

# BRANDON ANDRÉ GÜELL

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## PERSONAL

Birth Date: May 6, 1994  
Languages: English, Spanish  
Citizenships: United States, Costa Rica

## PROFESSIONAL STATEMENT

I have a profound interest in natural history, ecology, and animal behavior. I believe integrative field biology and natural history observations are critical in developing hypothesis-driven research that expands our understanding of the biodiversity in our natural world. I believe photography plays a key role in science and conservation communication.

## EDUCATION

Boston University	<i>Boston, MA</i>
<b>Ph.D.</b> in Biology	2023
<b>M.S.</b> in Biology	2020
<i>“Explosive breeding and its consequences for critical adult and embryo behaviors in gliding treefrogs”</i>	
University of California San Diego	<i>San Diego, CA</i>
<b>B.S.</b> in Ecology, Behavior, & Evolution, <i>Minor in Chemistry</i>	2016
<i>“Determining northern fur seal pup weaning with stable isotope and stomach content analyses”</i>	

## FELLOWSHIPS

» Short Term Graduate Research Abroad Fellowship, Boston University ( <b>\$6,000</b> )	2020
» Graduate Research Fellowship, National Science Foundation, DGE-1247312 ( <b>\$138,000</b> )	2017–2022
» Teaching Fellowship (x5), Boston University ( <b>\$11,000</b> )	2018–2021
» Dean’s Fellowship, Boston University ( <b>\$11,000</b> )	2017
» Research Experience for Undergraduates at STRI, National Science Foundation ( <b>\$5,000</b> )	2015

## RESEARCH FUNDING

» Belamarich Writing Award, Boston University ( <b>\$3000</b> )	2023
» Graduate Student Organization Research Grant, Boston University ( <b>\$500</b> )	2021
<i>Phenology of explosive breeding and its environmental triggers in gliding treefrogs</i>	
» Thomas H. Kunz Fund, Boston University ( <b>\$6,000</b> )	2021
» Grants-in-Aid of Research, Sigma Xi, G201903157935086 ( <b>\$500</b> )	2019
<i>Treefrog egg-clutch biomechanics and their effect on embryo escape-hatching behavior</i>	
» Grants-in-Aid of Research, Sigma Xi, G2018031596022314 ( <b>\$900</b> )	2018
<i>Evolution of embryo behavior: heterochrony of cued hatching mechanisms</i>	
» Ledell Family Undergraduate Research Scholarship, UC San Diego ( <b>\$4,000</b> )	2014
<i>The impact of temperature and predators on CO<sub>2</sub> flux from mountain lakes</i>	

## TRAVEL FUNDING

» Biology Travel Award, Boston University ( <b>\$500</b> )	2022
» Charlotte Mangum Student Support Scholarship, SICB ( <b>\$150</b> )	2020
» Biology Travel Award, Boston University ( <b>\$200</b> )	2020
» Graduate Student Organization Conference Travel Grant, Boston University ( <b>\$500</b> )	2019
» Charlotte Mangum Student Support Scholarship, SICB ( <b>\$150</b> )	2018
» Biology Travel Award, Boston University ( <b>\$300</b> )	2018

- » Charlotte Mangum Student Support Scholarship, SICB (**\$200**) 2017
- » Student Travel Award, Western Society of Naturalists (**\$300**) 2016
- » Research Experience for Undergraduates Travel Scholarship, BIO-OCE (**\$1000**) 2016

## PHOTOGRAPHY

- » **Highly Commended**, Natural History Museum's [58<sup>th</sup> Wildlife Photographer of the Year](#) 2022
- » **Honorable Mention**, National Wildlife Federation [Photo Contest](#) (*Other Wildlife Category*) 2022
- » **Winner**, AIBS Faces of Biology [Photo Contest](#) 2022
- » **Winner**, Boston University [Research Photo Contest](#) (*Field Research Category*) 2022
- » **Best in Category**, BMC Ecology and Evolution [Image Competition](#) (*Life Close Up Category*) 2022
- » **Runner-up**, BMC Ecology and Evolution [Image Competition](#) (*Research in Action Category*) 2022
- » **Winner**, Osa Conservation's [RidgetoReef Photography Contest](#) (*Amateur Category - Land*) 2022
- » **Finalist**, Australia Zoo's Crikey! Magazine [Photography Competition](#) 2020
- » **Second Place**, AIBS Faces of Biology [Photo Contest](#) 2019
- » **Runner-up**, BBC Wildlife Magazine [Your Photos Competition](#) (*October issue*) 2019
- » **Honorable Mention**, National Wildlife Federation [Photo Contest](#) (*Top 40 of over 23,000*) 2019
- » **Runner-up**, BBC Wildlife Magazine [Your Photos Competition](#) (*May issue*) 2019
- » **Winner**, Boston University [Biologically Beautiful Photo Contest](#) 2018

