

GLORIANA CHAVERRI, PH.D.

PERSONAL

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Web of Science Researcher ID: J-4798-2012

EDUCATION

2001-2006 Boston University, Boston, Massachusetts, U.S.A.
Ph.D., Biology

1990-1995 Universidad Nacional, Heredia, Costa Rica
B.S., Tropical Biology

POSTDOCTORAL EXPERIENCE

2009-2012 Boston University, Boston, Massachusetts, U.S.A.
Postdoctoral Research Associate

2006-2008 Western Michigan University, Kalamazoo, Michigan, U.S.A.
Postdoctoral Researcher

APPOINTMENTS

2018- Research Associate, Smithsonian Tropical Research Institute

2011- Full Professor, Universidad de Costa Rica, Golfito, Costa Rica

2001-2006 Teaching Fellow, Boston University, Boston, Massachusetts, U.S.A.

2000-2002 Adjunct Lecturer, Department of Biology, The University of Kansas

1998-2001 Administrative Assistant, Tropical Studies Institute, Golfito, Costa Rica

1998-2000 Tropical Biology Instructor, Tropical Studies Institute, Golfito, Costa Rica

1997-1999 Field Biology Course Assistant, Tropical Studies Institute, Golfito, Costa Rica

1995-1996 Research Assistant, Laboratory of Microbiology, Universidad Nacional, Costa Rica

AWARDS

1996 Best student of the Department of Biological Sciences, Universidad Nacional, Honored by the Rector

1995 Best student of the Department of Biological Sciences, Universidad Nacional, Honored by the Rector

REFEREE FOR SCIENTIFIC JOURNALS

Acta Chiropterologica, Acta Ethologica, Animal Behaviour, Animal Behavior and Cognition, Bat Research and Conservation, Behavioral Ecology, Behavioral Ecology and Sociobiology, Behavior Genetics, Behaviour, Bioacoustics, Biological Journal of the Linnean Society, Biological Reviews, Biology Letters, Biotropica, Caribbean Naturalist, Ceylon Journal of Science, Current Biology, Diversity, Ecology, Ecology and Evolution, Ecology Letters, Frontiers in Ecology and Evolution, Integrative Zoology, Interciencia, International Journal of

Comparative Psychology, Journal of Ethology, Journal of Comparative Physiology A, Journal of Mammalogy, Journal of Morphology, Journal of the Acoustical Society of America, Journal of Zoology, Mammal Review, Mammalian Biology, Naturwissenschaften, New Zealand Journal of Ecology, Philosophical Transactions of the Royal Society B, PLoS ONE, Proceedings of the Royal Society of London B, Revista de Biología Tropical, Revista Mexicana de Biodiversidad UNAM, Royal Society Open Science, UNED Research Journal, Zoologischer Anzeiger, Zoology.

Web of Science profile: <https://www.webofscience.com/wos/author/record/448493>

REFEREE FOR GRANTING INSTITUTIONS

Animal Behaviour Society
Bat Conservation International
Czech Science Foundation
Graduate Women in Science
National Science Foundation
Rumanian National Council for Research and Development

EDITORIAL SERVICES

Peer Community In Ecology, Recommender

THESIS ADVISOR OR CO-ADVISOR

Ph.D. students

Stanimira Deleva, Science Doctorate, Universidad de Costa Rica (2016-). Project: Diversity, ecology, and conservation of cave-dwelling bats in the Brunca region of Costa Rica.
Paula Iturralde-Pólit, Science Doctorate, Universidad de Costa Rica (2016-). Project: The effect of climate change on insectivorous bat communities in montane forests of Costa Rica.
Willy Pineda Lizano, Ph.D. Program in Natural Sciences for Development, Instituto Tecnológico de Costa Rica (2012-2022). Project: Diversity, seasonal, and altitudinal movements of neotropical bat communities, and its relation to climatic conditions, reproduction, and food availability in Costa Rica.

