Olberding, J.P., A. Herrel, **T.E. Higham**, and T. Garland, Jr. 2016. Limb segment contributions to the evolution of hind limb length in phrynosomatid lizards. *Biological Journal of the Linnean Society.* 117, 775-795.

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57) Russell, A.P., J. Baskerville, T. Gamble, and **T.E. Higham**. 2015. The evolution of digit form in Gonatodes (Gekkota: Sphaerodactylidae) and its implications for the transition from frictional to adhesive contact in gekkotans. *Journal of Morphology.* In press.

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54) **Higham, T.E.**, G.J. Measey, A.V. Birn-Jeffery, A. Herrel, and K.A. Tolley. 2015. Functional divergence between morphs of a dwarf chameleon: Differential locomotor kinematics in relation to habitat structure. *Biological Journal of the Linnean Society*. 116, 27-40.

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34) **Higham, T.E.** and A.P. Russell. 2012. Time-varying motor control of autotomized leopard gecko tails: multiple inputs and behavioral modulation. *Journal of Experimental Biology.* 215, 435-441.

33) Olberding, J.P. L.D. McBrayer, and **T.E. Higham**. 2012. Performance and three-dimensional kinematics of bipedal lizards during obstacle negotiation. *Journal of Experimental Biology.* 215, 247-255.

32) O'Connor, J.L., L.D. McBrayer, **T.E. Higham**, J.F. Husak, I.T. Moore, and D.C. Rostal. 2011. Effects of training and testosterone on locomotor performance in male six-lined racerunners (*Aspidoscelis sexlineata*). *Physiological and Biochemical Zoology*. 84, 394-405.

30) **Higham, T.E.,** P.G. Korchari, and L.D. McBrayer**.** 2011. How muscles define maximum locomotor performance in lizards: An analysis using swing and stance phase muscles. *Journal of Experimental Biology.* 214, 1685-1691.

29) Kane, E.A. and **T.E. Higham.** 2011. The integration of locomotion and feeding in cottid fishes: Functional disparity despite morphological similarity. *Journal of Experimental Biology.* 214, 1092-1099.

28) Clark, A.J. and **T.E. Higham**. 2011. Slipping, sliding, and stability: locomotor strategies for overcoming low-friction surfaces. *Journal of Experimental Biology.* 214, 1369-1378.

27) **Higham, T.E.** and A.A. Biewener. 2011. Functional and architectural complexity within and between muscles: regional variation and intermuscular force transmission. *Philosophical Transactions of the Royal Society B*. 366, 1477-1487.

26) **Higham, T.E.**, A.A. Biewener, and S. Delp. 2011. Mechanics, modulation and modeling: how muscles actuate and control movement. *Philosophical Transactions of the Royal Society B.* 366, 1463-1465.

26) Fuller, P.O, **T.E. Higham**, and A.J. Clark. 2011. Posture, speed, and habitat structure: Three-dimensional hindlimb kinematics of two species of padless geckos. *Zoology.* 114, 104-112.

25) **Higham, T.E.**, P.G. Korchari, and L.D. McBrayer. 2011. How to climb a tree: Lizards accelerate faster, but pause more, when escaping on vertical surfaces. *Biological Journal of the Linnean Society.* 102, 83-90.

24) **Higham, T.E.** 2011. The biomechanics of feeding in fishes. In: *Encyclopedia of Fish Physiology: From Genome to Environment*. Farrell, A.P. (ed.), volume 1, pp. 597-602. Sand Diego: Academic Press.

23) **Higham, T.E.** 2010. Book review of "Feeding and Digestive Functions of Fishes". *Quarterly Review of Biology*. 85, 374.

22) **Higham, T.E.** and A.P. Russell**.** 2010. Divergence in locomotor performance, ecology, and morphology between two sympatric sister species of desert-dwelling gecko. *Biological Journal of the Linnean Society.* 101, 860-869.

21) Foster, K.L. and **T.E. Higham.** 2010. How to build a pectoral fin: Functional morphology and steady swimming kinematics of the spotted ratfish, Hydrolagus colliei. *Canadian Journal of Zoology*. 88 (8), 774-780.