## SCIENTIFIC PUBLICATIONS (11 papers, 6 first-authored, 2 senior-authored; intern/undergrad co-authors<sup>u</sup>)

16. Jung J, Güell BA, Warkentin KM (*in prep*) Temperature-induced heterokairy in vestibular system development matches changes in the onset of mechanosensory-cued hatching in red-eyed treefrogs.
15. Güell BA, Aichelman H, Davies, SW, Warkentin KM (*in prep*) Alternative reproductive tactics in male gliding treefrogs: nonamplexed males increase reproductive success using sneaking and post-mating clutch piracy.
14. Güell BA, Warkentin KM (*near-final manuscript for **Behavioral Ecology and Sociobiology***) To hatch and hatch not: does heterochrony in vestibular mechanosensing explain species differences in escape-hatching success of *Agalychnis* embryos in snake attacks.
13. Güell BA, McDaniel JG, Warkentin KM (*near-final manuscript for **Integrative Organismal Biology***) Egg-clutch biomechanics affect escape-hatching behavior and performance.
12. Güell BA, Warkentin KM (*in review **Behavioral Ecology***) Phenology and environmental predictors of explosive breeding in gliding treefrogs: a boosted regression tree analysis.
11. Gomez EK<sup>u</sup>, Chaiyasarikul A<sup>u</sup>, Güell BA, Warkentin KM (2023) Developmental changes in red-eyed treefrog embryo behavior increase escape-hatching success in wasp attacks. *Behavioral Ecology and Sociobiology* 77, 52. [Full text](#)
10. Barrio-Amorós CL, Güell BA, (2023) The Central American milk frog *Trachycephalus "vermiculatus"* (Anura, Hylidae); observations of explosive breeding activity and a novel release call. *Reptiles & Amphibians* 30(1), e18452. [Full text](#)
9. Güell BA, Rose F<sup>u</sup>, Bordne CM (2022) Facultative parthenogenesis in a captive Tarahumara mountain boa (*Boa sigma*). *Reptiles & Amphibians* 29(1), 411-412. [Full text](#)
8. Güell BA, Jung J, Almanzar A<sup>u</sup>, Diaz JC<sup>u</sup>, Warkentin KM (2022) Ontogeny of risk assessment and escape-hatching performance by red-eyed treefrog embryos in two threat contexts. *Journal of Experimental Biology*, 225(20): jeb244533. [Full text](#)
7. González K<sup>u</sup>, Warkentin KM, Güell BA (2021) Dehydration-induced mortality and premature hatching in gliding treefrogs with even small reductions in humidity. *Ichthyology and Herpetology*, 109(1), 21-30. [Full text](#)
  - » Awarded 2021 Best Paper (Herpetology) in *Ichthyology and Herpetology*
6. Gomez EK<sup>u</sup>, Warkentin KM, Güell BA (2021) Egg-kicking behaviour by male gliding treefrogs (*Agalychnis spurrelli* Boulenger, 1913) does not dislodge competitors' eggs. *Herpetology Notes*, 14, 157-161. [Full text](#)

5. **Güell BA**, Sánchez M, Gallo S, Garro D, Paniagua D, Barrio-Amorós C (2021) Multiple observations of atypical coloration in Central American *Agalychnis* treefrogs (Anura: Phyllomedusidae). *Herpetology Notes*, 14, 151-155. [Full text](#)
4. **Güell BA**, González K<sup>u</sup>, Pedroso-Santos F (2019) Opportunistic predation by two aquatic-feeding predators on an explosive-breeding aggregation of arboreal gliding treefrogs (*Agalychnis spurrelli* Boulenger, 1913; Anura: Phyllomedusidae) on the Osa Peninsula of Costa Rica. *Herpetology Notes*, 12, 795-798. [Full text](#)
3. **Güell BA**, González K<sup>u</sup> (2019) Mating mayhem. *Frontiers in Ecology and the Environment*, 17(2), 128-128. [Full text](#)
2. **Güell BA**, Warkentin KM (2018) When and where to hatch? Red-eyed treefrog embryos use light cues in two contexts. *PeerJ*, 6:e6018. [Full text](#)
1. Warkentin KM, Diaz JC<sup>u</sup>, **Güell BA**, Jung J, Kim SJ, Cohen KL (2017) Developmental onset of escape hatching responses in red-eyed treefrogs depend on cue type. *Animal Behaviour*, 129, 103–112. [Full text](#)  
 » [Audio Slides | Diapositivas de Audio](#)