Master's students

Ana María Ávila García. Master of Science in Biology, Universidad de Costa Rica (2023-).
Project: Influence of kinship on cooperative communication in *Thyroptera tricolor* (Chiroptera: Thyropteridae) under predation risk.
José Gabriel Tinajero Romero. Master of Science in Biology, Universidad de Costa Rica (2023-).
Project: Audience effects in the process of communication between disc-winged bats (*Thyroptera tricolor*).
Mariela Sánchez Chavarría, Master of Science in Integrated Management of Tropical Coastal Areas, Universidad de Costa Rica (2022-). Project: Artisanal fishing in Zancudo beach as part of the Golfo Dulce Responsible Fishing Marine Area: catch composition and consumer purchasing preferences.
Miriam Gioiosa, Master of Science in Nature Management, School of Science, Università Degli Studi di Bologna (2019). Project: The use of vision in Spix's disc-winged bat *Thyroptera tricolor* to complement echolocation for roost finding.

Silvia Cháves Ramírez, Master of Science in Biology, Universidad de Costa Rica (2019-2022). Project: Roost competition and territoriality in Spix's disc-winged bats, *Thyroptera tricolor*.

Héctor Andrés Hernández Pinsón, Master of Science in Biology, Universidad de Costa Rica (2017-2022). Project: The role of ecological and social factors in the process of communication in Spix's disc-winged bats.

Cristian Castillo Salazar, Master of Science in Biology, Universidad de Costa Rica (2017-2022). Project: Aggression and competition for high-quality roosts in the woolly bat *Kerivoula hardwickii* (co-advised with Dr. Caroline Schöner, University of Greifswald).

Marcela Peña Acuña, Master of Science in Sustainable Development, Universidad de Costa Rica (2011-2015). Project: Frugivorous bats as indicators of ecological disturbance and their role in habitat restoration.

Guido Saborío, Master of Science in Management of Protected Areas and Regional Development, Universidad para la Cooperación Internacional (2014-2015). Project: Terrestrial mammal monitoring in Corcovado National Park: protocol analysis and management recommendations.

Licenciatura

Karen Miranda Gamboa, Licenciatura en Gestión Ecoturística (2016-2021). Project: Adventure tourism in caves of the southwestern region of Costa Rica.

ADVISOR FOR POSTDOCTORAL FELLOWS

Marcelo Araya-Salas (2018-2020). Project: Acoustic communication in Spix's disc-winged bat.

Caroline Schöner (2016). Project: Influence of sociality on spatial cognition in foliage roosting bats. Co-advisor with Dr. Rachel Page, Smithsonian Tropical Research Institute.

Michael Schöner (2017). Project: Effectiveness of artificial roosts for Neotropical bat species. Co-advisor with Dr. Rachel Page, Smithsonian Tropical Research Institute.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

British Ecological Society. Member since 2017

Behavioral Ecology Society. Member since 2013.

Animal Behavior Society. Member since 2010.

FUNDING

Research grants and fellowships

2022 Smithsonian Tropical Research Institute, Latin American Scholar Fellowship. Project: Diet and foraging behavior of Spix's disc-winged bats (*Thyroptera tricolor*). \$7,300.

2020 Universidad de Costa Rica, Funds for Research Groups. Project: Causes and consequences of variation in vocal communication in Spix's disc-winged bat (*Thyroptera tricolor*). PI: Gloriana Chaverri; Co-PIs from UCR: Marcelo Araya-Salas, Hellen Solís, Jenny Stynoski; Co-PIs from other institutions: Gerry Carter (The Ohio State University), Maria Sagot (State University of New York at Oswego), Yimen Araya-Ajoy (Norwegian University of Science and Technology), Mirjam Knörnschild (Museum of Natural History Berlin), Martina Nagy (Museum of Natural History Berlin). \$50,000.

2020 Rufford Small Grant for Nature Conservation. Project: Will Neotropical insectivorous bats adapt to climate change? An approach from a sensory and physiological standpoint.

