Michael Edward Alfaro 

Curriculum vitae

Contact Information

Professor and Chair
Department of Ecology and Evolutionary Biology
University of California, Los Angeles
Los Angeles, CA 90095 USA
https://michaelalfaro.github.io/alfaro-lab/

Mobile: +1-760-483-3390
E-mail: michaelalfaro@ucla.edu
Google Scholar: 18,736 citations, h-index: 71

Research Interests

Phylogenomics, Phyloinformatics, and Macroevolution of Fishes: The central goal of my research program is to understand the factors that govern the evolutionary dynamics of organismal diversification. How can we explain the uneven patterns of species richness and morphological diversity across the Tree of Life? Where is macroevolutionary theory adequate to explain diversity patterns and where must new models and methods be developed? Does morphological diversity always signal mechanical, functional, or ecological diversity? To address these questions, I work on two main systems: coral reef fishes and neotropical primates. My research approach is interdisciplinary and quantitative and crosses traditional boundaries among molecular phylogenetics, evolutionary morphology, and theoretical evolution. I construct evolutionary trees using phylogenomic approaches, test evolutionary hypotheses using phylogenetic statistical methods; use models of trait evolution to explore form-function dynamics identify and quantify organismal diversity using morphological and functional morphological techniques.

Academic Appointments

Chair, Ecology and Evolutionary Biology July 2022 to present
Department of Ecology and Evolution, University of California, Los Angeles

Professor, Ecology and Evolutionary Biology July 2015 to present
Department of Ecology and Evolution, University of California, Los Angeles

Associate Professor, Ecology and Evolutionary Biology July 2010 to July 2015
Department of Ecology and Evolution, University of California, Los Angeles

Assistant Professor, Ecology and Evolutionary Biology July 2008 to 2010
Department of Ecology and Evolution, University of California, Los Angeles

Assistant Professor August 2004 to June 2008
School of Biological Sciences, Washington State University

Postdoctoral Researcher August 2003 to August 2004
University of California, San Diego
- NSF CIPRES (Cyberinfrastructure for Phylogenetic Research) Postdoctoral Fellow
- Supervisor John Huelsenbeck

Postdoctoral Researcher June 2001 to August 2004
University of California, Davis
- Phylogenetics Postdoctoral Fellow
- Supervisors Peter Wainwright and Michael Sanderson

Postdoctoral Researcher August 2000 to June 2001
Field Museum, Chicago
- Phylogenetics Postdoctoral Fellow
- Supervisor Mark Westneat

Education

The University of Chicago, Chicago, IL

Ph.D., Committee on Evolutionary Biology

- Thesis Title: *Systematics and the evolution of aquatic prey capture in thamnophiine snakes (Natricinae: Colubridae)*

- Adviser: Professor Mark Westneat
- Area of Study: Functional Morphology, Molecular Phylogenetics

M.S., Biology, August 1995

- Thesis Title: *Evolutionary Morphology of the Dinosaurian Hyoid Apparatus*
- Adviser: James Waters

B.A., University of California, Davis, Dramatic Arts, June 1989

Submitted Journal Publications

[1] Juhn, M.S., Černý, D., & **M.E. Alfaro**. *Performance of the Log-Rate Log-Interval Method on Phylogenetic Trees.* Submitted to *The American Naturalist*, 2025.

[2] Martinet, K.M., Juhn, M.S., Boucher, F.C., Harmon, L.J., Revell, L.J., Foerster, S.I.A., Shultz, A.J., Burns, K., & **M.E. Alfaro**. *A Wrapped Brownian Motion Model for Traits on a Circular Scale.* Resubmitted to *Systematic Biology*, 2025.

[3] Schwartz, S.T., Tsai, W.L.E., Karan, E.A., Juhn, M.S., Shultz, A.J., McCormack, J.E., & **M.E. Alfaro**. *charisma: An R package to perform reproducible color characterization of digital images for biological studies.* bioRxiv, 2025. doi:10.1101/2025.11.25.690362

[4] Pirani, R., Azevedo, J., Thomaz, A., Carnaval, A.C., Werneck, F.P., & **M.E. Alfaro**. *Integrating Genomic Tools to Predict Climate Adaptation and Vulnerability across a Latitudinal Gradient in a Brazilian Atlantic Forest Treefrog (Dendropsophus elegans).* Under review at *Heredity*, 2025. doi:10.21203/rs.3.rs-7706720/v1

Refereed Journal Publications

[124] A Dornburg, KL Zapfe, R Williams, **ME Alfaro**, R Morris, H Adachi, J Flores, F Santini, TJ Near, and B Frédérich. "Considering decoupled phenotypic diversification between ontogenetic phases in macroevolution: An example using triggerfishes (Balistidae)". In: *Systematic Biology* 73 (2024), pp. 434–454. DOI: 10.1093/sysbio/syac045.

[123] WLE Tsai, M Escalona, KL Garrett, RS Terrill, R Sahasrabudhe, O Nguyen, E Beraut, W Seligmann, CW Fairbairn, RJ Harrigan, JE McCormack, **ME Alfaro**, TB Smith, and RA Bay. "A highly contiguous genome assembly for the Yellow Warbler (Setophaga petechia)". In: *Journal of Heredity* 115 (2024), pp. 317–325. DOI: 10.1093/jhered/esad005.

[122] JE Smith, B Natterson-Horowitz, MM Mueller, and **ME Alfaro**. "Mechanisms of equality and inequality in mammalian societies". In: *Philosophical Transactions of the Royal Society of London B: Biological Sciences* 378 (2023), p. 20220307. DOI: 10.1098/rstb.2022.0307.

[121] A Ghezelayagh, RC Harrington, ED Burress, MA Campbell, JC Buckner, P Chakrabarty, JR Glass, WT McCraney, PJ Unmack, CE Thacker, **ME Alfaro**, ST Friedman, WB Ludt, PF Cowman, M Friedman, SA Price, A Dornburg, BC Faircloth, PC Wainwright, and TJ Near. "Prolonged morphological expansion of spiny-rayed fishes following the end-Cretaceous". In: *Nature Ecology and Evolution* 6 (2022), pp. 1211–1220. DOI: 10.1038/s41559-022-01784-7.

[120] JE Smith, B Natterson-Horowitz, and **ME Alfaro**. "The nature of privilege: intergenerational wealth in animal societies". In: *Behavioral Ecology* 33 (2022), pp. 1–6. DOI: 10.1093/beheco/araa010.

[119] MJW Van Gorp, J Goyens, **ME Alfaro**, and S Van Wassenbergh. "Keels of boxfish carapaces strongly improve stabilization against roll". In: *Journal of the Royal Society Interface* 19 (2022), p. 20210942. DOI: 10.1098/rsif.2021.0942.

[118] P Duchen, **ML Alfaro**, J Rolland, N Salamin, and D Silvestro. "On the Effect of Asymmetrical Trait Inheritance on Models of Trait Evolution". In: *Systematic Biology* 70 (2021), pp. 376–388. DOI: 10.1093/sysbio/syaa055.

[117] BF Melo, BL Sidlauskas, TJ Near, FF Roxo, A Ghezelayagh, LE Ochoa, MLJ Stiassny, J Arroyave, J Chang, BC Faircloth, DJ MacGuigan, RC Harrington, RC Benine, MD Burns, K Hoekzema, NC Sanches, JA Maldonado-Ocampo, RMC Castro, F Foresti, **ME Alfaro**, and C Oliveira. "Accelerated Diversification Explains the Exceptional Species Richness of Tropical Characoid Fishes". In: *Systematic Biology* (2021). DOI: 10.1093/sysbio/syab040.

[116] ST Schwartz and **ME Alfaro**. "Sashimi: A toolkit for facilitating high-throughput organismal image segmentation using deep learning". In: *Methods in Ecology and Evolution* (2021). DOI: 10.1111/2041-210X.13712.

