

# Gary M. Bucciarelli

## OFFICE:

TERASAKI LIFE SCIENCE BUILDING  
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## EDUCATION

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

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

## PROFESSIONAL APPOINTMENTS

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- 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**

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- 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**

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- 2017      **National Science Foundation:** Invited Full Proposal (In Review)  
Project: *Of poisons, predators, and parasites: the hidden role of infection in driving animal toxicity*
- 2017      **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*
- 2017      **The Nicholas Endowment:** (In Review)  
Project: *Growing STEM leaders in the Wilderness: bringing city youth into nature for experiential science-based research learning*
- 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

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- 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

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- 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)

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\*Ota, W.M., \*Olsen, B., **Bucciarelli, G.M.**, & Kats, L.B. 2017. The effect of newt chemical cues on an invasive snail. *Hydrobiologia*. (In Review).

\*Suh, D.S., \*Davis, A., **Bucciarelli, G.M.**, & Kats, L.B. 2017. The relative success of native and non-native aquatic species as predators of disease vectors. *Conservation Biology*. (In Review).

**Bucciarelli, G.M.**, \*Choe, J., \*Shin, P., & Kats, L.B. 2017. Amphibian neurotoxins alter the behavior of invasive crustaceans. *Oikos*. (In Preparation).

\*Flores, A., **Bucciarelli, G.M.**, Green, D.B., & Kats, L.B. 2017. Tolerance to aquatic nitrate toxicity may contribute to the invasive potential of globally introduced crayfish. *Aquatic Conservation*. (In Revision).

\*Velasco, M.A., Kacoliris, F.P., Berkunsky, L., Simony, V., Quiroga, S., **Bucciarelli, G.M.**, & Kats, L.B. 2017. The effect of exotic rainbow trout on the occupancy of two native amphibians from the Valcheta Stream (Patagonia, Argentina). *Hydrobiologia*. (Accepted).

**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

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- 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

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\*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; Hydrobiologia; Phylomedusa; PLoS ONE; 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)