20) **Higham, T.E.** and A.P. Russell. 2010. Flip, flop and fly: modulated motor control and highly variable movement patterns of autotomized gecko tails. *Biology Letters.* 6, 70-73. doi:10.1098/rsbl.2009.0577

19) Russell, A.P. and **T.E. Higham**. 2009. A new angle on clinging in geckos: Incline, not surface structure, triggers the deployment of adhesive system. *Proceedings of the Royal Society B.* 276, 3705-3709.

18) **Higham, T.E.** and A.A. Biewener. 2009. Fatigue alters *in vivo* function within and between limb muscles during locomotion. *Proceedings of the Royal Society B.* 276, 1193-1197.

17) Wainwright, P.C., R.S. Mehta and **T.E. Higham**. 2008. Stereotypy, flexibility and coordination: key concepts in behavioral functional morphology. *Journal of Experimental Biology.* 211, 3523-3528.

16) **Higham, T.E.** and F.E. Nelson. 2008. The integration of lateral gastrocnemius muscle function and kinematics in running turkeys. *Zoology.* 111, 483-493.

15) **Higham, T.E.** and A.A. Biewener. 2008. Integration within and between muscles during terrestrial locomotion: effects of incline and speed. *Journal of Experimental Biology.* 211, 2303-2316.

14) **Higham, T.E.**, A.A. Biewener and J.M. Wakeling. 2008. Functional diversification within and between muscle synergists during locomotion. *Biology Letters.* 4, 41-44.

13) Day, S. W., **T. E. Higham** and P. C. Wainwright. 2007. Time resolved measurements of the flow generated by suction feeding fish. *Experiments in Fluids*. 43, 713-724.

12) Wainwright, P.C., A.M. Carroll, D.C. Collar, S.W. Day, **T.E. Higham** and R.A. Holzman. 2007. Suction feeding mechanics, performance and diversity in fishes. *Integrative and Comparative Biology.* 47, 96-106.

11) **Higham, T.E.** 2007. The integration of locomotion and prey capture in vertebrates: evolution of morphology, behavior and performance. *Integrative and Comparative Biology.* 47, 82-95

10) **Higham, T.E.**, C.D. Hulsey, O. Rican and A.M. Carroll. 2007. Feeding with speed: prey capture evolution in cichlids. *Journal of Evolutionary Biology.* 20, 70-78.

9) **Higham, T.E.** 2007. Feeding, fins and braking maneuvers: locomotion during prey capture in centrarchid fishes. *Journal of Experimental Biology.* 210, 107-117.

8) **Higham, T.E.**, S.W. Day, and P.C. Wainwright. 2006. The pressures of suction feeding: the relation between buccal pressure and induced fluid speed in centrarchid fishes. *Journal of Experimental Biology.* 209, 3281-3287.

7) **Higham, T.E.**, S.W. Day, and P.C. Wainwright. 2006. Multidimensional analysis of suction feeding performance in fishes: fluid speed, acceleration, strike accuracy and the ingested volume of water. *Journal of Experimental Biology.* 209, 2713-2725.

6) **Higham, T.E.**, B. Malas, B.C. Jayne and G.V. Lauder. 2005. Constraints on starting and stopping: behavior compensates for reduced pectoral fin area during braking of the bluegill sunfish *Lepomis macrochirus*. *Journal of Experimental Biology.* 208, 4735-4746.

5) Day, S.W., **T.E. Higham**, A.Y. Cheer, and P.C. Wainwright. 2005. Spatial and temporal patterns of water flow generated by suction feeding bluegill sunfish *Lepomis macrochirus* resolved by Particle Image Velocimetry. *Journal of Experimental Biology.* 208, 2661-2671. Also see cover.

4) **Higham, T.E.**, S.W. Day and P.C. Wainwright. 2005. Sucking while swimming: evaluating the effects of ram speed on suction generation in bluegill sunfish *Lepomis macrochirus* using digital particle image velocimetry. *Journal of Experimental Biology.* 208, 2653-2660. Also see cover.

3) **Higham, T.E.**, and B.C. Jayne. 2004. *In vivo* muscle activity in the hindlimb of the arboreal lizard, *Chamaeleo calyptratus*: general patterns and the effects of incline. *Journal of Experimental Biology.* 207, 249-261.