## RESEARCH CONFERENCE PRESENTATIONS (intern/undergrad co-authors<sup>u</sup>, \*Spanish/Spanglish)

### ORAL:

11. Zeppelin TK, Brost B, Johnson D, Kurle CM, **Güell BA**, Kelleher C, Williams M, York AE (2023) Determining cryptic life history milestones using isotopic markers in northern fur seal (*Callorhinus ursinus*) vibrissae. Alaska Marine Science Symposium, Anchorage, AK
10. **Güell BA**, Warkentin KM (2022) Comportamientos reproductivos, fenología y los desencadenantes ambientales de los eventos de reproducción explosiva de la rana planeadora, *Agalychnis spurrelli*. Congreso Colombiano de Herpetología\*, Cali, Colombia.
9. Gomez, EK<sup>u</sup>, **Güell BA**, Warkentin KM (2021) Developmental changes in red-eyed treefrog embryo behavior increase escape success in wasp attacks. Animal Behavior Society Meeting. Pre-recorded 8-minute talk, *virtual meeting*. [Presentation](#)
8. **Güell BA**, Gomez EK<sup>u</sup>, Warkentin KM (2021) Gliding treefrog reproduction: Possible functions of diverse male behavior in terrestrial breeding aggregations. Society for Integrative and Comparative Biology Meeting. Pre-recorded 6-minute talk, *virtual meeting*. [Presentation](#)
7. **Güell BA**, Warkentin KM (2020) Gliding treefrog reproductive behavior: Possible alternative male tactics in a terrestrial breeder. Animal Behavior Society Meeting. Pre-recorded 3-minute talk, *virtual meeting*. [Presentation](#)
6. Gomez, EK<sup>u</sup>, **Güell BA**, Warkentin KM (2020) Gliding treefrog reproductive behavior: “Egg scraping” by males does not dislodge competitors’ eggs. Animal Behavior Society Meeting. Pre-recorded 3-minute talk, *virtual meeting*. [Presentation](#)
5. **Güell BA**, Caldwell MS, Warkentin KM (2020) Treefrog egg-clutch biomechanics and their effect on embryo escape-hatching behavior. Boston University Biology Graduate Student Symposium, Boston, MA.
4. **Güell BA**, Caldwell MS, Warkentin KM (2020) Treefrog egg-clutch biomechanics and their effect on embryo escape-hatching behavior. Society for Integrative and Comparative Biology Meeting, Austin, TX.
3. Zeppelin TK, Brost BM, Kelleher C, **Güell BA**, Ream RR, Kurle CM (2020) Using stable isotope analysis of vibrissae from northern fur seal pups and juveniles to establish individual foraging and migratory patterns. Alaska Marine Science Symposium, Anchorage, AK.
2. Warkentin KM, Cohen KL, Diaz JC, **Güell BA**, Jung J (2016) Development of embryo behavior: hatching mechanisms, performance, and decisions in red-eyed treefrogs. Society for Integrative and Comparative Biology Meeting, Portland, OR.
1. **Güell BA**, Warkentin KM (2015) Embryo behavior and hatching performance in red-eyed treefrogs. Smithsonian Tropical Research Institute Intern Symposium, Panama City, Panama.

