

Gary M. Bucciarelli

OFFICE:

TERASAKI LIFE SCIENCE BUILDING
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EDUCATION

Antioch College, B.A., Interdisciplinary Cultural Studies, 2002

University of California, Los Angeles, Ph.D., Biology: Ecology and Evolutionary Biology, 2015

PROFESSIONAL APPOINTMENTS

- 2016 - Present Adjunct Faculty
Pepperdine University
- 2015 - Present Director of Research
UC Natural Reserve System; *Stunt Ranch Santa Monica Mountains Reserve*
- 2015 - Present Postdoctoral Researcher
UCLA, *Department of Ecology and Evolutionary Biology*;
Institute of the Environment & Sustainability, *La Kretz Center for Conservation Science*
- 2013 - 2014 Research Scientist
The Malibu Institute
Project: *The impacts of non-native species on stream invertebrates and amphibians*
- 2013 - 2015 Public Outreach Coordinator
UCLA, *La Kretz Center for Conservation Science*
- 2012 Research Scientist
Graniterock Consulting
Project: *The molecular ecology of native and non-native alleles in the Federally-endangered California tiger salamander*
- 2011 Research Assistant
Rincon del Socorro; *Ibera wetlands, Argentina*
Project: *The ecology of vertebrates in a restored wetland*

- 2009 - 2012 Research Assistant/Mentor
La Selva Biological Preserve, Costa Rica
Project: *Behavioral avoidance of ultraviolet radiation in calling male poison dart frogs*
- 2005 - 2010 Executive Manager
Apple Inc., Cupertino, CA
150 direct reports; responsible for \$40 million of revenue; staffed the Los Angeles market

TEACHING EXPERIENCE

- 2016 - present **Pepperdine University:** *Experimental Design and Biostatistics*
- 2014 **UCLA:** Field Biology Quarter - *The Ecology of California Amphibians and Reptiles*
- 2013 - 2015 **UCLA:** Molecular, Cellular, and Developmental Biology; Instructor
- 2012 **UCLA:** *Introduction to Evolution*
- 2011 **UCLA:** *Ecological Responses to Environmental Challenges*
- 2002 **Antioch College:** *Media and Social Change*
- 2001 **Antioch College:** *Media Literacy and Production*

GRANTS, FELLOWSHIPS, AND AWARDS

- 2018 **National Science Foundation:** Invited Full Proposal (In Revision)
Project: *Of poisons, predators, and parasites: the hidden role of infection in driving animal toxicity*
- 2018 **The National Geographic Society:** Invited Proposal (In Review)
Project: *The ecology of urban biodiversity: toward a sustainable Los Angeles informed by public perceptions and empirical data of species in novel urban environments*
- 2015 **United States Department of the Interior:** \$135,000
Project: *A genomics based conservation management plan for amphibians of the greater Los Angeles area*
- 2015 **Las Virgenes Municipal Water District:** \$55,000
Project: *The characterization, evaluation, and control of invasive species in Los Angeles watersheds*
- 2015 **UCLA**
Dissertation Year Fellowship

- 2014 **The National Park Services:** \$7,500
Project: *The impact of invasive species removal on amphibians and aquatic macroinvertebrates*
- 2014 **Malibu Institute:** \$15,000
Project: *Reintroduction of local amphibian species into restored habitat*
- 2013 **UCLA La Kretz Center:** \$7,000
Project: *Do predator cues induce increased toxin levels in a chemically defended amphibian?*
- 2013 **University of California Natural Reserve System:** \$4,500
Project: *Phenotypic variation through space and time of toxin levels in a chemically defended amphibian*
- 2013 **UCLA**
Distinction in Teaching Award
- 2011 **National Science Foundation:**
Graduate Research Fellowship Program - Honorable Mention
- 2011 **UCLA**
Departmental Fellowship
- 1998 **Antioch College**
Horace Mann Fellowship

REPORTS

- 2017 *"A conservation management plan for amphibians of greater Los Angeles informed by landscape genomics"* prepared by G.M. Bucciarelli, K.M. Pease, K.S. Delany, and H.B. Shaffer for the **National Park Service**. In preparation.
- 2017 *"Characterization, evaluation, and control of invasive species in Los Angeles watersheds"* prepared by G.M. Bucciarelli, D. Sharpton, and L.B. Kats for the **Los Angeles Regional Water Quality Board**.

TEXTBOOKS

- 2014 **Editor; Teaching Key and Test Bank Question Preparer**
Essentials of Ecology (4 ed.) by M. Begon, R.W. Howarth, and C.R. Townsend
- 2013 **Content Consultant**
The Science of Life: Food Webs by Carol S. Surges

PEER-REVIEWED PUBLICATIONS (* denotes mentored undergraduate researcher)

Bucciarelli, G.M., *Choe, J., *Shin, P., & Kats, L.B. 2018. Amphibian neurotoxins alter the behavior of invasive crustaceans. *Oikos*. (In Preparation).

