Bernardo F. Santos – Curriculum Vitae

Professional Address
Muséum National d'Histoire Naturelle
Institut de Systématique, Évolution, Biodiversité
45 rue Buffon, CP50
Paris, France

Contact information
Phone: +33 06 87 04 17 11
Email: bernardofsantos@gmail.com
Website: bernardofsantos.wordpress.com

Qualifications Summary

Biologist specialized in phenotypic evolution, insect phylogenetics and biodiversity discovery. 16+ years of research experience in entomology, evolutionary biology and phylogenetics. Teaching and mentoring experience at graduate and undergraduate levels. Experience with genomic wet lab and bioinformatic pipelines, phylogenetic theory and practice, geometric morphometrics, phylogenetic comparative methods, revisionary systematics, project management, curation of natural history collections, fieldwork in temperate and tropical zones and grant writing, with awards from multiple funding agencies as well as private and governmental institutions.

Research Interests

Biogeography | Community Ecology | Convergent Evolution | Genomics | Geometric Morphometrics Morphology | Phylogenetic Inference | Phylogeography | Systematics | Trait Evolution

Language Skills

Portuguese (native) | English (fluent)| Spanish (advanced) | French (advanced)

EDUCATION

2016 **Ph.D., Comparative Biology**
Richard Gilder Graduate School, American Museum of Natural History
Dissertation: Systematics, morphological evolution and convergence in cryptine wasps (Hymenoptera, Ichneumonidae, Cryptinae)
Committee: James M. Carpenter (advisor), Mark Siddall, Lorenzo Prendini

2011 **M.S., Animal Biology**
Universidade Federal do Espírito Santo – UFES Vitória, Brazil
Dissertation: Phylogenetic and taxonomic revision of *Messatoporus* Cushman (Hymenoptera, Ichneumonidae, Cryptinae), with description of sixty-seven new species
Committee: Alexandre P. Aguiar (advisor), Celso Azevedo, Marcelo T. Tavares

2009 **B.S., Biological Sciences**
Universidade Federal do Espírito Santo – UFES, Vitória, Brazil
Honors thesis: Phylogeny and taxonomy of *Loxopus* Townes and *Baltazaria* Townes (Hymenoptera, Ichneumonidae, Cryptinae), with description of ten new species
Advisor: Alexandre P. Aguiar

PROFESSIONAL APPOINTMENTS

2022-present Researcher, Center for Integrative Biodiversity Discovery. Museum für Naturkunde.

2020-2022 Assistant professor (*maître de conférences*) and curator of Hymenoptera, Muséum National d'Histoire Naturelle.

2018-2020 Buck Global Genome Initiative Fellow, National Museum of Natural History, Smithsonian Institution. *Project title*: Host exploitation mechanism as a major driver of diversification in parasitoid wasps: an integrative approach using phylogenomics, geometric morphometrics and functional genomics. *Supervisor*: Seán Brady

2016-2018 Peter Buck Postdoctoral Fellow, National Museum of Natural History, Smithsonian Institution. *Project title*: Evolution of convergent functional systems in a hyperdiverse clade

of parasitic wasps: a morphospace approach using phylogenomic ultraconserved elements. *Supervisor*: Seán Brady

PUBLICATIONS

2023 Blaimer, B., **Santos**, **B.F**., Cruaud, A., Gates, M.W., Kula, R.R., Mikó, I., Rasplus, J-Y., Smith, D.R., Talamas, E.J., Brady, S.G. & Buffington, M.L. 2023. Key innovations and the diversification of Hymenoptera. *Nature Communications*, 14: 1212.

2023 Mathou, A., Wahl, D.B., Quentell, U., Claridge, B. & Santos, B.F. Sexual dimorphism in ichneumonine parasitic wasps (Hymenoptera: Ichneumonidae: Ichneumoninae) and the neglected influence of the ecological niche. *Biological Journal of the Linnean Society*.

2023 Levesque-Beaudin, V., Miller, M.E., Dikow, T., Miller, S.E., Prosser, S.W.J., Zakharov, E.V., McKeown, J.T.A., Sones, J.E., Redmond, N.E., Coddington, J.A., **Santos**, **B.F**., Bird, J. & deWaard, J.R. A workflow for expanding DNA barcode reference libraries through 'museum harvesting' of natural history collections. *Biodiversity Data Journal*, 11:e100677.