2) **Higham, T.E.**, and B.C. Jayne. 2004. Locomotion of lizards on inclines and perches: hindlimb kinematics of an arboreal specialist and a terrestrial generalist. *Journal of Experimental Biology.* 207, 233-248.

1) **Higham, T.E.**, M.S. Davenport, and B.C. Jayne. 2001. Maneuvering in an arboreal habitat: the effects of turning angle on the locomotion of three sympatric ecomorphs of *Anolis* lizards. *Journal of Experimental Biology.* 204, 4141-4155.

FELLOWSHIPS AND AWARDS:

Pending: Human Frontiers Science Program: The evolution and mechanics of gliding in geckos. $1,500,000.

2019-2024: NSF Award ($240,874). Collaborative Research: Strike while the snake is hot: will increasing nighttime temperatures make an endothermic keystone species more susceptible to ectothermic predators? Awarded by the Physiological Mechanisms & Biomechanics program in the Division of Integrative and Organismal Systems (IOS). Award Number: 1856408 (in collaboration with Jeet Sukumaran and Rulon Clark).

2018-2022: NSF Award ($294,022). The genetic architecture of biomechanical integration in fishes. Awarded by the Physiological Mechanisms & Biomechanics program in the Division of Integrative and Organismal Systems (IOS). Award Number: 1838297.

2021: Company of Biologists Meeting Grant ($3,500).

2018-2021: NSF Award ($43,318). Workshop: Reciprocal illumination between ecology and biomechanics: evolution, integration, and constraint, March 2019, Portland, Oregon

2018-2021: NSF Award ($15,000). Symposium grant for 2019 annual meeting of the Society for Integrative and Comparative Biology, Tampa, Florida.

2017-2018: Alexander von Humboldt Fellowship for Experienced Researchers. University of Freiburg and the Museum Koenig in Bonn, Germany (€40,000).

2017: Nouragues Travel Grant for travel to French Guiana (€7,000).

2012-2018: NSF Award ($420,000). Locomotion and adhesion in geckos: The link between ecology, form, and function. Awarded by the Physiological and Structural Systems Cluster in the Division of Integrative and Organismal Systems (IOS). Award Number: 1147043.

2015-2018: GAANN Fellowship ($1,477,758): Ecology, Evolution, Organismal Biology: SustainLife (co-wrote with David Reznick).

2015: Junior Excellence in Teaching Award (JET) – Honoree Select. UC Riverside.

2014: Meeting grant from the Company of Biologists ($3,130)

2013-2015: UC MEXUS Small Grant ($1,500).

2013: Meeting grant from the Company of Biologists ($4,630).

2012: Meeting grant from the Company of Biologists ($2,300).

2010: University Research Grant Committee (URGC) award ($7,346).

2008: NSERC postdoctoral fellowship ($80,000 – declined)

2006: *Journal of Experimental Biology* Traveling Fellowship ($3,300).

2006: William S. Hoar Award for best student oral presentation at the 2006 annual meeting of the Canadian Society of Zoologists ($500).

2006: Fellowship for travel to the 2006 annual meeting of the Canadian Society of Zoologists ($300).

2004: UC Davis Graduate fellowship ($14,000).

2003: UC Davis Graduate fellowship ($21,500).

2003: University of Cincinnati Harry L. Wieman Summer Fellowship ($1,100).

2002: University of Cincinnati Harry L. Wieman Summer Fellowship ($1,000).

UNIVERSITY SERVICE:

2025 - present: Systemwide UC Education Abroad Program - Africa Study Abroad Task Force.

2026 - present: EEOB Awards Committee

2023: University Committee on International Education Review Committee for the UC Education Abroad's programs in Costa Rica (systemwide committee).