- PI: Paula Iturralde-Pólit (Universidad de Costa Rica), Co-PI: Gloriana Chaverri, Holger Goerlitz (Max Planck Institute), Adarli Romero-Vásquez (Universidad de Costa Rica), Hugo Hidalgo-León (Universidad de Costa Rica). \$1,500.
- 2019 Bat Conservation International, Student Research Scholarship. Project: Nutrient contribution of cave bat colonies to surface ecosystems in the Paleotropics. PI: Stanimira Deleva (Universidad de Costa Rica), Co-PI: Gloriana Chaverri, Andrea Vincent (Universidad de Costa Rica), Caroline Schöner (University of Greifswald). \$3,460.
- 2019 Consejo Nacional de Rectores, Max Planck Society Projects. Project: Acoustic communication for group coordination on the wing. PI: Gloriana Chaverri, Co-PI: Holger Goerlitz and Damien Farine (Max Planck Institute). \$50,000.
- 2019 American Society of Mammalogists, Latin American Student Field Research Awards. Project: Vocal adaptations of insectivorous bats in response to shifts in temperature and humidity. PI: Paula Iturralde-Pólit (Universidad de Costa Rica), Co-PI: Gloriana Chaverri, Holger Goerlitz (Max Planck Institute).
- 2018 Universidad de Costa Rica, Mentorship Fund. Project: Characterizing the soundscape of the town of Golfito, Puntarenas, Costa Rica. PI: Hellen Solís Hernández, Co-PI: Gloriana Chaverri, Roberval Almeida. \$8,500.
- 2018 National Geographic Society, Committee for Research and Exploration. Project: Exploring a new ecosystem service provided by bats as a tool to promote their conservation. PI: Stanimira Deleva (Universidad de Costa Rica), Co-PI: Gloriana Chaverri, Andrea Vincent (Universidad de Costa Rica), Caroline Schöner (University of Greifswald), Katzy O’Neal (Universidad de Costa Rica). \$4,780.
- 2018 National Geographic Society, Committee for Research and Exploration. Project: How insectivorous bats will cope with climate change in Neotropical montane forests. PI: Paula Iturralde-Pólit (Universidad de Costa Rica), Co-PI: Gloriana Chaverri, Holger Goerlitz (Max Planck Institute), Adarli Romero-Vásquez (Universidad de Costa Rica), Hugo Hidalgo-León (Universidad de Costa Rica). \$5,000.
- 2018 Universidad de Costa Rica, Research Incentive Fund. Project: Cryptic diversity of bats in the Osa region. PI: Gloriana Chaverri, Co-PI: Federico Albertazzi (Universidad de Costa Rica), Emma Boston (AECOM, Ireland). \$13,250.
- 2018 Bat Conservation International, Student Research Scholarship. Project: The effect of climate change on insectivorous bats of Neotropical montane forests. PI: Paula Iturralde-Pólit (Universidad de Costa Rica), Co-PI: Gloriana Chaverri, Holger Goerlitz (Max Planck Institute), Adarli Romero-Vásquez (Universidad de Costa Rica), Hugo Hidalgo-León (Universidad de Costa Rica). \$3,984.
- 2018 Osa Conservation, Alvaro Ugalde Scholarship. Project: The hidden treasures of Osa - Research and conservation of caves and underground habitats in the Osa Peninsula. PI: Stanimira Deleva (Universidad de Costa Rica), Co-PI: Gloriana Chaverri. \$1,600.
- 2017 Wildlife Acoustics Scientific Product Grant. Project: Effectiveness of artificial roosts for Neotropical bat species. PI: Michael Schöner (University of Greifswald), Co-PIs: Rachel Page (Smithsonian Tropical Research Institute) and Gloriana Chaverri. \$4,921.
- 2015 Rufford Small Grant for Nature Conservation. Project: Protecting unique cave systems in Costa Rica using bats as flagship taxa. PI: Stanimira Deleva (University of Costa Rica), Co-PI: Gloriana Chaverri. £5000.
- 2015 NatureFund. Project: Reforestation of degraded tropical habitats using bat guano. PIs: Detlev Kelm (Estación Biológica Doñana), Gloriana Chaverri. €3,000.