[115] CE Snedden, SK Makanani, ST Schwartz, A Gamble, RV Blakey, B Borremans, SK Helman, L Espericueta, A Valencia, A Endo, **ME Alfaro**, and JO Lloyd-Smith. "SARS-CoV-2: Cross-scale Insights from Ecology and Evolution". In: *Trends in Microbiology* 29 (2021), pp. 593–605. DOI: 10.1016/j.tim.2021.03.013.

[114] J Stiller, RR da Fonseca, **ME Alfaro**, BC Faircloth, NG Wilson, and GW Rouse. "Using ultraconserved elements to track the influence of sea-level change on leafy seadragon populations". In: *Molecular Ecology* 30 (2021), pp. 1364–1380. DOI: 10.1111/mec.15744.

[113] MA Campbell, TJ Buser, **ME Alfaro**, and JA López. "Addressing incomplete lineage sorting and paralogy in the inference of uncertain salmonid phylogenetic relationships". In: *PeerJ* 8 (2020), e9389. DOI: 10.7717/peerj.9389.

[112] J Chang, DL Rabosky, and **ME Alfaro**. "Estimating Diversification Rates on Incompletely Sampled Phylogenies: Theoretical Concerns and Practical Solutions". In: *Systematic Biology* 69 (2020), pp. 602–611. DOI: 10.1093/sysbio/syz081.

[111] BC Faircloth, F Alda, K Hoekzema, MD Burns, C Oliveira, JS Albert, BF Melo, LE Ochoa, FF Roxo, P Chakrabarty, BL Sidlauskas, and **ME Alfaro**. "A Target Enrichment Bait Set for Studying Relationships among Ostariophysan Fishes". In: *Copeia* 108 (2020), pp. 47–60. DOI: 10.1643/CG-18-139.

[110] E Gjesfjeld, D Silvestro, J Chang, B Koch, JG Foster, and **ME Alfaro**. "A quantitative workflow for modeling diversification in material culture". In: *PLoS ONE* 15 (2020), e0227579. DOI: 10.1371/journal.pone.0227579.

[109] WT McCraney, CE Thacker, and **ME Alfaro**. "Supermatrix phylogeny resolves goby lineages and reveals unstable root of Gobiaria". In: *Molecular Phylogenetics and Evolution* 151 (2020), p. 106862. DOI: 10.1016/j.ympev.2020.106862.

[108] LE Ochoa, A Datovo, C DoNascimiento, FF Roxo, MH Sabaj, J Chang, BF Melo, GSC Silva, F Foresti, **ME Alfaro**, and C Oliveira. "Phylogenomic analysis of trichomycterid catfishes (Teleostei: Siluriformes) inferred from ultraconserved elements". In: *Scientific Reports* 10 (2020), p. 2697. DOI: 10.1038/s41598-020-59519-w.

[107] F Alda, VA Tagliacollo, MJ Bernt, BT Waltz, WB Ludt, BC Faircloth, **ME Alfaro**, JS Albert, and P Chakrabarty. "Resolving Deep Nodes in an Ancient Radiation of Neotropical Fishes in the Presence of Conflicting Signals from Incomplete Lineage Sorting". In: *Systematic Biology* (2019). DOI: 10.1093/sysbio/syy085.

[106] **ME Alfaro**, EA Karan, ST Schwartz, and AJ Shultz. "The Evolution of Color Pattern in Butterflyfishes (Chaetodontidae)". In: *Integrative and Comparative Biology* 59 (2019), pp. 604–615. DOI: 10.1093/icb/icz119.

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[103] CD Hulsey, **ME Alfaro**, J Zheng, A Meyer, and R Holzman. "Pleiotropic jaw morphology links the evolution of mechanical modularity and functional feeding convergence in Lake Malawi cichlids". In: *Proceedings of the Royal Society B: Biological Sciences* 286 (2019), p. 20182358. DOI: 10.1098/rspb.2018.2358.

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[101] FF Roxo, LE Ochoa, MH Sabaj, NK Lujan, R Covain, GSC Silva, BF Melo, JS Albert, J Chang, F Foresti, **ME Alfaro**, and C Oliveira. "Phylogenomic reappraisal of the Neotropical catfish family Loricariidae (Teleostei: Siluriformes) using ultraconserved elements". In: *Molecular Phylogenetics and Evolution* 135 (2019), pp. 148–165. DOI: 10.1016/j.ympev.2019.02.017.

[100] **ME Alfaro**. "Resolving the ray-finned fish tree of life". In: *Proceedings of the National Academy of Sciences* 115 (2018), pp. 6107–6109. DOI: 10.1073/pnas.1807018115.

[99] **ME Alfaro**, BC Faircloth, RC Harrington, L Sorenson, M Friedman, CE Thacker, CH Oliveros, D Černý, and TJ Near. "Explosive diversification of marine fishes at the Cretaceous-Paleogene boundary". In: *Nature Ecology and Evolution* 2 (2018), pp. 688–696. DOI: 10.1038/s41559-018-0494-6.

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[96] CD Hulsey, J Zheng, R Holzman, **ME Alfaro**, M Olave, and A Meyer. "Phylogenomics of a putatively convergent novelty: did hypertrophied lips evolve once or repeatedly in Lake Malawi cichlid fishes?" In: *BMC Evolutionary Biology* 18 (2018). DOI: 10.1186/s12862-018-1296-9.

[95] MGM Lima, JS Silva-Júnior, D Černý, JC Buckner, A Aleixo, J Chang, J Zheng, **ME Alfaro**, A Martins, A Di Fiore, JP Boubli, and JW Lynch Alfaro. "A phylogenomic perspective on the robust capuchin monkey (Sapajus) radiation: First evidence for extensive population admixture across South America". In: *Molecular Phylogenetics and Evolution* 124 (2018), pp. 137–150. DOI: 10.1016/j.ympev.2018.02.023.

[94] F Lutzoni, D Nowak, **ME Alfaro**, V Reeb, J Miadlikowska, E Arnold, D Hibbett, K Hilu, TY James, D Quandt, and S Magallon. "Synchronized radiations of fungi and plants linked to symbiosis". In: *Nature Communications* 9 (2018). DOI: 10.1038/s41467-018-07849-9.

[93] DL Rabosky, J Chang, PO Title, PF Cowman, L Sallan, M Friedman, K Kaschner, C Garilao, TJ Near, M Coll, and **ME Alfaro**. "An inverse latitudinal gradient in speciation rate for marine fishes". In: *Nature* 559 (2018), pp. 392–395. DOI: 10.1038/s41586-018-0273-1.

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[91] PC Wainwright, F Santini, DR Bellwood, DR Robertson, LA Rocha, and **ME Alfaro**. "Phylogenetics and geography of speciation in New World Halichoeres wrasses". In: *Molecular Phylogenetics and Evolution* 121 (2018), pp. 35–45. DOI: 10.1016/j.ympev.2017.12.028.

[90] G Burin, L Alencar, J Chang, **ME Alfaro**, and T Quental. "How well can we estimate diversity dynamics for clades in diversity decline?" In: *Systematic Biology* (2017). DOI: 10.1093/sysbio/syy037.

[89] MA Campbell, **ME Alfaro**, M Belasco, and JA López. "Early-branching euteleost relationships: areas of congruence between concatenation and coalescent model inferences". In: *PeerJ* 5 (2017), e3548. DOI: 10.7717/peerj.3548.

[88] P Chakrabarty, BC Faircloth, WB Ludt, CD McMahan, TJ Near, A Dornburg, JS Albert, J Arroyave, MLJ Stiassny, L Sorenson, and **ME Alfaro**. "Phylogenomic systematics of ostariophysan fishes: ultraconserved elements support the surprising non-monophyly of Characiformes". In: *Systematic Biology* 66 (2017), pp. 881–895. DOI: 10.1093/sysbio/syx038.