2022 - Present: Member of the Advisory Board for the Bamfield Marine Sciences Centre

2022 - present: CNAS Awards Committee at UCR

2022: Member of the Comparative Biomechanics Search Committee at UCR

2020 - present: Member of the UCEAP Biological Sciences Faculty Advisory Committee

2019 - present: UC Riverside EEOB Graduate Advisor for Admissions and Recruitment

2020 - 2021: UC Riverside Highlander Abroad Advisory Committee

2018 - 2021: UC Riverside CNAS Executive Committee

2013 - 2017: UC Riverside Natural Reserve System Advisory Committee

2016 - 2017: Graduate Advisor for joint doctoral program between UC Riverside and SDSU

2016 - 2017: Vice Chair of IACUC at UC Riverside

2015 - 2017: Member of the IACUC at UC Riverside

2015 - 2016: Faculty Search Committee for Community Ecology at UC Riverside

2015 - 2017: GAANN Advisory Committee

2015 - 2017: UC Riverside EEOB Graduate Advisor for Admissions and Recruitment

2014 - 2020: Graduate Written Exam Committee, UC Riverside

2015 - present: University of California Education Abroad Program Faculty Advisory Committee for Africa

2015: Ad hoc committee for the Shipley-Skinner grants at UC Riverside

2014 - 2017: Committee on Scholarships and Honors at UC Riverside

2012: Faculty Search Committee for Behavioral Ecologist at UC Riverside

2012 - 2014: Chair of Seminar Organizing Committee at UC Riverside

2011: Mathias Award Committee at UC Riverside

2010 - 2011: Curriculum Committee at Clemson University

2010 - 2011: Seminar Committee at Clemson University

PROFESSIONAL ACTIVITIES:

2025 - present: Senior Editor of ***Functional Ecology.***

2022: Joined the editorial board of ***Scientific Reports***.

2019: Co-organized an NSF-funded working group (with Lara Ferry) about biomechanics and the rules of life. This led to a 25-authored paper that was published in ***Trends in Ecology and Evolution***.

2019: Co-organized a symposium (with Alyssa Stark and Anthony Russell) for the annual meeting of the **Society for Integrative and Comparative Biology** (Tampa, Florida) titled: The path less traveled: Reciprocal illumination of gecko adhesion by unifying material science, biomechanics, ecology, and evolution.

2016-2017: Chair of the Comparative Morphology & Development section of the **Canadian Society of Zoologists**.

2015: Organized a symposium (with Rich Palmer) for the annual meeting of the **Canadian Society of Zoologists** (Calgary, Canada) titled "From head to toe: Integrative vertebrate morphology and evolution". See http://www.biology.ualberta.ca/CMD/home.htm for more information.

2015: Organized a symposium (with Rich Palmer) for the annual meeting of the **Canadian Society of Zoologists** (Calgary, Canada) titled "Ten Years of The Triple Helix: Development, Morphology, Evolution". See http://www.biology.ualberta.ca/CMD/home.htm for more information.

2015: Organized a symposium (with Peter Wainwright) for the annual meeting of the **Society for Integrative and Comparative Biology** (West Palm Beach, Florida) titled "New insights into suction feeding biomechanics and evolution". See http://www.sicb.org/meetings/2015/symposia/index.php for more information.

2014-2021: Co-editor of ***Physiological and Biochemical Zoology***.

2014: Organized a symposium (with Rick Blob) for the annual meeting of the **Society for Integrative and Comparative Biology** (Austin, Texas) titled "Terrestrial locomotion: Where do we stand, where are going?" See http://www.sicb.org/meetings/2014/symposia/locomotion.php for more information.

2013: Organized a regional SICB conference at the University of California, Riverside. Conference consisted of 80 scientists from the SW representing the Divisions of Vertebrate Morphology and Comparative Biomechanics. See http://www.biomechanics.ucr.edu/ucr2013/ for more information.

2013: Elected to the Executive Council of the **Canadian Society of Zoologists.**

2013: Organized a symposium (with Ted Garland) for the **International Congress of Vertebrate Morphology** (Barcelona, Spain) titled "The evolution of locomotion: reciprocal illumination from a diversity of approaches".

2013: Organized a symposium (with Anthony Herrel) for the **International Congress of Vertebrate Morphology** (Barcelona, Spain) titled "Sticks, stones, and slopes: the link between substrate characteristics, morphology, and biomechanics.

2012: Invited to join ***Functional Ecology*** as an editor.

2012: Organized a symposium (with Anthony Russell) for the **World Congress of Herpetology** (Vancouver, Canada) titled "Caudal Autotomy and Regeneration in Lizards: Patterns, Costs, and Benefits".