- 2014 Universidad de Costa Rica, Research Incentive Fund. Project: Bats of the Osa Region: diversity and their function in forest regeneration. PI: Gloriana Chaverri. \$10,000.
- 2014 Animal Behavior Society. Project: The role of leaf acoustics on roost preference in Spix's disc-winged bat. PI: Gloriana Chaverri. \$800.
- 2014 Bat Conservation International, Student Research Scholarships. Project: Diversity, spatial and temporal patterns of bat communities in a tropical altitudinal gradient in Costa Rica. PI: Willy Pineda-Lizano (Technological Institute of Costa Rica), Co-PI: Gloriana Chaverri.
- 2014 American Society of Mammalogists, Student Field Research Grants. Project: Diversity and distribution (spatial and temporal patterns) of bat communities in a tropical altitudinal gradient in Costa Rica. PI: Willy Pineda-Lizano (Technological Institute of Costa Rica), Co-PI: Gloriana Chaverri.
- 2013 Conservation, Food and Health Foundation. Project: Fruit-eating bats and endophytic fungi: an unexplored indirect mutualism. PI: Priscila Chaverri (University of Costa Rica, University of Maryland), Co-PI: Gloriana Chaverri. \$19,970.
- 2013 Rufford Small Grant for Nature Conservation. Project: Artificial bat roosts and tropical forest regeneration. PI: Gloriana Chaverri, Co-PI: Detlev Kelm (Estación Biológica Doñana). £5,910.
- 2013 Osa Conservation, Greg Gund Memorial Fellowship. Project: Succession in bat colonization processes of artificial roosts and its effect on Neotropical forest regeneration. PI: Gloriana Chaverri, Co-PI: Guido Saborío (Sistema Nacional de Áreas de Conservación) and Detlev Kelm (Estación Biológica Doñana). \$2,000.
- 2013 Cleveland Metroparks Zoo, Scott Neotropical Fund. Project: Diversity and migration of neotropical bat communities in an altitudinal gradient as key information for the conservation of Costa Rican bats. PI: Willy Pineda-Lizano (Technological Institute of Costa Rica), Co-PI: Gloriana Chaverri. \$3,500.
- 2012 Natural Resource Defense Council. Project: Succession in bat colonization processes of artificial roosts and its effect on Neotropical forest regeneration. PI: Gloriana Chaverri, Co-PI: Guido Saborío (Sistema Nacional de Áreas de Conservación) and Detlev Kelm (Estación Biológica Doñana). \$3,714.
- 2012 National Geographic Society, Waitt Grants Program. Project: Exploring bat diversity in the Osa Peninsula: local capacity building for research and long term monitoring. PI: Emma Boston (Queen's University Belfast), Co-PI: Gloriana Chaverri and Sébastien Puechmaille (Queen's University Belfast). \$14,765.
- 2011 National Geographic Society, Committee for Research and Exploration. Project: Maintaining intra-group cohesion and extra-group segregation using individually recognized social calls. PI: Gloriana Chaverri. \$19,771.
- 2010 Idea Wild. Project: A comprehensive approach to understanding and protecting bat populations in a biodiversity hotspot. PI: Gloriana Chaverri. \$600.
- 2009 Cleveland Metroparks Zoo and Cleveland Zoological Society, Scott Neotropic Fund. Project: Understanding how bats cope with habitat loss. PI: Gloriana Chaverri. \$4,950.
- 2007 Rufford Small Grant for Nature Conservation. Project: Understanding how bats cope with habitat degradation and destruction. PI: Gloriana Chaverri. £4,967.
- 2005 American Society of Mammalogists, Grants-in-aid of Research. Project: Genetic consequences of a variable fission-fusion social system. PI: Gloriana Chaverri. \$1,468.

- 2004 Conservation, Food and Health Foundation. Project: The relationship between feeding and roosting resources and the abundance of bats. PI: Gloriana Chaverri. \$8,700.
- 2004 Bat Conservation International, Student Scholarship. Project: The relationship between feeding and roosting resources and the abundance of bats. PI: Gloriana Chaverri. \$2,500.
- 2004 Cleveland Metroparks Zoo, Scott Neotropic Fund. Project: The relationship between feeding and roosting resources and the abundance of tent-roosting bats in southwestern Costa Rica. PI: Gloriana Chaverri. \$4,800.
- 2003 Idea Wild. Project: Mating behavior of tent-making bats. PI: Gloriana Chaverri. \$700.
- 2003 American Society of Mammalogists, Latin American Student Field Research Award. Project: Roost construction in New World tent-making bats. PI: Gloriana Chaverri. \$1,000.
- 2003 Consejo Nacional para Investigaciones Científicas y Tecnológicas de Costa Rica (CONICIT) y Ministerio de Ciencia y Tecnología (MICIT). Project: Ecological correlates of mating systems in tent-making bats. PI: Gloriana Chaverri. \$1,000.