2023 **Santos**, **B.F**., Miller, M.E., Miklasevskaja, M., McKeown, J.T.A., Redmond, N.E., Coddington, J.A., Bird, J., Miller, S.E., Smith, A., Brady, S.G., Buffington, M.L., Chamorro, M.L., Dikow, T., Gates, M.W., Goldstein, P., Konstantinov, A., Kula, R., Silverson, N.D., Solis, M.A., deWaard, S.L., Naik, S., Nikolova, N., Pentinsaari, M., Prosser, S.W.J., Sones, J.E., Zakharov, E.V. & deWaard, J.R. Enhancing DNA barcode reference libraries by harvesting terrestrial arthropods at the Smithsonian`s National Museum of Natural History. *Biodiversity Data Journal*, 11:e100904.

2023 Neves, K., **Santos**, **B.F**., Schultz, T., Gotzek, D., Abreu, R.C.R., Durigan, G. & Vasconcelos, H.L. Woody encroachment affects multiple dimensions of ant diversity in a neotropical savanna. *Insect Conservation and Diversity*, 16:393–402.

2022 **Santos**, **B.F**., Sandoval, M., Spasojevic, T., Giannotta, M.M. & Brady, S.G. A Parasitoid Puzzle: Phylogenomics, Total-evidence Dating, and the Role of Gondwanan Vicariance in the Diversification of Labeninae (Hymenoptera, Ichneumonidae). *Insect Systematics and Diversity*, 6(5): 1-13.

2022 Supeleto, F.A., **Santos, B.F**. & Aguiar, A.P. Revision of *Fortipalpa* Kasparyan & Ruíz-Cancino, (Ichneumonidae, Cryptinae). *Zootaxa*, 5219:201–533.

2022 Jasso-Martínez, J.M.*, **Santos, B.F**.*, Zaldívar-Riverón, A., Fernández-Triana, J.L., Sharanowski, B.J., Richter, R., Dettman, J.R., Blaimer, B.B. Brady, S.G. & Kula, R.R. Phylogenomics of braconid wasps (Hymenoptera, Braconidae) sheds light on classification and the evolution of parasitoid life history traits. *Molecular Phylogenetics and Evolution*, 173:107452.

2022 Jasso-Martínez, J.M., Quicke, D.L.J., Belokobylskij, S.A., **Santos**, **B.F**., Fernández-Triana, J.L., Kula, R.R. & Zaldívar-Riverón, A. Mitochondrial phylogenomics and mitogenome organization in the parasitoid wasp family Braconidae (Hymenoptera: Ichneumonoidea). *BMC Ecology and Evolution*, 22:46.

2022 Pádua, D.G., Kloss, T.G., Tavares, M.T., **Santos**, B.F., Araújo, R.O., Schoeninger, K., Sobczak, J.F. & Gonzaga, M.O. Hyperparasitoids of polysphinctine Darwin wasps (Hymenoptera: Ichneumonidae) in South America. *Austral Entomology*, 61, 170–186.

2022 Bordera, S. & **Santos**, **B.F**. A review of *Piasites* Seyrig (Hymenoptera, Ichneumonidae, Cryptinae), with description of seven new species. *Journal of Hymenoptera Research*, 90:23–57.

2022 **Santos**, **B.F**., Klopfstein, S., Whitfield, J.B. & Sharanowski, B.J. Many evolutionary roads led to virus domestication in ichneumonoid parasitic wasps. *Current Opinion in Insect Science,* 50: 100861 DOI:10.1016/j.cois.2021.12.001.

2022 Samacá-Sáenz, E., **Santos**, **B.F**., Martínez, J.J., Egan, S.P., Shaw, S.R., Hanson, P.E. & Zaldívar-Riverón, A. Ultraconserved elements-based systematics reveals evolutionary patterns of host-plant family shifts and phytophagy within the predominantly parasitoid braconid wasp subfamily Doryctinae. *Molecular Phylogenetics and Evolution*, 166: 107319.