2011: Elected as Secretary of the Division of Comparative Biomechanics of the **Society for Integrative and Comparative Biology**.

2011-2014: Editorial board member of the ***Journal of Evolutionary Biology.***

2010: Guest Editor (with Andrew Biewener) for a ***Philosophical Transactions of the Royal Society B*** theme issue titled "Integration of muscle function for producing and controlling movement". Volume 366, issue 1570, April 2011.

2010: Organized a symposium (with Andrew Biewener) for the annual meeting of the **American Physiological Society** (Westminster, Colorado) titled "Off the beaten path: Integrative aspects of muscle function during locomotion".

2007: Organized a symposium (with Peter Wainwright) for the annual meeting of the **Society for Integrative and Comparative Biology** (Phoenix, Arizona) titled "The evolution of feeding mechanisms in vertebrates".

INVITED SEMINARS:

2025: Harvard University, Department of Organismic and Evolutionary Biology
2020: American Museum of Natural History, Comparative Biology series
2019: University of Calgary, Department of Biological Sciences
2017: University of Bonn, Germany
2017: University of Konstanz, Germany
2016: University of Hawaii at Manoa, Department of Biology
2016: La Sierra University, Department of Biology.
2014: University of Calgary. Department of Biological Sciences.
2013: San Diego State University. Biology Department.
2013: Claremont Colleges. Keck Science Department.
2013: California State University, San Bernardino. Department of Biology.
2013: University of Alabama, Department of Biological Sciences.
2011: University of California, Irvine. School of Biological Sciences.
2011: California State University, Long Beach. Biological Sciences.
2011: University of California, Riverside. Department of Cell Biology and Neuroscience.
2011: Bamfield Marine Sciences Centre. Evening seminar series.
2011: University of Calgary. Department of Comparative Biology and Experimental Medicine.
2011: University of Regina. Department of Biology.
2011: University of California, Riverside. Department of Biology.
2009: Simon Fraser University. Department of Biomedical Physiology and Kinesiology.
2009: University of British Columbia. Department of Zoology.
2008: College of Charleston. Department of Biology.
2008: Georgia Southern University. Department of Biology.
2008: Clemson University. Environmental Toxicology.
2008: Clemson University. Department of Biological Sciences.
2008: University of Wyoming. Department of Zoology and Physiology.
2007: University of Missouri-Columbia. Integrative Anatomy.
2007: University of Guelph. Department of Biomedical Sciences.
2005: University of California, Davis. Molecular, Cellular and Integrative Physiology.

MEDIA ATTENTION:

2024: UCR Today, NPR, CNN, Washington Post, Forbes, Science News, and many more (Pub #
2021: UCR Today, BBC News, (Pub #100)
2020: Phys.org, UCR Today, SDSU Newsletter, Inside JEB (Pub #95)
2019: Scientific American, Newsweek, Live Science, and many more (Pubs #87 and #88)
2018: Discover Magazine, CBC Quirks and Quarks, NY Post, and many more (Pub #83)
2017: The Wire, UCR Today (https://ucrtoday.ucr.edu/48808) (Pub #74)
2017: Cornell Chronicle, Phys.Org, ScienceDaily, UCR Today (https://ucrtoday.ucr.edu/48070) (Pub #71)
2017: UCR Today (https://ucrtoday.ucr.edu/40236) (Pub #70)
2017: The Mirror, Gizmodo, Press-Enterprise, Live Science (Pub #68)
2015: Los Angeles Times, IFL Science, UCR Today (http://ucrtoday.ucr.edu/26570), Science Daily, and many others (Pub #53)
2014: UCR Today (http://ucrtoday.ucr.edu/25123), ScienceDaily, EH Science (Pub #45)
2014: UCR Today (http://ucrtoday.ucr.edu/21049), Science News (Pub #42)
2012: National Geographic Wild – work on tail autotomy highlighted in “Animal Superpowers”, hosted by Patrick Stewart
2012: NeuroDojo, NewScientist, i09 (Pub #34)
2011: New York Times, The Telegraph (Pub #28)
2009: New York Times, Scientific American, Discovery News, Wired, Smithsonian (Pub #20)
2009: Washington Post, Science Daily, Discovery News, Globe and Mail, Physics World (Pub #19)
2008: Inside JEB (2008: The Journal of Experimental Biology **211**)