Databases

- 2021 Netherlands Biodiversity Information Facility (NLBIF). Project: “Bat sounds on Xeno-canto & GBIF”. Collaborators: Willem-Pier Vellinga (Xeno-canto), Gloriana Chaverri (Universidad de Costa Rica), Marcelo Araya Salas (Universidad de Costa Rica). Amount: 11.440 euros.

Extension grants

- 2015 Junta de Desarrollo Regional de la Zona Sur. Improving education of science in high-schools of southwestern Costa Rica. Amount: \$160,700.

Travel grants

- 2022 Behavioral Ecology Society. Travel award to attend the conference of the International Society for Behavioral Ecology. Amount: \$1,500.
- 2018 Behavioral Ecology Society. Travel award to attend the conference of the International Society for Behavioral Ecology. Amount: \$1,700.
- 2016 Behavioral Ecology Society. Travel award to attend the conference of the International Society for Behavioral Ecology. Amount: \$1,000.
- 2014 Behavioral Ecology Society. Travel award to attend the conference of the International Society for Behavioral Ecology. Amount: \$1,000.
- 2011 Consejo Nacional para Investigaciones Científicas y Tecnológicas de Costa Rica (CONICIT) y Ministerio de Ciencia y Tecnología (MICIT). Fund to Promote Participation in Scientific Events. Amount: \$1,500.
- 2011 Animal Behaviour Society. Emerging Nations Award to attend the joint meeting of the Animal Behaviour Society and the International Ethological Society. Amount: \$400.

TEACHING EXPERIENCE

Professor, Universidad de Costa Rica

Introductory Biology (2011-2017), Ecology (2011-2017), Research Seminar (2012-2013)

Invited Resource Faculty, Organization for Tropical Studies

An Introduction to Tropical Ecology (2014), Tropical Biology (2014), Field Ecology (2015), Tropical Biology: An Ecological Approach (2015, 2016), Tropical Biology and Conservation (2017)

Instructor, Fundación Saimiri

Field Techniques for Bat Research (2014)

Invited Instructor, Instituto de Biodiversidad Tropical

Lecture on Capturing and Handling Bats for International Wildlife Rescuers (2013, 2014)

Teaching Fellow, Boston University

Ecology (2001-2006), Biology of Mammals (2002)

Adjunct lecturer, Department of Biology, The University of Kansas

Field Research on Behavior and Ecology of Bats (2002), Introduction to the Ornithology of Costa Rica (2000-2001), Tropical Ecology (2000-2001), Mammals of the Neotropics (2000-2001), People and the Forest (2000-2001)

Tropical Biology Instructor, Tropical Studies Institute, Golfito, Costa Rica

Introduction to the Ornithology of Costa Rica (1998-2000), Tropical Ecology (1998-2000), Mammals of the Neotropics (1998-2000), Biodiversity of the Rainforest (1998-2000), Ethnobotany of Costa Rica (1998-2000)

Field Biology Course Assistant, Tropical Studies Institute, Golfito, Costa Rica

Natural History of Costa Rica (1997-1999), Ethnobotany of Costa Rica (1997-1999), Socio-biology of Purruja Mangroves (1997-1999)

ACADEMIC PRESENTATIONS

Plenary speaker

- 2023 The role of sound during group coordination. Simposio Nacional de Bioacústica, San José, Costa Rica.
- 2023 Moving as one: exploring the mechanisms that sustain group cohesion in disc-winged bats. Behaviour Conference, Bielefeld, Germany.
- 2022 Comunicación acústica en murciélagos y su función en los procesos de coordinación grupal. Congreso Nacional de Mastozoología, Chihuahua, México.
- 2017 Social communication in bats: so far and the way forward. European Bat Research Symposium, Donostia, Basque Country.