2021 **Santos**, **B.F**., Wahl, D.B., Rousse, P., Bennett, A.M.R., Kula, R. & Brady, S.G. Phylogenomics of Ichneumoninae (Hymenoptera, Ichneumonidae) reveals pervasive morphological convergence and the shortcomings of previous classifications. *Systematic Entomology*, 46: 704–724.

2021 Supeleto, F.A., Aguiar, A.P. & **Santos**, **B**.**F**. A new species, key and further redefinition of Nesolinoceras Ashmead (Hymenoptera, Ichneumonidae, Cryptinae). *Zootaxa*, 5016: 107–116.

2021 Somavilla, A., **Santos**, **B**.**F**., Carpenter, J.M., Andrena, S.R. & Oliveira, M.L. Total-evidence phylogeny of the New World Polistes Lepeletier, 1836, paper wasps (Vespidae, Polistinae, Polistini). *American Museum Novitates*, 3973: 1–42.

2021 Sandoval, M. & **Santos**, **B**.**F**. A new species of Grotea Cresson, the first record of Labeninae (Hymenoptera, Ichneumonidae) in the Greater Antilles. *Journal of Hymenoptera Research*, 81: 1–8.

2020 Legeai, F*., **Santos**, **B**.**F**.*, Robin, S.*, Breteaudeau, A., Dikow, R., Lemaitre, C., Jouan, V., Ravallec, M. Drezen, J.M., Tagu, D., Gyapay, G., Zhou, X., Liu, S., Webb, B., Brady, S.G. & Volkoff, A.N. Genomic architecture of endogenous ichnoviruses reveals distinct evolutionary pathways leading to virus domestication in parasitic wasps. *BMC Biology*, 18:89. (*co-first authors)

2020 Supeleto, F.A., **Santos**, **B**.**F**., Basilio, L.A. & Aguiar, A.P. Species delimitation, environmental cline and phylogeny for a new Neotropical genus of Cryptinae (Ichneumonidae). *PLoS ONE*, 15(10), e0237233.

2020 Supeleto, F.A., **Santos**, **B**.**F**. & Aguiar, A.P. A new species and southernmost record of Cestrus Townes (Hymenoptera, Ichneumonidae, Cryptinae). *Zootaxa*, 4822: 277–284

2020 Supeleto, F.A., **Santos**, **B**.**F**., Brady, S.G. & Aguiar, A.O. Phylogenomic analyses reveal a rare new genus of wasp (Hymenoptera, Ichneumonidae, Cryptinae) from the Brazilian Atlantic Forest. *Systematics and Biodiversity*.

2019 **Santos**, **B**.**F**., Perrard, A. & Brady, S.G. Running in circles in phylomorphospace: host environment constrains morphological diversification in parasitic wasps. *Proccedings of the Royal Society B: Biological Sciences* 286, 28620182352. DOI: 10.1098/rspb.2018.2352.

2019 Klopfstein, S., **Santos, B. F**., Shaw, M. R., Alvarado, M., Bennett, A. M., Dal Pos, D., Giannotta, M., Herrera Florez, A. F., Karlsson, D., Khalaim, A. I., Lima, A. R., Mikó, I., Sääksjärvi, I. E., Shimizu, S., Spasojevic, T., van Noort, S., Vilhelmsen, L., & Broad, G. R. Darwin wasps: a new name heralds renewed efforts to unravel the evolutionary history of Ichneumonidae. *Entomological Communications* 1, ec01006.

2019 Reshchikov A., **Santos B**.**F**., Liu J.-X. & Barthélémy C. Review of Palpostilpnus Aubert (Hymenoptera, Ichneumonidae, Phygadeuontinae), with the description of ten new species. *European Journal of Taxonomy* 582: 1–63. https://doi.org/10.5852/ejt.2019.582.

2019 Supeleto, F.A., **Santos, B**.**F**. & Aguiar, A.P. Revision of *Distictus* Townes, 1966 (Hymenoptera, Ichneumonidae, Cryptinae), with descriptions of ten new species. *European Journal of Taxonomy* 542, 1–64. DOI: 10.5852/ejt.2019.542.

2018 **Santos**, **B**.**F**., Alvarado, M., Sääksjärvi, I.E., van Noort, S., Villemant, C. & Brady, S.G. Molecular phylogeny of Ateleutinae (Hymenoptera: Ichneumonidae): systematics and biogeography of a widespread parasitoid wasp lineage. *Zoological Journal of the Linnean Society*, 1-22, DOI: 10.1093/zoolinnean/zly072.