2007: Harvard Gazette & HarvardScience (Pub #14)
2006: Inside JEB (The Journal of Experimental Biology **209(17)**, ii)
2006: Inside JEB (The Journal of Experimental Biology **209(14)**, iii)
2005: Inside JEB (The Journal of Experimental Biology **208(14),** iii)

TEACHING EXPERIENCE:

Instructor, **Biology of Fishes** (BIOL 172), UC Riverside, 2023

Instructor, **Herpetology** (BIOL 170), UC Riverside, 2020, 2022

Instructor, **Functional Anatomy of the Vertebrates** (BIOL 161B), UC Riverside, 2012-2023

Instructor, **Organismal Biology** (EEOB 210 – graduate course), UC Riverside, 2020-2022

Instructor, **Comparative Biomechanics** (BIOL 176), UC Riverside, 2013-2023

Instructor, **Introduction to Organismal Biology** (BIOL 5B), UC Riverside, 2015 and 2017

Lead Faculty, **Functional Ecology and Herpetology in Namibia**, UC Riverside, 2019

Invited instructor, **Functional Ecology**, Bamfield Marine Sciences Centre, Vancouver Island, Canada, Summer 2016

Invited instructor, **Biology of Marine Fishes,** Bamfield Marine Sciences Centre, Vancouver Island, Canada, Summer, 2009, 2011, 2015, 2017, and 2019 (2015 & 2017 was co-taught with Sean Rogers from the University of Calgary)

Invited instructor, **Comparative Biomechanics,** Bamfield Marine Sciences Centre, Vancouver Island, Canada, Summer, 2010, 2012, 2014

Instructor, **Evolutionary Physiology** (EEOB 220), UC Riverside, 2012 & 2014

Instructor and lab coordinator, **Comparative Physiology** (BIOSC 475), Clemson University, 2009, 2010

Instructor and lab coordinator, **Herpetology** (BIOSC 468), Clemson University, 2011

Instructor and lab coordinator, **Ichthyology** (BIOSC 477), Clemson University, 2009

Guest lecturer, **Comparative Biomechanics** (OEB 173), Harvard University, 2008

FIELD WORK:

2012 - present: various Natural Reserves including Motte Rimrock, Boyd Deep Canyon, and Sweeney Granite Mountains.

2022-present: Southern Alberta

2009-present: Bamfield Marine Sciences Centre, Vancouver, British Columbia

2010-present: Namibia (Gobabeb, Swakopmund, Spitzkoppe)

2015-2018: French Guiana

2012-2019: Trinidad & Tobago

2012-2017: Mojave Desert, USA

2012: Baja, California

2012: Western and Eastern Cape, South Africa

2000: Discovery Bay Marine Laboratory, Jamaica

CURRENT AND PAST LAB MEMBERS:

Postdoctoral fellows:

David Ryan (September 2020 – September 2022)
Dina Navon (February 2019 – September 2020, now Postdoc at Rutgers)
William Stewart (April 2013 – August 2014; now Assistant Professor at Eastern Florida State College)
Aleksandra Birn-Jeffery (December 2012 – August 2014; now a Lecturer at Queen Mary University of London)
Andrew Clark (August 2009 – July 2010; now an Associate Professor at the College of Charleston)

Graduate students:

Cailley Gerald-Yamasaki (Setember, 2025 - present) - PhD
Zach Cadima (Setepmber, 2024 - present) - MS
Joseph Wu (September, 2023 - present) - MS
Eric Axlid (September, 2022 - present) - PhD
Michael Remington (September, 2021 – present) – Joint PhD program with SDSU
Seth Shirazi (September, 2021 – present) - PhD
Marina Vollin (September, 2019 – present) - PhD
Ryan Hanscom (September, 2021 – 2025) - PhD (now Assistant Professor at North Carolina State)
Phil Sternes (September, 2019 – 2025) - PhD (now Assistant Professor at San Bernardino Valley College)
Grace Freymiller (September, 2016 – 2021) – PhD (now Biology Instructor at Clovis Community College)
Emily Naylor (August, 2015 – August, 2020) – PhD (now Assistant Professr at James Madison University)
Vicky Zhuang (August, 2012 - 2018) – PhD (now Collection Manager at UTEP Biodiversity Collections)
Kevin Jagnandan (August, 2012 - 2016) – PhD (now Assistant Professor at San Diego City College)
Clint Collins (August, 2012 - 2016) - PhD (now Assistant Professor at CSU Sacramento)
Kathleen Foster (August, 2010 – 2016) – PhD (now Assistant Professor at Ball State University)
Emily Kane (August 2009 – 2014) - PhD (now Assistant Professor at Louisiana State University)
Jeff Olberding (July, 2010 – June 2013) – MS (now Assistant Professor at Cal Stat Fullerton)