Invited speaker

- 2022 Group coordination mediated by acoustic signals in the disc-winged bat. Talk presented at the Research Seminars, Centro de Investigación en Contaminación Ambiental, Universidad de Costa Rica.
- 2022 Vocal communication and group coordination in disc-winged bats. Talk presented at the Wilhelminenberg Seminar Series, University of Veterinary Medicine, Vienna.
- 2022 Vocal communication and group coordination in disc-winged bats. Talk presented at the International Remote Seminar on Frontiers in Social Evolution. Link: <https://youtu.be/4JBYRVbSOts>.
- 2021 Vocal communication and group coordination in disc-winged bats. Talk presented at the Seminar Series of the Centre for Research in Animal Behaviour, University of Exeter.
- 2021 Challenges and opportunities of doing research in regional campus. Invited speaker for the webinar series “Science Diplomacy: Bridges to Internationalization”, organized by

- the Office of International Affairs and External Cooperation and the Vice Rector's Office for Research, University of Costa Rica. Link: <https://youtu.be/IzNYpimQV4g>
- 2021 Acoustic communication and group coordination in disc-winged bats. Tropical Biology: An Ecological Approach course, Organization for Tropical Studies.
- 2021 Group coordination mediated by acoustic signals in the disc-winged bat. Tropical Ecology and Conservation course, Organization for Tropical Studies.
- 2020 Group coordination mediated by acoustic signals in the disc-winged bat. Universidad del Rosario, Colombia (virtual talk)
- 2019 How to keep my friends and not die trying. Tropical Ecology and Conservation course, Organization for Tropical Studies.
- 2017 Group cohesion in the disc-winged bat. Tropical Ecology and Conservation course, Organization for Tropical Studies.
- 2015 Bats and their roosts, Universidad del Quindío, Colombia (virtual talk)
- 2015 Social communication and group cohesion in Spix's disc-winged bats, Osa Conservation
- 2015 Social communication and group cohesion in Spix's disc-winged bats, Page Lab, Smithsonian Tropical Research Institute
- 2015 Artificial bat roosts and tropical forest regeneration, Osa Conservation
- 2014 Ecology and behavior of Costa Rican bats, Instituto Tecnológico de Costa Rica.
- 2014 Osa bats, Talk on biodiversity and development in Península de Osa, Sistema Nacional de Áreas de Conservación
- 2013 Artificial bat roosts and tropical forest regeneration, Universidad Nacional Autónoma de Nicaragua-León
- 2013 Capture and handling of Chiroptera. Course International Wildlife Rescuers, Institut de Biodiversitat Tropical
- 2011 Acoustic communication in bats. Course on the Biology of Tropical Bats. Freie Universität Berlin and University of Bristol
- 2011 Costa Rican Ecosystems. Course on the Biology of Tropical Bats. Freie Universität Berlin and University of Bristol
- 2008 Geographic variation in the social behavior of two foliage-roosting bats. Monteverde Institute
- 2006 Bats: cultural vision and their role in the ecosystem. Universidad Nacional
- 2005 Geographic variation in behavior. Universidad Latina de Costa Rica
- 2005 Bats: myth, reality and importance. Universidad Nacional
- 2002 Bat mating systems. Programa de Conservación de Murciélagos de Costa Rica, Museo Nacional de Costa Rica

Conferences and seminars

- 2023 Llamadas de alimentación en el murciélago de ventosas. Jornadas de Investigación, Sede del Sur, Universidad de Costa Rica.
- 2023 The role of sound in the social lives of disc-winged bats. Tupper Seminar, Smithsonian Tropical Research Institute, Panamá.
- 2022 Acoustic communication for group coordination on the wing. Talk presented at the International Society for Behavioral Ecology Congress, Stockholm, Sweden.
- 2022 Landing maneuvers predict roost-site preferences in bats. Talk presented at the Animal Behavior Society Conference, San José, Costa Rica.