### POSTER:

9. Medina SF<sup>1</sup>, Güell BA, Soroca S, Huzar A, Hughes A, Warkentin KM, Davies SW (2022) Testing the function of unusual male behaviors in male *Agalychnis spurrelli*. GROW/RISE Boston University Symposium, Boston, MA.
8. González K<sup>2</sup>, Warkentin KM, Güell BA (2020) Minimal dehydration induces premature hatching and affects hatchling size in gliding treefrogs. Society for Integrative and Comparative Biology Meeting, Austin, TX. [Poster](#)
7. Güell BA, Warkentin KM (2018) Does accelerated development impair predator-detection and escape-hatching of phyllomedusid treefrog embryos? Boston University Biology Graduate Student Symposium, Boston, MA.
6. Jung J, Güell BA, Warkentin KM (2018) Inner ear development across onset and improvement of escape-hatching ability in red-eyed treefrogs: a confocal and  $\mu$ CT analysis. Society for Integrative and Comparative Biology Meeting, San Francisco, CA. [Poster](#)
5. Güell BA, Warkentin KM (2018) Does accelerated development impair predator-detection and escape-hatching of phyllomedusid treefrog embryos? Society for Integrative and Comparative Biology Meeting, San Francisco, CA.
4. Güell BA, Kurle CM, Zeppelin TK, Ream RR (2017) Determining northern fur seal pup weaning with stable isotope and stomach content analyses. Society for Integrative and Comparative Biology Meeting, New Orleans, LA.
3. Güell BA, Kurle CM, Zeppelin TK, Ream RR (2016) Determining northern fur seal pup weaning with stable isotope and stomach content analyses. Western Society of Naturalists Meeting, New Monterey, CA.
2. Güell BA, Warkentin KM (2016) When and where to hatch: red-eyed treefrog embryos use light cues. Society for Integrative and Comparative Biology Meeting, Portland, OR.
1. Jung J, Kim SJ, Güell BA, Cohen KL, Warkentin KM (2016) Ontogeny of escape hatching in red-eyed treefrogs: onset of response to flooding and attack cues. Society for Integrative and Comparative Biology Meeting, Portland, OR.

#### INVITED TALKS (\*Spanish/Spanglish)

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|--|------|
| <b>Detroit Zoo</b>   | 2023 |
| “DZS Lecture Series: Behind the Lens with Brandon Güell.” Detroit Zoological Society, Royal Oak, MI  |      |
| <b>Detroit Zoo</b>   | 2023 |
| “Photography as a tool to study gliding treefrogs.” Guest Lecture for the Amphibian Management School, Detroit Zoological Society, Royal Oak, MI   |      |
| <b>Boston University</b>   | 2021 |
| “From embryo to adult: A biologist’s journey into researching treefrog behavioral ecology.” Guest Speaker for BI225 Behavioral Biology, Boston, MA.  |      |
| <b>Boston University</b>   | 2020 |
| “From embryo to adult: A biologist’s journey into researching treefrog behavioral ecology.” Guest Speaker for BI225 Behavioral Biology, Boston, MA.  |      |
| <b>Universidad de Costa Rica*</b>  | 2019 |
| “Comportamiento embrionario, estrategias reproductivas, y comportamientos reproductivos adaptativos de ranas arborícolas de la Península de Osa, Costa Rica.” Guest Speaker for the Laboratorio de Patología Experimental y Comparada, Escuela de Biología, San Jose, Costa Rica |      |
| <b>Universidad Nacional de Costa Rica*</b>   | 2019 |
| “Comportamiento embrionario, estrategias reproductivas, y comportamientos reproductivos adaptativos de ranas arborícolas de la Península de Osa, Costa Rica.” Guest Speaker for Laboratorio de Biología Tropical–Grupo de Comportamiento Animal. San Jose, Costa Rica            |      |
| <b>Colegio Salisiano Don Bosco*</b>  | 2019 |
| “El Crocodile Hunter.” Science Fair Special Guest Inaugural Speaker and Judge. San Jose, Costa Rica.   |      |
| <b>Smithsonian Tropical Research Institute</b>   | 2019 |

“Adaptive embryo behavior, reproductive strategies, and reproductive behaviors of phyllomedusid treefrogs on Costa Rica’s Osa Peninsula.” Frog Talk Series, Gamboa, Panama.

- Osa Conservation Piro Biological Station\*** 2019  
“Integrative and comparative organismal biology of phyllomedusid treefrogs.” Invited Associate Researcher Seminar, Osa Peninsula, Costa Rica.
- Osa Conservation Piro Biological Station\*** 2018  
“Preliminary field observations of an explosive breeding population of leaf frogs en la Peninsula de Osa, Costa Rica.” Invited Associate Researcher Seminar, Osa Peninsula, Costa Rica.
- Smithsonian Tropical Research Institute** 2018  
“Preliminary field observations of an explosive breeding population of leaf frogs en la Peninsula de Osa, Costa Rica.” Frog Talk Series, Gamboa, Panama.