*Suh, D.S., *Davis, A., **Bucciarelli, G.M., & Kats, L.B.** 2018. The relative success of native and non-native aquatic species as predators of disease vectors. *Conservation Biology*. (In Revision).

*Flores, A., **Bucciarelli, G.M.,** Green, D.B., & Kats, L.B. 2018. Tolerance to aquatic nitrate toxicity may contribute to the invasive potential of globally introduced crayfish. *Aquatic Conservation*. (In Revision).

*Ota, W.M., *Olsen, B., **Bucciarelli, G.M., & Kats, L.B.** 2018. The effect of newt toxins on an invasive snail. *Hydrobiologia*.

*Velasco, M.A., Berkunsky, I., Simony, M.V., Quiroga, S., **Bucciarelli, G.M.,** Kats, L.B., & Kacolis, F.P. 2017. The rainbow trout is affecting the occupancy of amphibians in Patagonia. *Hydrobiologia*.

Bucciarelli, G.M., Green, D.B., Shaffer, H.B., & Kats, L.B. 2017. An amphibian chemical defense phenotype is inducible across life history stages. *Scientific Reports*. 7: 8185.

*Calhoun, D.M., **Bucciarelli, G.M.,** Kats, L.B., Zimmer, R.K., & Johnson, P.T.J. 2017. Noxious newts and their natural enemies: Experimental effects of tetrodotoxin exposure on trematode parasites and aquatic macroinvertebrates. *Toxicon*. 137: 120-127.

Bucciarelli, G.M., Green, D.B., Shaffer, H.B., & Kats, L.B. 2016. Individual fluctuations in toxin levels affect breeding site fidelity in a chemically defended amphibian. *Proceedings of the Royal Society: B*. 283: 20160648.

Bucciarelli, G.M. & Kats, L.B. 2015. Effects of newt predator cues on the distribution and foraging of stream macroinvertebrates. *Hydrobiologia*. 749: 69-81.

Bucciarelli, G.M., Blaustein, A.R., Garcia, T. & Kats, L.B. 2014. Invasion complexities: The diverse impacts of invasive species on amphibians. *Copeia*. 4: 611-632.

Bucciarelli, G.M., *Li, A., Kats, L.B., & Green, D.B. 2014. Quantifying tetrodotoxin levels in the California Newt using a non-destructive sampling method. *Toxicon*. 80: 87-93.

Kats, L.B., **Bucciarelli, G.M.,** Vandergon, T.L., Honeycutt, R.L. *Mattiasen, E., *Sanders, A., Riley, S.P., Fisher, R.N. 2013. Effects of natural flooding and manual trapping on the facilitation of invasive crayfish-native amphibian coexistence in a semi-arid perennial stream. *Journal of Arid Environments*. 98: 109-112.

Kats, L.B., **Bucciarelli, G.M.** *Schlais, D.E., Blaustein, A.R., & Hahn, B. 2013. Ultraviolet radiation influences perch selection by a neotropical poison dart frog. *PLoS ONE*. 7(12).

INVITED LECTURES

- 2017 California State University, Northridge, Department of Biology, Los Angeles, CA
- 2016 Imperial College, Department of Ecology and Evolutionary Biology London, United Kingdom
- 2016 La Plata University, Department of Ecology La Plata, Argentina
- 2015 Pepperdine University, Department of Biology Malibu, CA
- 2014 The Chautauqua Series Temescal Canyon Park, Pacific Palisades, CA
- 2014 Southwestern Herpetological Society Pasadena, CA
- 2014 Mountains Recreation and Conservation Authority Pacific Palisades, CA
- 2014 Cold Creek Docents Calabasas, CA
- 2013 California Native Plant Society Santa Monica, CA
- 2013 Las Virgenes Municipal Water District Calabasas, CA
- 2012 Topanga Canyon Docents Malibu, CA
- 2010 Santa Monica College, Department of Biology Santa Monica, CA

PRESENTATIONS

*W. Ota, *B. Olsen, G.M. Bucciarelli, and L.B. Kats, “The effect of an amphibian toxin on an invasive snail.” 2017. **Ecological Society of America.**

L.B. Kats, and G.M. Bucciarelli, “The influence of UV radiation on tropical dart frog behavior.” 2017. **Southern California Academy of Sciences 110th Annual Meeting.**

*A. Flores, G.M. Bucciarelli, D.B. Green, and L.B. Kats “Tolerance to aquatic nitrate toxicity may contribute to the invasive potential of globally introduced crayfish.” 2016. **Southern California Conference for Undergraduate Research.**

*A. Flores, G.M. Bucciarelli, D.B. Green, and L.B. Kats, “The effect of nitrate on the release of glucose into the hemolymph of crayfish.” 2016. **National Meeting of the American Chemical Society.**

G.M. Bucciarelli, H.B Shaffer, D.B. Green, and L.B. Kats, “Phenotypic variation in space and time of toxin levels in a chemically defended amphibian.” 2015. **Ecological Society of America.**