[87] B Frédérich, F Santini, N Konow, J Schnitzler, D Lecchini, and **ME Alfaro**. "Body shape convergence driven by small size optimum in marine angelfishes". In: *Biology Letters* 13 (2017). DOI: 10.1098/rsbl.2017.0154.

[86] CD Hulsey, J Zheng, BC Faircloth, A Meyer, and **ME Alfaro**. "Phylogenomic analysis of Lake Malawi cichlid fishes: further evidence that the three-stage model of diversification does not fit". In: *Molecular Phylogenetics and Evolution* 114 (2017), pp. 40–48. DOI: 10.1016/j.ympev.2017.05.027.

[85] MGM Lima, JC Buckner, JdS Silva-Júnior, A Aleixo, AB Martins, JP Boubli, A Link, IP Farias, MN da Silva, F Röhe, H Queiroz, KL Chiou, A Di Fiore, **ME Alfaro**, and JW Lynch Alfaro. "Capuchin monkey biogeography: understanding Sapajus Pleistocene range expansion and the current sympatry between Cebus and Sapajus". In: *Journal of Biogeography* 44 (2017), pp. 810–820. DOI: 10.1111/jbi.12945.

[84] SJ Longo, BC Faircloth, A Meyer, MW Westneat, and **ME Alfaro**. "Phylogenomic analysis of a rapid radiation of misfit fishes (Syngnathiformes) using ultraconserved elements". In: *Molecular Phylogenetics and Evolution* 113 (2017), pp. 33–48. DOI: 10.1016/j.ympev.2017.05.002.

[83] LE Ochoa, FF Roxo, C DoNascimiento, MH Sabaj, A Datovo, **ME Alfaro**, and C Oliveira. "Multilocus analysis of the catfish family Trichomycteridae (Teleostei: Ostariophysi: Siluriformes) supporting a monophyletic Trichomycterinae". In: *Molecular Phylogenetics and Evolution* 115 (2017), pp. 71–81. DOI: 10.1016/j.ympev.2017.07.007.

[82] LRV Alencar, TB Quental, FG Grazziotin, **ML Alfaro**, M Martins, M Venzon, and H Zaher. "Diversification in vipers: Phylogenetic relationships, time of divergence and shifts in speciation rates". In: *Molecular Phylogenetics and Evolution* 105 (2016), pp. 50–62.

[81] J Chang and **ME Alfaro**. "Crowdsourced geometric morphometrics enable rapid large-scale collection and analysis of phenotypic data". In: *Methods in Ecology and Evolution* 7 (2016), pp. 472–482.

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[79] RC Harrington, BC Faircloth, RI Eytan, WL Smith, TJ Near, **ME Alfaro**, and M Friedman. "Phylogenomic analysis of carangimorph fishes reveals flatfish asymmetry arose in a blink of the evolutionary eye". In: *BMC Evolutionary Biology* 16 (2016), p. 244. DOI: 10.1186/s12862-016-0786-x.

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[69] S Van Wassenbergh, K van Manen, T Marcroft, **ME Alfaro**, and E Stamhuis. "Boxfish swimming paradox resolved: forces by the flow of water around the body promote manoeuvrability". In: *Journal of the Royal Society Interface* (2015). DOI: 10.1098/rsif.2014.1146.

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[18] **ME Alfaro** and JP Huelsenbeck. "Comparative performance of Bayesian and AIC-based measures of phylogenetic model uncertainty". In: *Systematic Biology* 55 (2006), pp. 89–96. DOI: 10.1080/10635150500433565.

[17] **ME Alfaro**, DI Bolnick, and PC Wainwright. "Evolutionary consequences of many-to-one mapping of jaw morphology to mechanics in labrid fishes". In: *The American Naturalist* 165 (2005), E140–E154. DOI: 10.1086/429564.

[16] PC Wainwright, **ME Alfaro**, DI Bolnick, and CD Hulsey. "Many-to-One mapping of form to function: A general principle in organismal design?" In: *Integrative and Comparative Biology* 45 (2005), pp. 256–262. DOI: 10.1093/icb/45.2.256.

[15] MW Westneat and **ME Alfaro**. "Phylogenetic relationships and evolutionary history of the reef fish family Labridae". In: *Molecular Phylogenetics and Evolution* 36 (2005), pp. 370–390. DOI: 10.1016/j.ympev.2005.02.001.

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[12] **ME Alfaro**, DR Karns, HK Voris, E Abernathy, and SL Sellins. "Phylogeny of Cerberus (Serpentes: Homalopsinae) and phylogeography of Cerberus rynchops: diversification of a coastal marine snake in Southeast Asia". In: *Journal of Biogeography* 31 (2004), pp. 1277–1292. DOI: 10.1111/j.1365-2699.2004.01114.x.

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[9] **ME Alfaro**. "Sweeping and striking: a kinematic study of the trunk during prey capture in three thamnophiine snakes". In: *Journal of Experimental Biology* 206 (2003), pp. 2381–2392. DOI: 10.1242/jeb.00424.

[8] **ME Alfaro**, S Zoller, and F Lutzoni. "Bayes or bootstrap? A simulation study comparing the performance of Bayesian Markov chain Monte Carlo sampling and bootstrapping in assessing phylogenetic confidence". In: *Molecular Biology and Evolution* 20 (2003), pp. 255–266. DOI: 10.1093/molbev/msg028.

[7] **ME Alfaro**. "Forward attack modes of aquatic feeding garter snakes". In: *Functional Ecology* 16 (2002), pp. 204–215. DOI: 10.1046/j.1365-2435.2002.00620.x.

[6] JT Streelman, **ME Alfaro**, MW Westneat, DR Bellwood, and SA Karl. "Evolutionary history of the parrotfishes: biogeography, ecomorphology, and comparative diversity". In: *Evolution* 56 (2002), pp. 961–971. DOI: 10.1111/j.0014-3820.2002.tb01408.x.

[5] HK Voris, **ME Alfaro**, DR Karns, GL Starnes, E Thompson, and JC Murphy. "Phylogenetic relationships of Southeast Asian water snakes (Homalopsinae) inferred from mitochondrial DNA sequences". In: *Copeia* 2002 (2002), pp. 906–915.

[4] **ME Alfaro** and SJ Arnold. "Molecular systematics and evolution of Regina and the thamnophiine snakes". In: *Molecular Phylogenetics and Evolution* 21 (2001), pp. 408–423. DOI: 10.1006/mpev.2001.1024.

[3] **ME Alfaro** and A Herrel. "Introduction: major issues of feeding motor control in vertebrates". In: *American Zoologist* 41 (2001), p. 1243. DOI: 10.1093/icb/41.6.1243.

[2] **ME Alfaro**, J Janovetz, and MW Westneat. "Motor control across trophic strategies: variability and constraint in the feeding system of biting and suction feeding fishes". In: *American Zoologist* 41 (2001), pp. 1266–1279.

[1] **ME Alfaro** and MW Westneat. "Motor patterns of herbivorous feeding: electromyographic analysis of biting in the parrotfishes Cetoscarus bicolor and Scarus iseri". In: *Brain, Behavior, and Evolution* 54 (1999), pp. 205–222. DOI: 10.1093/icb/41.6.1266.

Book Chapters

[5] Alfaro, ME. Key Evolutionary Innovations. In: J. Losos (Ed.), *The Princeton Guide to Evolution*, ch. 15, pp. 911–960. 2013.

Invited Commentaries

[6] Alfaro M.E. 2016. Evolution: Bioluminescent Courtship as an Engine of Diversity. Curr. Biol. 26:R667–9.

[7] 2010. Alfaro, M.E, Santini, F. Evolutionary biology: A flourishing of fish forms. Nature 464:840–842.