Undergraduates:

Wesley Ong (2025)
Ethan Wang (2025)
Christian Lowe (2025)
Dana Fox (2023 - 2024)
Nicolas Pham (2022 - 2023)
Deepti Agarwal (2022 - 2023)
Michael Garcia (2022 - 2023)
Joseph Wu (2022 - 2023) (now MS student at UC Riverside)
Christina Ho (2022 – 2023) - Honors student
Chultze Mora (2022)
Mya Rodriguez (2020 – 2021)

Kitty Lam (2020 – 2022)
Sophia Rogers (2019 – 2021) (now PhD student at UC Davis)
Laura Kollmorgen (2019 – 2020)
Jason Ta (2018 – 2020)
Diana Srioudom (2018 – 2020)
Michelle Modert (2018) - University of Freiburg
Mara Hofmann (2018) - University of Freiburg
Elizabeth Mendoza (2015) (now PhD student at UC Irvine)
Azeem Rahman (2015 - 2016)
Jennifer Shedden (2014 – 2016) (now MS student at Cal State Fullerton)
Angelyn Nepacena (2013 – 2016)
Jessica Vivas (2014 – 2015)
Joseph Soquiat (2013 – 2015)
Steven Torres (2014)
Shayan Amiri (2013 – 2014)
Amy Cheu (2013 – 2014) (now PhD student at Clark University with Philip Bergmann)
Cindy Olivas (2013 – 2014)
Amir Azamian (2013 – 2014)
Kevin Dinh (2012 – 2014)
Stephanie Valiente (2012 – 2013)
Sofia Iribarren (2012 – 2013)
Stephen Cabalatungan (2012)
Daryl Cheung (2012)
Stacy Tran (2012)
Clare O'Brien (2012)
Zachary Zboch (2011)
Christine Dumler (2010-2011)
Alice Goodman (2010-2011)
Erin Patten (2010)
Patrick Fuller, (2009-2010)
Heidi Lindler, (2009)
Katelyn Doerr, (2009)
Danielle Hulsey, (2009)

SOCIETY MEMBERSHIPS:

Canadian Society of Zoologists
Society for Experimental Biology
Society for Integrative and Comparative Biology
British Ecology Society

VOLUNTEER ACTIVITIES:

2019 – present: Co-organizing a Design Challenge at the Riverside STEM Academy for middle school and high school students.

2016-2017: Guest symposium speaker at the Riverside STEM Academy. Involves a half day with hundreds of students from grades 5 to 12.

2014: Riverside Metropolitan Museum outreach all-day event. This event, termed "Animal Olympics", highlighted the research in the Higham Lab by performing exercises and presentations.

2013: Animal Superpowers outreach event for grades K-6 at Alcott Elementary in Riverside, CA.

2013: Session chair at the International Congress of Vertebrate Morphology (ICVM) in Barcelona, Spain.

2013: Session chair at the annual meeting of the Canadian Society of Zoologists in Guelph, Ontario, Canada.

2013: Volunteer teaching at Alcott Elementary in Riverside, CA.

2011: Judge for the Best Poster Award of the CBP section of the Canadian Society of Zoologists, Ottawa, Ontario, Canada.

2010: Judge for the Division of Vertebrate Morphology and the Division of Comparative Biomechanics at the annual meeting of the Society for Integrative and Comparative Biology in Seattle, WA.

2010: Session chair at the annual meeting of the Society for Integrative and Comparative Biology in Seattle, WA