- 2021 International collaborative networks as a tool for strengthening of research at regional campuses. Congreso de Regionalización, Universidad de Costa Rica.
- 2021 Acoustic communication for group coordination on the wing. Paper presented at the Animal Behavior Society Virtual Meeting.
- 2021 Acoustic communication for group coordination on the wing. Jornadas de Investigación, Sede del Sur, Universidad de Costa Rica.
- 2021 Bat cryptic diversity in a tropical montane forest. Paper presented at the Science and Community and Community Development in ACPLA-P symposium.
- 2020 ¿Por qué son importantes los grupos de animales para la conservación y la gestión? Jornadas de Investigación, Sede del Sur, Universidad de Costa Rica.
- 2020 Acoustic communication during the location of ephemeral roosts in the disc-winged bat. Simposio Nacional de Bioacústica, Universidad Estatal a Distancia.
- 2019 The energetics of social signaling during roost location in Spix's disc-winged bats. International Conference on Bat Research, Phuket, Thailand.
- 2019 Nutrient contribution of bat colonies to aquatic ecosystems. Jornadas de Investigación, Sede del Sur, Universidad de Costa Rica.
- 2018 Social groups need (a few) vocal individuals to coordinate roost location. Tupper Seminar, Smithsonian Tropical Research Institute, Panamá.
- 2018 The energetics of social signaling during roost location in Spix's disc-winged bats. North American Symposium on Bat Research, Puerto Vallarta, México.
- 2018 Energetics of social signaling in the disc-winged bat. Jornadas de Investigación, Recinto de Golfito, Universidad de Costa Rica.
- 2018 Social groups need (a few) vocal individuals to coordinate roost location. Paper presented at the International Society for Behavioral Ecology Congress, Minneapolis, Minnesota.
- 2016 Bat cryptic diversity in a tropical montane forest. Paper presented at the Jornadas de Investigación, Recinto de Golfito, Universidad de Costa Rica.
- 2016 Social roles in communication networks. Poster presented at the International Society for Behavioral Ecology Congress, Exeter, UK.
- 2015 Carotenoids and skin pigmentation in the white bat (*Ectophylla alba*). Paper presented at the Jornadas de Investigación, Centro de Investigaciones en Productos Naturales, Universidad de Costa Rica.
- 2014 Personalities in the communication system of Spix's disc-winged bat (*Thyroptera tricolor*). Paper presented at the Jornadas de Acción Social e Investigación, Recinto de Golfito, Universidad de Costa Rica.
- 2014 Social roles in communication networks: the case of Spix's disc-winged bat. Paper presented in the Annual North American Symposium on Bat Research, Albany, New York.
- 2014 Roosts amplify social calls in Spix's disc-winged bat. Poster presented at the International Society for Behavioral Ecology meeting in New York city, New York.
- 2014 Personalities in the communication system of Spix's disc-winged bat (*Thyroptera tricolor*). Paper presented at the Latin American Bat Conference in Quito, Ecuador.
- 2013 Artificial bat roosts and tropical forest regeneration. Paper presented at the Jornadas de Acción Social e Investigación, Recinto de Golfito, Universidad de Costa Rica.
- 2013 Roosts amplify social calls in Spix's disc-winged bat. Paper presented at the International Bat Research Conference in San José, Costa Rica.