Contributed Presentations at Professional Meetings

[1] A Bayesian function-valued approach to the mechanistic constraints on color evolution in Thraupidae. SICB 2026, Portland, OR. (N. Ruffolo, M. Suchard, & M. Alfaro)

[2] Fifty shades of blue: convergent evolution of color patches in coral reef fishes. SICB 2026, Portland, OR. (R. Orduna, L. Sallan, & M. Alfaro)

[3] C-PHAST: Community phylogenetic analysis at speedy time. SICB 2025, Atlanta, GA. (M.R. Chari, M. Alfaro, & J. Chang) *Best Student Presentation, DPCB David and Marvalee Wake Award.*

[4] A function-valued approach for the comparative analysis of color evolution. SICB 2025, Atlanta, GA. (N. Ruffolo, M. Alfaro, & M. Suchard)

[5] Standardized imaging practices in fixed fish specimens for the analysis of color and color patterns. SICB 2025, Atlanta, GA. (R. Orduna & M. Alfaro)

[6] The Nature of Privilege: Intergenerational Wealth on Animal Societies. ABS 2021.

[7] Prolonged morphological expansion of spiny-rayed fishes following the end-Cretaceous. Evolution, 2021.

[8] Sashimi: Automatic high-throughput pipeline for organismal image segmentation using deep learning. SICB 2021.

[9] Charisma: An R tool to automatically determine discrete color classes for high-throughput color pattern analysis. SICB 2021.

[10] It's not just a phase: evolutionary and functional consequences of sexually dimorphic color pattern diversity in labrid fishes. SICB 2021.

[11] Evolution of False Eyespots in Butterflyfishes: Testing Eye Camouflage and Mimicry as Anti-predator Adaptations. SICB 2019, Tampa, FL.

[12] Exploring Macroevolutionary Ratchets as a Potential Driver of Clades in Decline. SICB 2019, Tampa, FL.

[13] Extending and remixing the complete ray-finned fish tree of life via fishtreeoflife.org. SICB 2019, Tampa, FL.

[14] High Throughput Phenoscaping for Comparative Studies. SICB 2019, Tampa, FL.

[15] Building the complete ray-finned fish tree of life using taxonomy and birth-death models. SICB 2018, San Francisco, CA

[16] Size-selective harvesting and the macroevolutionary implications of an “anthropogenic filter” in ray-finned fishes. SICB 2017, New Orleans.

[17] The tempo of body shape evolution in ray finned fishes: bringing morphology into the phenomic era with crowdsourced morphometrics. SICB meetings 2016, Portland, OR.

[18] Replicated divergence in cichlid radiations mirrors a major vertebrate innovation. SICB meetings 2016, Portland, OR.

[19] Molecular phylogenetics, morphometrics and osteology reveal convergences and shifts in the mode of diversification within Neotropical headstanding fishes (Characiformes: Anostomoidea). SICB meetings 2016, Portland, OR.

[20] Global patterns of diversification across the ray-finned fish tree of life. SICB meetings 2016, Portland, OR.

[21] An evolutionary timescale for the diversification of ray-finned fishes. Evolution 2016, Austin TX.

[22] Eating away the fish tree of life: the phylogenetic distribution of human exploitation. Evolution 2016, Austin TX.

[23] A quantitative macroevolutionary approach to exploring the pharmaceutical drug innovation crisis. Evolution 2016, Austin TX.

[24] Origin and evolution of pufferfishes, triggerfishes and allies (Tetraodontiformes). SICB meetings 2015, West Palm Beach, FL.

[25] Progressive functional innovation in cichlid adaptive radiations. SICB meetings 2015, West Palm Beach, FL.

[26] Crowdsourced morphometric data are as accurate as traditionally collected data in 7 ray-finned fish families. SICB meetings 2015, West Palm Beach, FL.

[27] Crowdsourced morphometric data are as accurate as traditionally collected data in nine families of ray-finned fish. Evolution 2015, Guaraja, Brazil

[28] Phylogenomic analysis reveals multiple episodes of diversification within the radiation of South American anostomoid fishes. Evolution 2015, Guaraja, Brazil

[29] Patterns of shape diversity across ray-finned fishes with crowdsourced morphometrics. Evolution 2015, Guaraja, Brazil

[30] Investigating the Diversification of Car Models using Macroevolutionary Methods. Evolution 2015, Guaraja, Brazil

[31] Life in the unthinking depths: energetic constraints on encephalization in marine fishes. Evolution 2015, Guaraja, Brazil

[32] Global diversification of ray-finned fishes in space and time. Evolution 2015, Guaraja, Brazil

[33] Detecting clades in decline with molecular phylogenies. Identifying the Regulators of Biodiversity in Deep Time Conference, University of Sao Paulo, Brazil. 2015

[34] Inferring phylogenetic relationships and understanding venom evolution in cone snails (genus, Conus) using venom duct transcriptomes. Evolution Meetings. 2014

[35] Ultraconserved Elements Yield New Insights Into the Exceptional Morphological Radiation of Neotropical Headstanding Fishes. Evolution Meetings. 2014

[36] Correlated rates of speciation and phenotypic evolution in ray finned fishes. IndoPacific Fish Conference, Okinawa, Japan. 2013

[37] UCEs for fish phylogenomics and phylogeography. IndoPacific Fish Conference, Okinawa, Japan. 2013.

[38] A 500-locus phylogenomic study of ray-finned fishes. SICB, Charleston. 2012

[39] Phylogenetic clustering of commercially exploited fish species. SICB, Charleston. 2012

[40] Genome-wide ultraconserved elements exhibit higher phylogenetic informativeness than traditional fish markers. SICB, Charleston. 2012

[41] Adaptive evolution of facial color patterns in Neotropical primates. SICB, Charleston. 2012

[42] Fossils, molecular phylogenies, and models of trait evolution, Charleston. 2012

[43] How the bat got its stripes: roosting ecology and the evolution of pelage markings in bats. SICB, Charleston. 2012

[44] Phylogenetic distribution of commercially exploited fish species: How many times has 'tastiness' evolved? Evolution, Norman OKC. 2011.

[45] Are freshwater fish invaders diversifying faster than reef-associated groups? An empirical test using pufferfish (Tetraodontidae), Evolution, Norman OKC. 2011.

[46] Feeding mode affects evolutionary rates and integration of skull modules in anguilliform fishes Evolution, Norman OKC. 2011.

[47] Multiple Ways to Crack a Shell: The Evolutionary Trajectories Leading to Imperfect Convergence in Moray Eels (Muraenidae). Evolution, Norman OKC. 2011

[48] Roots, rates and fossil states: A Bayesian approach for integrating fossil character information into comparative analyses Evolution, Norman OKC. 2011.

[49] Estimating evolutionary rates from incomplete phylogenies and data using approximate Bayesian computation. SICB, Salt Lake City, UT. 2011.

[50] Evolutionary dynamics of boxfish carapace I: phylogenetic diversity. SICB, Salt Lake City, UT. 2011.

[51] Evolutionary dynamics of the boxfish carapace II: functional diversity. SICB, Salt Lake City, UT. 2011

[52] Functional and morphological convergence in durophagous moray eels. SICB, Salt Lake City, UT. 2011

[53] Integrating taxonomic, phylogenetic, and fossil data in studies of diversification. Evolution, Moscow, ID. 2009.

[54] Can ancestral morphology accurately predict ancestral form? Evolution, Moscow ID. 2009.

[55] Long fuses and explosive radiations: Patterns of diversification in the coral reef fish fauna. Evolution, Moscow, ID. 2009

[56] Was the Neogene the "Age of Snakes" Evolution, Moscow ID. 2009

[57] Patterns of morphological and mechanical evolution in triggerfishes. Evolution, Moscow, ID. 2009

[58] Did genome duplication spawn the teleost radiation? Evidence from analysis of actinopterygian diversification rates. SICB, Boston. 2009.