## TEACHING

### Boston University

- » Teaching Fellow Peer Mentor Spring 2021
- » Teaching Fellow for *Vertebrate Zoology* Spring 2021
- » Teaching Fellow Peer Mentor Spring 2020
- » Teaching Fellow for *Animal Behavior* (hybrid class) Fall 2020
- » Teaching Fellow Peer Mentor Fall 2020
- » Teaching Fellow for *Vertebrate Zoology\** Spring 2019  
*\*Nominated for most Outstanding Teaching Fellow in Dept. of Biology*
- » Teaching Fellow for *Vertebrate Zoology* Spring 2018
- » Teaching Fellow for *Animal Behavior* Fall 2018

### University of California, San Diego

- » Teaching Assistant for *Biodiversity* Spring 2016
- » Teaching Assistant for *Animal Behavior and Communication* Fall 2016
- » Teaching Assistant for *Organismic and Evolutionary Biology* Fall 2016
- » Teaching Assistant for *Human Impact on the Environment* Spring 2015
- » Teaching Assistant for *Organismic and Evolutionary Biology* Winter 2015
- » Teaching Assistant for *Organismic and Evolutionary Biology* Fall 2015
- » Teaching Assistant for *Human Impact on the Environment* Spring 2014

## MENTORSHIP

- » **Nicole Gilbert**, current Boston University undergraduate 2021–2023  
*BU undergraduate research assistant on “Reproductive ecology and alternative reproductive tactics of an explosive-breeding treefrog with terrestrial eggs” and “The effect of egg mass size and humidity on clutch hydration, hatching timing, and embryo survival.” Nicole is collaborating with the Davies Lab at BU to extract DNA from adult toe-pad and tadpole tissue samples to run parentage analyses. Nicole is also taking measurements of egg and tadpoles from images using ImageJ and collecting experimental data from dehydration experiments.*
- » **Fish Fisher**, former Boston University undergraduate 2020–2021  
*BU UROP Intern (x2) and research assistant on “Identifying, describing, and quantifying male A. spurrelli reproductive behaviors.” Ava conducted video analyses to identify and compare rates of male A. spurrelli behaviors.*
- » **Elena Gómez**, now U Penn Laboratory Technician, former Boston University undergraduate 2019–2023  
*BU BU UROP Intern (x2) and research assistant on “Evolution of embryo behavior: heterochrony of cued hatching mechanisms” and “How developmental changes in red-eyed treefrog embryo behavior increase escape-hatching success during wasp attacks.” Elena measured tadpole lengths and eye and head angles using ImageJ. She also conducted video and data analyses of male gliding treefrog behaviors during reproduction and of red-eyed treefrog embryo behavior in wasp attacks. She presented her work*

at the 2020 ABS meeting; we have two published papers together, and we are collaborating on additional manuscripts for publication.

— Awarded Outstanding Student Researcher Award in 2020

— Awarded Outstanding Senior Undergraduate Research Award in Biology in 2021

- » **Katherine González**, now Purdue University PhD student, former UNA\* undergraduate 2018–2019  
*Costa Rican, \*Universidad Nacional, Costa Rica graduate, field assistant, and intern (3.5 months at remote field site on Costa Rica's Osa Peninsula) on "Evolution of embryo behavior: heterochrony of cued hatching mechanisms" and "Treefrog egg-clutch biomechanics and their effect on embryo escape-hatching behavior." Katherine conducted an independent research project and assisted with several experiments on the projects during both summers. She presented her independent work at SICB 2020 and we have several published papers together.*