- 2012 Social calls facilitate group cohesion in Spix's disc-winged bat. Paper presented in the Annual North American Symposium on Bat Research, San Juan, Puerto Rico.
- 2012 Succession in the colonization of artificial roosts by bats and its effect on neotropical forest regeneration. Paper presented at the Jornadas de Acción Social e Investigación, Recinto de Golfito, Universidad de Costa Rica.
- 2012 Cooperation during roost search and its role in the formation and maintenance of cohesive groups in the disc-winged bat, *Thyroptera tricolor*. Paper presented at the Jornadas de Acción Social e Investigación, Recinto de Golfito, Universidad de Costa Rica.
- 2011 The use of social calls during roost search in bats. Paper presented at the First Research Symposium in ACOSA, Osa Peninsula, Costa Rica.
- 2011 Acoustic signaling of roost location in tent-making bats. Paper presented in the Joint Meeting of the Animal Behavior Society and the International Ethological Society, Bloomington, Indiana.
- 2010 Understanding cooperation in the Neotropical leaf-roosting bat *Thyroptera tricolor*. Paper presented in the International Bat Research Conference in Prague, Czech Republic.
- 2007 Comparative social structure of Spix's disc-winged bat, *Thyroptera tricolor*. Paper presented in the International Bat Research Conference in Mérida, México.
- 2005 Ecological correlates of home range size variation in the tent-making bat *Artibeus watsoni*. Paper presented in the Annual North American Symposium on Bat Research, Sacramento, California.
- 2004 Reproductive biology and behavior of the tent-making bat *Artibeus watsoni*. Paper presented in the Annual North American Symposium on Bat Research, Salt Lake City, Utah.
- 2002 Roost fidelity in the tent-making bat *Artibeus watsoni* (Chiroptera: Phyllostomidae). Poster presented in the Annual North American Symposium on Bat Research, Burlington, Vermont.

PUBLICATIONS

54. Giacomini, G., S. Chaves-Ramirez, H. A. Hernández-Pinsón, J. P. Barrantes, G. Chaverri. 2023. Consistent individual positions within roosts in Spix's disc-winged bats. *PCI Journal*, 3: e115.
53. Deleva, S., A. Ulloa, H. F. M. Oliveira, N. Simov, F. Didonna, G. Chaverri. 2023. Cave-dwelling fauna of Costa Rica: current state of knowledge and future research perspectives. *Subterranean Biology*, 47: 29-62.
52. Quirós, O.E.; Chaverri, G.; Iturralde-Polit, P.; Sandí-Ureña, S. 2023. Attitudes and Knowledge in High School Science: An Empirical Test of a Theoretical Model of Correlations. *European Journal of Education and Pedagogy*, 4: 13–18.
51. Chaves-Ramírez, S., M. Sagot, M. Sánchez-Chavarría, G. Chaverri. 2023. Aggressive vocalizations during intergroup interactions in roost defense in the Spix's disk-winged bat. *Ethology*, 129: 541-550.
50. Araya-Salas, M., G. Smith-Vidaurre, G. Chaverri, J. C. Brenes, F. Chirino, J. Elizondo-Calvo, A. Rico-Guevara. 2023. Ohun: an R package for diagnosing and optimizing automatic sound event detection. *Methods in Ecology and Evolution*, 14: 2259-2271.

49. Morera-Quesada, G., V. Fallas-Gabuardi, R. Hernández-Vargas, O. E. Quirós, G. Chaverri. 2023. Online or face-to-face learning? College students' perceptions in the aftermath of the Covid-19 pandemic. *European Journal of Education and Pedagogy*, 4: 124–134.
48. Gioiosa, M., M. Araya-Salas, C. Castillo Salazar, S. Chaves-Ramírez, M. Gioiosa, N. Rojas, M. Sanchez, D. Scaravelli, G. Chaverri. 2023. Flexible use of visual and acoustic cues during roost finding in Spix's disc-winged bat. *Behavioral Ecology*, 34: 514–520.
47. Chaverri, G., Araya-Salas, M., Barrantes, J.P., Uribe-Etxebarria, T., Peña-Acuña, M., Varela, A.L., J. Aihartza. 2022. Landing manoeuvres predict roost-site preferences in bats. *Journal of Experimental Biology*, 225: jeb244267.
46. Sagot, M., G. Giacomini, S. Chaves-Ramírez, A. Hernández-Pinsón, G. Chaverri. 2022. Vocal behavior and the use of social information during roost finding. *Frontiers Ecology and Evolution*, 10: 905925.
45. Pineda-Lizando, W., G. Chaverri. 2022. Bat assemblages along an elevational gradient in Costa Rica. *Acta Chiropterologica*, 24: 151-165.
44. Ancillotto, L., Pafundi, D., Cappa, F., Chaverri, G., Gamba M., Cervo, R., and D. Russo. 2022. Batesian acoustic mimicry in mammals: bats mimic hymenopteran sounds to deter predators. *Current Biology*, 32: R399–R413.
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