[59] Explaining patterns of diversity within ray-finned fishes. With Francesco Santini (presenter). SICB, Boston. 2009.

[60] Phylogeny and phylogeography of capuchin monkeys. International Primatological Society Meetings, Edinburgh, UK. 2008.

[61] Common biases in empirical tests of diversification using phylogenetic trees. SICB meetings, San Antonio. 2008.

[62] Testing macroevolutionary hypotheses in fishes: examples from the Acanthomorpha. SICB meetings, San Antonio. 2008.

[63] Time-scale of spiny-rayed fish (Acanthomorpha, Teleostei). SICB meetings, San Antonio. 2008.

[64] A Molecular Timescale For Snakes. SICB meetings, San Antonio. 2008.

[65] The Evolutionary History of the Triggerfishes (Family Balistidae) with a Comparative Study of Fin Morphology and Mechanics. SICB meetings, San Antonio. 2008.

[66] Model-averaged phylogenetic inference of the triggerfishes (Family: Balistidae). American Society for Ichthyology and Herpetology Meetings, Saint Louis, MO. 2007.

[67] Rates of diversification throughout the major groups of snakes. American Society for Ichthyology and Herpetology Meetings, Saint Louis, MO. 2007.

[68] Many-to-one Mapping and Evolutionary Dynamics of Form and Function American Society for Ichthyology and Herpetology Meetings, Saint Louis, MO. 2007

[69] Ubiquity of many-to-one mapping in functional traits: examples and evolutionary implications Society for Integrative and Comparative Biology Meetings, Phoenix, AZ. 2007.

[70] Model averaged phylogenetic inference of triggerfishes (Family Balistidae). Society for Integrative and Comparative Biology Meetings, Phoenix, AZ. 2007.

[71] Inferring ancestral function from morphologically redundant complex traits: examples from fish feeding systems. Society for Integrative and Comparative Biology Meetings, Phoenix, AZ. 2007.

[72] A molecular timescale for tetraodontiform fishes. Evolution meetings, Stony Brook, New York. 2006.

[73] Effects of model averaging on phylogenetic inference of tetraodontiform fishes. With Alex Dornburg (undergrad). Evolution meetings, Stony Brook, New York. 2006.

[74] Phylogeny of the Oriental-Australian rear-fanged water snakes (Colubridae: Homalopsinae) based on DNA sequences. American Society of Ichthyology and Herpetology Meetings, Tampa, Florida. 2005.

[75] Consequences of redundant form-function mapping. Society for Integrative and Comparative Biology meetings. San Diego. 2005.

[76] Department of Ecology, Behavior, and Evolution Fall Symposium, La Jolla, CA. 2003.

[77] Consequences of redundant mapping for the evolution of complex traits: an example using fish jaws. Evolution, Chico, CA. 2003.

[78] Evolutionary dynamics of complex traits. SICB, Toronto, Canada. 2003.

[79] Comparative performance of Bayesian MCMC and bootstrapping in assessing phylogenetic confidence. Evolution, Champaign-Urbana, IL. 2002.

[80] Motor control of biting in teleosts. SICB, Chicago, IL. 2001.

[81] Testing hypotheses of relationship in thamnophiine snakes. ASIH, La Paz, Mexico. 2000.

[82] Sweeping, striking and sniping: prey capture modes in thamnophiine snakes. SICB, Atlanta, GA. 2000.

[83] Evolution, Madison, WI. Systematics and evolution of thamnophiine snakes. 1999.

[84] Striking and sweeping: prey capture modes in thamnophiine snakes. SICB Denver, CO. 1999.

[85] Molecular phylogenetics of the thamnophiini (Colubridae) and the evolution of prey capture. Society for Integrative and Comparative Biology, Boston, MA. 1998.

[86] Systematics of thamnophiine snakes. American Society of Ichthyologists and Herpetologists, Seattle, WA. 1997.

[87] Molecular systematics of thamnophiine snakes. Evolution, Boulder, CO. 1997.

[88] Prey capture in a sabre-toothed fish: kinematics and electromyography of feeding in Hydrolicus scomberoides. American Society of Ichthyologists and Herpetologists, New Orleans, LA. 1996.

[89] Kinematics and motor patterns of parrotfish feeding. American Society of Zoologists, Washington D.C. 1995.

Invited Talks

[1] 2017 Gordon Research Conference on Speciation (invited Discussion Leader), Lucca, Italy

[2] 2016 University of Konstanz, Germany

[3] 2016 Institute of Ecology and Evolution of University of Bern, Switzerland

[4] 2016 Institute Center for Ecology, Evolution & Biogeochemistry, Swiss Federal Institute for Aquatic Science and Technology, Switzerland

[5] 2016 Yale University

[6] 2016 Gruter Institute for Law & Behavioral Research

[7] 2016 Scripps Institute of Oceanography

[8] 2015 Society for the Advancement of Chicanos/Hispanics and Native Americans in Science at UCLA

[9] 2015 Gruter Institute for Law & Behavioral Research

[10] 2014 Workshop Genetico. UNESP, Botucatu, Brazil.

[11] 2014 Sewall Wright Speaker, Committee on Evolutionary Biology, University of Chicago

[12] 2014 Department of Ecology and Evolutionary Biology, University of California Davis

[13] 2013 Los Angeles County Natural History Museum

[14] 2013 Scripps Institute of Oceanography

[15] 2013 University of British Columbia

[16] 2012 University of Sao Paulo, Brazil

[17] 2012 Louisiana State University

[18] 2012 CSU Long Beach

[19] 2011 UCLA Center for Society and Genetics

[20] 2011 University of California, Santa Barbara

[21] 2011 George Washington University

[22] 2010 University of Chicago, Chicago, IL

[23] 2009 Department of Ecology and Evolutionary Biology, CSU Los Angeles, CA.

[24] 2009 Scripps Institute of Oceanography, San Diego, CA.

[25] 2009 Department of Ecology and Evolutionary Biology, Brown University. Providence, Rhode Island.

[26] 2008 Department of Ecology and Evolutionary Biology, UCLA. Los Angeles, California.

[27] 2008 Department of Biology, University of Washington. Seattle, Washington.

[28] 2008 Section of Ecology and Evolutionary Biology, UC Davis. Davis, California.

[29] 2007 Approaches to the Origins of Labrid Feeding Diversity. Florida State University, Tallahassee, FL.

[30] 2006 Opening Pandora's Boxfish: Estimating Divergence Times in Tetraodontiform Fishes. Palouse Ecology, Evolution, and Systematics, Moscow, ID

[31] 2004 Many-to-One Mapping and the Origins of Diversity in Labrids. Duke University, Chapel Hill, NC

[32] 2004 Evolutionary Approaches to the Origins of Diversity in Vertebrate Feeding Systems. University of Arizona, Tucson, AZ

[33] 2004 Evolutionary Approaches to the Origins of Diversity in Vertebrate Feeding Systems. Loyola Marymount, Los Angeles, CA

[34] 2004 Evolutionary Approaches to the Origins of Diversity in Vertebrate Feeding Systems. University of Colorado, Boulder

[35] 2004 Evolutionary Approaches to the Origins of Diversity in Vertebrate Feeding Systems. Washington State University, Pullman, WA

[36] 2003 Performance of Bayesian and bootstrapping methods in phylogenetics. Deep Hyphae-Phylogenetics Symposium, American Mycological Society/British Mycological Society Joint Meeting. Asilomar, CA.

[37] 2003 Aquatic prey capture modes in thamnophiine snakes. Department of Biology, College of Wooster, Wooster, OH.

[38] 2003 Evolutionary dynamics of morphology and emergent mechanical properties in simple and complex traits. Center for Population Biology, University of California, Davis.