## RESEARCH EXPERIENCE

- PhD Dissertation Research**, Boston University, STRI, Osa Conservation 2017–2023  
*I investigated the consequences of explosive breeding reproductive strategies for adult behavior and reproductive success, offspring environments and plastic hatching traits, and embryo survival and behavior. My work was conducted at the Smithsonian Tropical Research Institute in Panama and at Osa Conservation on Costa Rica's Osa Peninsula.*
- Guest Graduate Student Field Leader**, Cal Poly San Luis Obispo 2018  
*I Co-led the marking, flipper tagging, weighing, and censusing efforts of adult and pup northern elephant seals (*Mirounga angustirostris*) with the Piedras Blancas Northern Elephant Seal Research Program.*
- Field Assistant**, NOAA/NMML, Pribilof Islands, Alaska 2016  
*I Assisted in pup shearing, weighing, measuring, marking, re-sighting, animal handling and de-entanglements, censusing efforts, and spat, spew, and carcass collection of northern fur seals (*Callorhinus ursinus*) on St. Paul and St. George Islands, Alaska*
- Student Researcher**, UC San Diego, Vertebrate Foraging Ecology Lab 2015–2016  
*Independent research in Dr. Carolyn Kurlle's lab studying the changes in foraging ecology and behavior in northern fur seal pups (*Callorhinus ursinus*) on the Pribilof Islands, Alaska using stable isotope and stomach content analyses*
- Field Assistant**, NOAA/NMML, Pribilof Islands, Alaska 2015  
*Assisted in flipper tagging, re-sighting, de-entanglements, and satellite tagging of northern fur seals (*Callorhinus ursinus*)*
- Intern**, Smithsonian Tropical Research Institute REU, Gamboa, Panama 2015–2016  
*Independent research in Dr. Karen Warkentin's Lab on red-eyed treefrog (*Agalychnis callidryas*) embryo behavior and hatching performance*
- Intern/Research Assistant**, SNARL and SNRI, Yosemite National Park, California 2014  
*Independent research in Dr. Jonathan Shurin's freshwater ecology lab on the impact of temperature on CO<sub>2</sub> flux from mountain lakes. I assisted in setting up large scale mesocosm experiments looking at different mountain lake zooplankton communities across a temperature gradient with the presence or absence of predators. Helped collect and analyze data from the field, and gained knowledge of experimental design and procedures*
- Research Assistant**, UC San Diego Freshwater Ecology Lab 2013–2014  
*Assisted graduate students studying effects of environmental variability on salt marsh plant interactions by setting up insect traps in the field and common garden experiments, and sorting and identifying invertebrates*

## SERVICE

### Manuscript Reviewer

- » Reptiles & Amphibians (2)
- » Behavioral Ecology (1)
- » Tropical Ecology (1)
- » Herpetozoa (1)

- » *Functional Ecology* (1)
- » *Animal Ecology* (1)
- » *Austral Ecology* (1)
- » *Biological Journal of the Linnean Society* (1)
- » *Behavioral Ecology and Sociobiology* (2)

#### **Grant Reviewer**

- » Boston University Graduate Student Organization 2020–2023

#### **Departmental Service**

- » Host, Dr. Ummat Somjee’s seminar at Boston University EBE Invited Postdoc Speaker 2021

#### **Judge for Student Presentations**

- » Science Fair Colegio Salesiano Don Bosco, Costa Rica 2019
- » 7th Annual Biology Graduate Student Symposium, Boston University 2019
- » Interdisciplinary Gender Studies class Reproductive Diversity Symposium, Boston University 2018 & 2019

#### **Society Memberships**

- » Animal Behavior Society 2020–present
- » American Society of Ichthyologists and Herpetologists 2020–present
- » Society for the Study of Amphibians and Reptiles 2019–2020
- » Sigma Xi 2018–2020
- » Society for Integrative and Comparative Biology 2016–present
- » Western Society of Naturalists 2016–2016

### **OUTREACH**

- Invited Speaker**, In Honor of Earth Day: Photography Show & Tell, Hosted by [PhotoShelter](#) 2023  
*Contributed to conversation about my PhD dissertation research, wildlife photography, and conservation.*  
[Twitter Space](#)
- Invited Speaker**, Detroit Zoological Society, Royal Oak, MI 2023  
*Presented about my PhD dissertation research, wildlife photography, and conservation to elementary, middle, and high school students via Zoom. [Presentation](#)*
- Graduate Student Panelist**, Boston University BI671, Boston, MA 2020  
*Answered questions and gave mentorship to new graduate students regarding the NSF-GRFP application process and on how to choose committee members and approach qualifying exams*
- Invited Inaugural Speaker and Judge**, Science Fair Colegio Salesiano Don Bosco, Costa Rica 2019  
*Presented the inaugural talk on vocations in science and biology; Special invited guest judge for science fair*
- Discussion Leader**, Osa Conservation Piro Biological Station, Osa Peninsula, Costa Rica 2019  
*Led discussion about the challenges minorities face in STEM; emphasis on Latina women*
- Science Educator**, Piro Elementary School, Osa Peninsula, Costa Rica 2018  
*Exposed young students to my dissertation research using hands-on demonstrations of environmentally cued hatching and behavioral ecology of my study system using photography and videography*
- Volunteer**, Boston University BIOBUGS Outreach Program 2017  
*Exposed high school students to hands-on biology experiments, sophisticated scientific equipment, interaction with graduate students, & the Boston University campus*
- Lesson Plan Teaching Assistant**, Richard J. Murphy Boston Public School 7<sup>th</sup> Grade 2017  
*Contributed to revisions of lesson plan and assisted in leading course material and class assignments based on my lab’s research conducted in the field working with red-eyed treefrogs and embryo behavior (with NSF-RET teacher)*
- Field Trip Leader**, St. George K-8 elementary school, St. George Island, Alaska 2015  
*Led field trip for the K-8 elementary school students of St. George Island, Alaska to the northern fur seal rookeries where we observed and studied the biodiversity of their island. I was able to share my experiences*