G.M. Bucciarelli, H.B Shaffer, D.B. Green, and L.B. Kats, “Fluctuations in toxin levels of a chemically defended amphibian.” 2015. **Oxford College.**

G.M. Bucciarelli, H.B Shaffer, D.B. Green, and L.B. Kats, “Temporal variation in toxin levels of a chemically defended amphibian.” 2015. **American Society of Ichthyologists and Herpetologists.**

G.M. Bucciarelli, H.B Shaffer, D.B. Green, and L.B. Kats, “Tracking newts and defensive toxin levels through time in the Santa Monica Mountains.” 2015. Meeting of the **California-Nevada Amphibian Populations Task Force.**

Li*, A., G.M. Bucciarelli, L.B. Kats and D.B. Green “Reduced sample size and improved extraction and recovery of tetrodotoxin from the California newt, *Taricha torosa*.” 2014. **National Meeting of the American Chemical Society**. Mentor.

Gidis, M., G.M. Bucciarelli, U. Kaya, H.B. Shaffer “Lyciasalamandra genus: A status review using next-generation sequencing methods.” 2014. **American Society of Ichthyologists and Herpetologists**.

G.M. Bucciarelli “Phenotypic variation in space and time of an amphibian chemical defense.” 2014. **University of California Natural Reserve System Annual Symposium**.

Sokolova*, A., N. Huron, A. Reimer, G. Bucciarelli and L.B. Kats. “Effects of Tetrodotoxin on New Zealand Mud Snails (*Potamopyrgus antipodarum*).” 2013. **Southern California Conference for Undergraduate Research**. Mentor.

J.M. Buie*, N. Novella*, J. Liao*, C.M. Sutter*, Kats, L.B., and G.M. Bucciarelli. “Stream current as a limiting factor for aquatic invasive species in southern California streams.” 2013. **International Conference on Challenges in Aquatic Sciences**.

Sutter*, C.M., N.A. Novella*, L.B. Kats and G. Bucciarelli “Effects of ultraviolet light on male aggression in the strawberry poison dart frog, *Oophaga pumilio*” 2012. **Southern California Conference for Undergraduate Research**. Mentor.

Liao*, J., A. Nakahar*, A. Sokolova*, G. Bucciarelli and L.B. Kats “Activated carbon adsorption of tetrodotoxin in post fire streams?” 2012. **Southern California Conference for Undergraduate Research**. Mentor.

Huron*, N., L.B. Kats and G. Bucciarelli. “A comparison of auditory and visual cues in the territorial behavior of the strawberry poison dart, *Oophaga pumilio*.” 2012. **Southern California Conference for Undergraduate Research**. Mentor.

Chowaniec*, A., G. Bucciarelli, L.B. Kats and D. B. Green. “An improved method for the analysis of tetrodotoxin by high performance liquid chromatography coupled with fluorescence detection.” 2011. **Western Regional Meeting of the American Chemical Society**.

G.M. Bucciarelli, D.E. Schlais and L.B. Kats. “Ultraviolet radiation influences perch selection by a neotropical poison dart frog.” 2011. **Joint Meeting of Ichthyologists and Herpetologists**.

Sanders*, A., E. Uemura*, E. Mattiasen*, N. Huron*, C. Sutter*, L.B. Kats and G.M. Bucciarelli. “The influence of flood events on the long-term coexistence of native amphibians.” 2010. **Southern California Conference for Undergraduate Research**. Mentor.

Mattiasen*, E.G., A. Chowaniec*, L.B. Kats and G.M. Bucciarelli. “Vulnerability of native caddisfly species to invasive crayfish in the Santa Monica Mountains.” 2010. **Southern California Conference for Undergraduate Research**. Mentor.

Chung*, J., C. Hwang*, M. Bender*, F. Sapigao*, G. Bucciarelli, T. Vandergon, R.L. Honeycutt, and L.B. Kats. “Long term coexistence of native amphibians and invasive crayfish mediated by flood events.” 2010. **Joint Meeting of Ichthyologists and Herpetologists**.

JOURNAL REFEREE

Conservation Biology; Copeia; Ecohealth; Ecology and Evolution; Hydrobiologia; Phylomedusa; PLoS ONE; Toxicon; Toxins

SERVICE

UC Natural Reserve System: Member; Board of Directors

California Cooperative Ecosystem Studies Unit: UCLA Representative

UC Natural Reserve System: Committee Chair; 3 campus review to incorporate future reserve sites

Collaborative Science Agenda on Climate Change in Southern California: Member; Coastal Program

UCLA Committee on Diversity and Equal Opportunity (CODEO): Graduate seat

National Park Services: Biannual stream surveys in the Santa Monica Mountains

Los Angeles Natural History Museum: Reptile and amphibian appreciation day (RAAD); NatureFest

Reptiles and Amphibians of southern California (RASCals): Citizen science projects

Docent instructor: Topanga Docents, Cold Creek Docents, and Research Conservation District.

National Park Service: ScienceFest (5,000+ visitors)