[39] 2002 Bayes or Bootstrap? Comparative performance of Bayesian MCMC sampling and bootstrapping in assessing phylogenetic confidence. Evolution and Ecology, Tulane University, LA.

[40] 2002 Comparative behavior and performance of bootstrapping and Bayesian posterior probabilities in assessing phylogenetic confidence. Bay Area Biosystematists Series, CA.

[41] 2001 Does underwater striking suck? Kinematics of aquatic prey capture in garter snakes. Sonoma State University Biology Colloquium, Sonoma State University, CA

Awaiting Decision

[1] PI (with PI Todd Oakley, UCSB) *Collaborative Research: OPUS: A database linking opsin genotypes, physiological phenotypes, and light environments for studying drivers of diversification* NSF. UCLA amount: $164,000.

[2] PI (with PI Lauren Sallen) *Evolutionary dynamics of Living Fossils*, Templeton Foundation Large Grants Program. UCLA amount: $300,000.

Awarded

[3] co-PI with PI Jacob Foster UCLA *Bayesian models of cultural diversity dynamics.* UCLA Faculty Research Grant/Trans-disciplinary Seed Grant.
- $20,000, June 2016 – June 2017

[4] PI *A macroevolutionary approach to the diversification of ideas in science.* Templeton Foundation Metaknowledge Network.
- $35,000, October 2015 – April 2016

[5] co-PI with PI Jacob Foster UCLA *The evolution of US firms.* Templeton Foundation Metaknowledge Network.
- $20,000, October 2015 – April 2016

[6] co-PI with PI Jonathan Chang *DISSERTATION RESEARCH: Testing macroevolutionary predictions of diversity and disparity in the ray-finned fishes.* National Science Foundation.
- $20,020, July 2016 – June 2018

[7] co-PI with PI Mark Phuong *DISSERTATION RESEARCH: Evolvability and diversification: testing macroevolutionary predictions in cone snails.* National Science Foundation.
- $20,006, June 2015 – May 2017

[8] PI, (with Chris Kelty, UCLA ISG) *Mode and Tempo in Technological Evolution: innovation, extinction, and the dynamics of technological diversification.* Templeton Foundation Metaknowledge Network.
- Metaknowledge Research Network, $85,000, October 2014 – April 2015

[9] Co-PI, (PI Jonathan Chang, UCLA) "Using massively crowd-sourced data to examine morphological impacts of extinction risk in ray-finned fishes",
- Encyclopedia of Life Rubenstein Award, $50,000, May 2012 – April 2015

[10] Senior Personnel, (PI Brian Sidlauskas, OSU) "Harnessing modern phylogenetic comparative methods to understand the diversification of anostomoid fishes",
- NSF, DEB-0918748, $265,000, August 15, 2009 to July 31, 2013.

[11] PI, "Transgressive hybridization and functional evolution in cichlid fishes"
- UCLA Faculty CORE Grant, 2013–2014, $10,000

[12] PI, "UCE phylogenomics for coral reef fishes"
- UCLA Faculty CORE Grant, 2012–2013, $5,000

[13] PI, "REU Supplement: Tempo and mode of vertebrate diversification"
- NSF REU Supplement, 2011, $7,500

[14] PI, "Tempo and mode of vertebrate diversification" DEB-0918748
- $265,000, August 15, 2009 to July 31, 2013.

[15] PI, "Dynamics of diversification in tetraodontiform fishes" DEB-0842397
- $450,000, February 15, 2009 to January 31, 2013.

[16] PI, (Co-PI Barbara Banbury) "Tempo and mode of diversification in megophryid frogs" DEB-0910309
- $14,920, February 15, 2009 to January 31, 2013.

[17] Co-PI (PI Rita Mehta, UC Santa Cruz) "The evolution of cranial forms in anguilliform fishes: Does extreme biting promote or constrain morphological diversity" IOS-1063286
- $100,000 (UCLA portion), August 9, 2010 to Aug 8, 2012.

[18] Co-PI (PI Jessica Lynch Alfaro, UCLA) "Phylogeography of Capuchins, Squirrel Monkeys and Owl Monkeys: A Critical Comparative Framework for Studying Evolution, Behavioral Ecology, and Conservation in Neotropical Primates" BCS-0833375
- $249,897, April 1, 2008 to March 31, 2012.

[19] Co-PI (PI Tim Kohler, Washington State University) "Model-based Approaches to Biological and Cultural Evolution" DGE-0549425
- $3,072,617, April 1, 2006 to June 1, 2010.

[20] Co-PI (PI John Huelsenbeck, UC Berkeley) "Model averaging and model uncertainty in molecular phylogenetics" DGE-0715381
- $207,012, April 1, 2006 to June 1, 2009.

Honors and Awards

[21] 2016. UCLA Academic Senate Diversity, Equity, and Inclusion Award.

[22] 2015. Life Sciences Award for Outstanding Efforts to promote diversity.

[23] 2014. Sewall Wright Speaker, University of Chicago

Postdoctoral Mentoring

Renata Pirani, Chancellor's Postdoctoral Fellow (F23 to present)

Mark Juhn, Postdoctoral Researcher 2023–2024 *currently Data Scientist, State of California*

The Academic Job Search (seminar for EEB post-docs, Winter Quarter 2025)

Erik Gjesfield, Institute for Society and Genetics Postdoctoral Fellow *beginning August 2014*

Bruno Frederich, Postdoctoral Researcher F.R.S.-FNRS, 2013–2014 *currently a postdoctoral fellow at the University of Liege*

Sharlene Santana, Institute for Society and Genetics Postdoctoral Fellow 2011–2013 *currently Assistant Professor, Department of Biology, University of Washington*

Graham Slater NSF-funded postdoc, 2011–2013 *currently Associate Professor at the University of Chicago*

Francesco Santini NSF-funded postdoc, 2009–2012 *currently research scientist at UC Davis*

Graduate Student Advising

Co-PhD advisor (with Tom Smith) to **Whitney Nakashima**
Graduate student in Ecology and Evolutionary Biology, UCLA. Phylogenomics of warblers. *PhD Awarded Spring 2024*

Co-PhD advisor (with Blaire van Valkenburgh) to **Mark Juhn**
Graduate student in Ecology and Evolutionary Biology, UCLA. Phylogenetic inference using fossil and molecular data. 2016 to present. *PhD Awarded Spring 2023*

PhD advisor to **Elizabeth Karan**
Graduate student in Ecology and Evolutionary Biology, UCLA. *Advanced to candidacy 2019.* Color pattern evolution in fishes. *PhD Awarded Fall 2023*

Master's advisor to **Maya Chari**
Graduate student in CaSB, UCLA. *MS awarded Spring 2024.* Spatial community phylogenetics of California vertebrates.

Master's advisor to **Katya Gonzalez**
Graduate student in CaSB, UCLA. *MS awarded Spring 2023.* Evolution throat color patch in house finches.

Master's advisor to **Yoonjin Shu**
Graduate student in Ecology and Evolutionary Biology, UCLA. *MS awarded Spring 2023.* Evolution of color pattern in eels.

Master's advisor to **Shawn Schwartz**
Graduate student in Ecology and Evolutionary Biology, UCLA. *MS expected December 2021.* Tools for automated color detection in fishes.

PhD advisor to **Laurie Sorenson**
Graduate student in Ecology and Evolutionary Biology, UCLA. *PhD Awarded June 2014.* Phylogenetics and phylogenomics of sharks and coral reef fishes. 2009–2014.

PhD advisor to **Mark Phuong**
Graduate student in Ecology and Evolutionary Biology, UCLA. *PhD awarded June 2018.* Phylogenomics and evolution of venom in cone snails. 2012 to present.