*about working with their charismatic fur seal neighbors, which are a crucial part of the local Aleut culture and history*

## SCIENTIFIC CONSULTING FOR MEDIA

- Videography Assistant and Scientific Consultant**, BBC's *Planet Earth III* 2022–2023  
*Assisted with field-based wildlife videography and provided scientific consulting on gliding treefrogs on Costa Rica's Osa Peninsula*
- Scientific Consultant**, BBC's *Planet Earth III* 2019–2023  
*Consulted and helped plan the production and filming of a Planet Earth III episode*
- Scientific Consultant**, National Geographic Little Kids Magazine 2020  
*Consulted on content for the May/June 2020 issue on Fun with Frogs*
- Stock Material and Scientific Consultant**, NHNZ National Geographic production 2019  
*Provided stock material and scientific consulting on gliding treefrog, *Agalychnis spurrelli*, audio clips for Natural History New Zealand Limited's National Geographic production of Equator's Wild Secrets: Secret Creatures of the Andes*

## MEDIA COVERAGE

**Research—Video:** BBC's *Planet Earth III* "Freshwater" episode, [Osa Conservation](#)

**Photography—Print and online:** *Forbes, CNN, BBC, The Atlantic, The Times, BBC Wildlife Magazine, Australian Photography, PetaPixel, National World, Amateur Photographer, Insider, Western Telegraph, Indy100, La Republica, El Litoral, ¡Que Torta!, The Guardian, Yahoo, Newsweek, Sky News, Daily Mail, Mashable, Iflscience, Ecpoca Negocios, Gizmodo, Paris Match, Euro News, El Observador, National Geographic Traveller | BMC Ecology and Evolution, Science, Nature, National Geographic, The Telegraph, Study Finds, Up Jobs News, PetaPixel | The Brink, Boston University Biology News | Boston University Biology News, EurekAlert!, BioScience*

## RESEARCH SKILLS AND EXPERIENCE

- » Scientific/Wildlife photography and videography
- » Off-trail and off-road navigation
- » Drone operation
- » Amphibian visual encounter and acoustic surveys
- » Field-based monitoring of terrestrial frog eggs
- » Field- and lab-based rearing of terrestrial frog eggs
- » Field-based adult frog toe-clipping
- » Amphibian egg-clutch transplantations
- » Field-based accelerometer measurements within egg masses
- » Manipulation of amphibian eggs and tadpoles
- » Neotropical amphibian and reptile identification, collection, and preservation
- » Venomous snake handling
- » Stable isotope biogeochemistry
- » Marine mammal tagging (marking, flipper tagging, re-sighting, weighing, and telemetry)
- » Vertebrate dissection, field-based tissue collection & preservation
- » Field-based mesocosm experimental design and data collection
- » Field-based zooplankton collection (tow) and preservation
- » Insect identification (to Order), collection, and preservation
- » Computation
  - » *Git & Github (highly proficient)*
  - » *Microsoft Office Suite (fluent)*
  - » *Adobe Premiere Pro (fluent)*
  - » *Adobe Lightroom (fluent)*
  - » *Adobe Illustrator (fluent)*
  - » *Audacity (proficient)*
  - » *Matlab (proficient)*



- » *Raven (proficient)*
- » *JMP (proficient)*
- » *ImageJ (fluent)*
- » *R (fluent)*