Co-PhD advisor (with David Jacobs) to **Janet Buckner**
Graduate student in Ecology and Evolutionary Biology, UCLA. *PhD awarded June 2018.* Biogeography of marmosets and tamarins. 2011 to present.

PhD advisor to **Jonathan Chang**
Graduate student in Ecology and Evolutionary Biology, UCLA. *PhD awarded June 2018.* Phylogenetic distribution of exploitation pressures in fishes. 2011 to present.

PhD advisor to **Princess Gilbert**
Graduate student in Ecology and Evolutionary Biology, UCLA. *PhD awarded June 2017.* Phylogenetic utility of DNA ultra conserved elements. 2012 to present.

PhD advisor to **Tyler McCraney**
Graduate student in Ecology and Evolutionary Biology, UCLA. *PhD awarded June 2019.* Phylogenomics of gobies.

MS advisor to **Tina Marcroft**
Graduate student in Ecology and Evolutionary Biology, UCLA. Evolutionary morphology of the boxfish carapace. *MS Awarded June 2014*

Member, PhD Committee **Daniel Chavez**

Member, PhD Committee **Max Tolkoff** (Biomath)

Member, PhD Committee **Mairin Balisi**

Member, PhD Committee **Deborah Bird**

Member, PhD Committee **Caitlin Brown**

Member, PhD Committee **Abigail Curtis**

Member, PhD Committee **Greer Dolby**

Member, PhD Committee **Jonathan Drury**

Member, PhD Committee **David Gold**

Member, PhD Committee **Benison Pang**

Member, PhD Committee **Christine Scoffoni**

Undergraduate Research Advising

2025 Nikita Ulualoha Burger, Emily Hanh Lam, Annabelle Marine Conti, Joseph Dekel

2024 Annabelle Marine Conti, Joseph Dekel, Michelle P Sen, Hudson Jade Billock, Bethany Ye-Rim Kim, Yuhe Li, Gargi Kawachale, Bhuvan Kommineni

2023 Amanda Susan Lin, Lauren Mai-Linh Guevara, Lily Rose Carlson, Caroline Sha, Lester Luverne Squier IV, Brittney Dao Nguyen, Anne Tsai, Emily Hanh Lam, Sophia Elizabeth Will, Lindsay Burke Reedy, Maya Rain Chari, Andrew Jinwu Jang, Jonah Christopher Brading, Daljit Kaur Takher, Ipsita Srinivas, Sarah Solomon Jarso

2022 Natalie Zhu, Bhuvan Kommineni

2021 Mackenzie Perillo, Trevor Brokowski, Jonathan Chau, Austyn Adams, Kevin Wang, Natalie Zhu

2020 Mackenzie Perillo

2019 Mackenzie Perillo, Swan Ng

2018 David Cerny, Chris Rice, Vinay Kumar

2017 David Cerny, Chris Rice, Vinay Kumar

2016 Jimmy Zheng, David Cerny, Chris Rice, Sydney Richter

2015 Jimmy Zheng, David Cerny, Chris Rice, Binal Patel

2014 Mericien Venzon, Jimmy Zheng

2013 Mericien Venzon, Andrew Noonan, Jeff Modlin

2012 Mericien Venzon, Max Belasco, Gohar Koshkarian, Andrew Noonan, Jeff Modlin, Niko Hensley

2011 Erika Harris, Niko Hensley, Jonathan Chang, Jeff Modlin, Vincent Wu

2010 Jeff Modlin, Jonathan Chang, Vincent Wu

2009 Kelly Huynh, Shahryar Barzegar, Kimberly Jade, Tom Caldwell

2008 and earlier (WSU): Alex Dornburg, Amanda Donabauer, Brian Wilson, Cristina Parada, Kelsey Dunne

High School Student Research Advising

2014 Kate Javerbaum (senior, Santa Monica High School)

2014 Zachary Herbst (senior, Chadwick High School)

2013 Zachary Herbst (junior, Chadwick High School)

2012 Zachary Herbst (sophomore, Chadwick High School)

2011 Alexander Jaffe (senior, Harvard-Westlake, North-Hollywood, CA)

2010 Alexander Jaffe (junior, Harvard-Westlake, North-Hollywood, CA)

2009 Alexander Jaffe (sophomore, Harvard-Westlake, North-Hollywood, CA)

2009 Akhil Gupta (sophomore, Chino Hills High School, Chino Hills, CA)

Teaching Experience

UCLA, Los Angeles, CA

Organizer and Instructor EEB 287: Graduate Seminar on the Optics of Life **Spring Quarter 2024**

Organizer and Instructor EEB 199: Evolution of Feelings, Emotion, and Empathy **Winter Quarter 2021**

- Satisfies requirements for EEB EVMEd minor

Organizer and Instructor EEB 234: Macroevolution **Winter Quarter 2017**

- Co-taught with Karen Sears and John Marcot

Organizer and Instructor EEB 156: Biology and Social Justice **Winter Quarter 2018**

- Taught as special seminar (EEB 191)
- Satisfies college diversity requirement

Co-Organizer and Instructor Life Sciences 7B: Ecology, Evolution, and Biodiversity **Fall Quarter 2016**

- New reorganized Life Sciences Core class with flipped classroom
- Identified learning objectives, generated new video content, and helped design new in-class exercises for the flipped classroom.

Instructor Life Sciences 1: Ecology, Evolution, and Biodiversity **Fall Quarter 2011, 2012, 2013, 2014, 2015**

- Introductory Biology for Majors
- Redesigned LS1 with co-Instructors Jamie Lloyd Smith and John Novembre to illustrate core biological concepts with recent research in ecology and evolutionary biology.

Instructor Ecology and Evolutionary Biology 200B: Evolution **Winter Quarters, 2021, 2022, 2024, 2025**

- Graduate level evolutionary biology.
- Overview of classic and developing research frontiers in evolutionary biology. Emphasis is on phylogenomics, comparative biology, and phenotypic evolution.

Instructor Ecology and Evolutionary Biology 200A: Evolution **Fall Quarters, 2009 to 2018**

- Graduate level evolutionary biology.
- Overview of classic and developing research frontiers in evolutionary biology. Emphasis is on phylogenomics, comparative biology, and phenotypic evolution.

Instructor Ecology and Evolutionary Biology 174: Macroevolution and Biodiversity **Winter, 2011, 2013, 2018, 2022**

- Cross-listed graduate and undergraduate course on macroevolution and biodiversity.
- Topics include birth death processes, models of trait evolution, and evolutionary simulation.

Instructor Ecology and Evolutionary Biology 187/287: Practical Computing for Biologists **Winter, 2012, 2017**

- Cross-listed graduate and undergraduate course on computational skills for biologists.
- Students are introduced to the shell environment, regular expressions and develop bioinformatic skills using python.

Washington State University, Pullman, WA

Instructor **Fall semester, 2005–2008**

- Biology 101: Introductory biology for nonmajors

Professional Service

Departmental Service

- 2021–present EEB Undergraduate Vice Chair
- 2018–present *ad hoc* member of Personnel Committee
- 2020–2021 EEB Anti-racism Task Force
- 2018–2019 EEB Graduate Admissions Committee
- 2010–2017 EEB Graduate Admissions Committee
- 2010–2016 EEB Graduate Advisor
- 2014–2015 EEB Plant Faculty Search Committee
- 2014 ad hoc member, EEB Personnel Committee
- 2014 EEB Seminar Committee
- 2010–2015 GAANN Committee
- 2010–2013 EEB Dive Board Committee
- 2009 EEB Graduate Student Awards Committee
- 2009 EEB Seminar Committee
- 2009 EEB LS1 Evaluation Committee
- 2009 Upper Division Lab Evaluation Committee

University Service

- 2018–present Chair, Diversity Education Governance Committee
- 2015–2018 Chair, Diversity Initiative Steering Committee
- 2015 Co-Organizer, UCLA Symposium on Diversity Teaching
- 2015–2018, Co-Chair, Undergraduate Council ad hoc Diversity Syllabus Review Committee
- 2014–present, Member, UCLA Undergraduate Council
- 2014 Co-Chair College of Letters and Science Diversity Course Requirement
- 2013–2014 Co-Chair Life Sciences Subcommittee on Graduate Diversity Recruitment
- 2012 Chair, Mautner Graduate Award Committee for Life Sciences
- 2011–present MARC Advisory Board
- 2010–2018 Life Sciences Diversity Committee

Service at Washington State University

- 2005–07 Mentor, Achievers Scholar Program, WSU. (Mentee Chanthan Kuong).
- 2006 WSU Bioinformatics Search Committee Member
- 2006 Member, Connor Museum Committee, WSU
- 2006–07 Judge, Undergraduate Research Poster Competition, WSU

Grants and Review Panels

- 2016 Panel Member, Evolutionary Processes, National Science Foundation
- 2016 Adhoc reviewer, CAREER Program, National Science Foundation
- 2016 Adhoc reviewer, Systematics & Biodiversity Sciences Cluster, National Science Foundation
- 2015 Adhoc reviewer, Natural Environment Research Council
- 2013–2014 Advisory Board, National Evolutionary Synthesis Center
- 2013, 2014 Reviewer, National Geographic Society
- 2012 Panel Member, Evolutionary Processes, National Science Foundation
- 2012 Adhoc reviewer, Physiological and Structural Systems, National Science Foundation
- 2011 Adhoc reviewer, Physiological and Structural Systems, National Science Foundation
- 2011 Adhoc reviewer, Evolutionary Processes, National Science Foundation
- 2010 Adhoc reviewer, Systematics, National Science Foundation

Referee Service

- *American Zoologist*
- *American Naturalist*
- *Biological Journal of the Linnean Society*
- *BMC Biology*
- *BMC Evolution Biology*
- *Ethology*
- *Evolution*
- *Functional Ecology*
- *Journal of Experimental Biology*
- *Journal of Evolutionary Biology*
- *Journal of Molecular Evolution*
- *Journal of Zoology*
- *Marine and Freshwater Research*
- *Molecular Phylogenetics and Evolution*
- *Physiological and Biochemical Zoology*
- *Proceedings of the Royal Society of London*
- *Science*
- *Systematic Biology*
- *Molecular Biology and Evolution*

Service to the Scientific Community

- 2016 Instructor, Latin American Macroevolution Workshop, Mexico City
- 2016 Instructor, Latin American Macroevolution Workshop, Puerto Rico
- 2016–present Associate Editor, *Systematic Biology*
- 2015 Instructor, Latin American Macroevolution Workshop, Ilhabella, Brazil
- 2014–present Associate Editor, *Evolution*
- 2014–2015 President, Division of Phylogenetic and Comparative Biology, Society for Integrative and Comparative Biology
- 2014 Invited instructor, short course on macroevolution. UNESP, Botucatu, Brazil
- 2013 President elect, Division of Phylogenetic and Comparative Biology, Society for Integrative and Comparative Biology
- 2012 FAPESP Short Course on Evolution Sao Paulo, Brazil
- 2011–present Macroevolution in R (NSF 5-day workshop in Santa Barbara)
- 2011 Judge, Society for Integrative and Comparative Biology DSEB Best Student Poster Competition
- 2011 Mentor, Undergraduate Diversity at SSE/SSB program
- 2011 Organizer and co-instructor of Comparative Methods in R workshop, SICB meetings, Salt Lake City (˜65 attendees).
- 2010 Organizer and co-instructor of Comparative Methods in R workshop, SICB meetings, Boston (˜90 attendees).
- 2009–2012 Introduction to comparative methods in R (Evening workshops held at the annual SICB meetings)
- 2009 Judge, Society for Systematic Biology Graduate Research Awards
- 2009 Mentor, Undergraduate Diversity at SSE/SSB program
- 2009 Symposium co-organizer and speaker, "Evolutionary whimpers and bangs: new approaches to diversification studies", Evolution, Moscow ID
- 2009–2011 Program Officer, Division of Systematic and Evolutionary Biology, Society for Integrative and Comparative Biology
- 2008 Advisor, Birmingham High School Academic Decathalon Team, Van Nuys, CA.
- 2005 Public lecturer, strategies for teaching evolutionary biology to high school students, Washington State Teachers Conference, Wenatchee

Conference Service

Co-organizer (with Dan Rabosky): "Evolutionary Bangs and Whimpers", Evolution Meetings,

Moscow, ID 2009.

Organizer (with Anthony Herrel): "Major issues in motor control", Society for Integrative and Comparative Biology Meetings, Chicago, IL 2001.

Field Expeditions

- 2013 Red Sea, Saudi Arabia
- 2009 Tonga and Samoa.
- 2007 Manual Antonio and Isla Murcielagos, Costa Rica. Collected genetic and morphological material for evolutionary studies of tetraodontiforms and labrids.
- 2006 Carrie Bow Caye Field Station, Belize. Collected genetic and morphological specimens of Halichoeres species.
- 2005 Quepos and Manual Antonio National Park, Costa Rica. Collected genetic samples of capuchin monkeys (Cebus capucinus) as part of an ongoing study of capuchin biogeography and cultural evolution.
- 2005 Carrie Bow Caye Field Station, Belize. Collected genetic and morphological specimens of Halichoeres species.
- 1999 Eagle Lake, CA. Collected the western aquatic garter snake (Thamnophis couchii) for study of striking hydrodynamics.
- 1999 Eagle Lake, CA. Observed foraging behavior of four species of garter snake and collected specimens for molecular and biomechanical analysis.
- 1999 Sedona Valley, AZ. Observed foraging behavior of the narrow-headed garter snake and collected specimens for molecular and biomechanical analysis.
- 1998 Horseshoe Lake, IL. Observed and collected the northern water snake, Nerodia sipedon.
- 1997 Joliet, IL. Collected local water and garter snake species.
- 1996 Lonoke, AK. Collected 4 species of water snake for kinematic analysis.
- 1995 Bermuda Marine Biological Station, Bermuda. Collected parrotfishes and performed electromyographic and kinematic field studies of parrotfish feeding. With Mark Westneat. Funded by the Field Museum.
- 1995 Philippines. Research assistant on a five-week expedition to collect tropical reef fishes. With M. Westneat. Collected over 300 whole-body specimens and 200 tissue specimens for the Field Museum. Attended an ICLARM conference and helped develop FishBase and FAO keys.
- 1995 White River, WY and Billings, MO. Coordinated a two week fossil hunting expedition with local entrepreneur Tom Kaye, University of Chicago graduate students Matt Carrano, and Darin Croft. Collected fossil mammal and dinosaur material for Field Museum collections.

Professional Memberships

- Society for Integrative and Comparative Biology (1995 to present)
- Evolution
- Society for Systematic Biology

References Available to Contact

Professor Peter Wainwright (e-mail: pcwainwright@ucdavis.edu; phone: +1-480-727-9425)
- Professor, Department of Ecology and Evolutionary Biology, UC Davis, University of California, Davis
- ◇ Department of Ecology and Evolutionary Biology, Davis, CA
- ★ *Professor Wainwright was my postdoctoral supervisor.*

Professor Mark Westneat (e-mail: mwestneat@uchicago.edu; phone: +(773) 702-2412)
- Professor, Organismal Biology and Anatomy, Organismal Biology and Anatomy
- ◇ Organismal Biology and Anatomy, 1027 E. 57th Street, Chicago IL 60637
- ★ *Professor Westneat was my postdoctoral advisor.*

Professor Francois Lutzoni (e-mail: flutzoni@duke.edu; phone: + (919) 660-7261)
- Professor, Duke Department of Biology, Duke University