2018 **Santos**, **B**.**F**. & Hoppe, J.P.M. Filling gaps in species distributions through the study of biological collections: 415 new distribution records for Neotropical Cryptinae (Hymenoptera, Ichneumonidae). *Revista Brasileira de Entomologia* 62, 288-291. DOI: 10.1016/j.rbe.2018.09.001.

2018 Araújo, R.O., Vivallo, F. & **Santos**, **B**.**F**. Ichneumonid wasps of the subfamily Mesochorinae: new replacement names, combinations and an updated key to the World genera (Hymenoptera: Ichneumonidae). *Zootaxa* 4521, 52–60.

2018 **Santos**, **B.F.** & Perrard, A. Testing the Dutilleul syndrome: host use drives the convergent evolution of multiple traits in parasitic wasps. *Journal of Evolutionary Biology* 31, 1430–1439, DOI: 10.1111/jeb.13343.

2018 **Santos**, **B.F.**, Scherrer, M.V. & Loss, A.C. Neither barriers nor refugia explain genetic structure in a major biogeographic break: phylogeography of praying mantises in the Brazilian Atlantic Forest. *Mitochondrial DNA Part A* 29, 1284–1292, DOI: 10.1080/24701394.2018.1445242.

2018 Araújo, R.O., Vivallo, F. & **Santos**, **B.F.** 2018. Discovery of two new Andean species of *Scolomus* (Townes), with a key to all known species (Hymenoptera: Ichneumonidae: Metopiinae). *Zootaxa* 4429: 189–194.

2018 **Santos**, **B.F.** & Aguiar, A.P. Review of *Dotocryptus* Brèthes (Hymenoptera, Ichneumonidae, Cryptinae), with a New Species from Colombia. *Neotropical Entomology* 47, 871–884, DOI 10.1007/s13744-018-0602-y.

2017 **Santos**, **B.F**. Phylogeny and reclassification of Cryptini (Hymenoptera, Ichneumonidae, Cryptinae), with implications for ichneumonid higher-level classification. *Systematic Entomology* 42, 650–676, DOI: 10.1111/syen.12238.

2017 **Santos**, **B.F**., Aguiar, A.P., Tedesco, A.M. & Fontenelle, J.C.R. Long-term seasonal dominance of the wasp *Trihapsis polita* Townes (Hymenoptera, Ichneumonidae) in the Brazilian Atlantic Forest. *Biodiversity Data Journal* 5, e11337.

2016 **Santos**, **B.F**. Generic redefinition and a new species of *Nesolinoceras* (Hymenoptera, Ichneumonidae, Cryptinae). *American Museum Novitates* 3858:1–16.

2016 Villanueva-Bonilla, G.A., Onody, H.C., **Santos**, **B.F**. & Vasconcelos-Neto, J. First record of egg sac predation on a wall crab spider Selenopidae (Araneae) by the wasp *Camera lunavenatrix* sp. n. (Ichneumonidae, Cryptinae). *Journal of Hymenoptera Research* 49:65–79.

2015 Aguiar, A.P. & **Santos**, **B**.**F**. Revision of *Melanocryptus* Cameron (Ichneumonidae, Cryptinae), with description of seven new species. *American Museum Novitates* 3836:1–56.

2015 **Santos**, **B**.**F**., Payne, A., Pickett, K.M. & Carpenter, J.M. Phylogeny and historical biogeography of the paper wasp genus *Polistes* (Hymenoptera: Vespidae): implications for the overwintering hypothesis of social evolution. *Cladistics* 31:535–549.

2015 **Santos**, **B**.**F**. & Aguiar, A.P. Review of *Loxopus* Townes (Hymenoptera, Ichneumonidae, Cryptinae), with descriptions of six new species. *Journal of Natural History* 49(31-32):1905–1935.

2013 **Santos**, **B**.**F**. & Aguiar. Phylogeny and revision of *Messatoporus* Cushman (Hymenoptera, Ichneumonidae, Cryptinae), with description of sixty-five new species. *Zootaxa* 3634:1–284.

2012 **Santos**, **B**.**F**., Aguiar, A.P. & Tedesco, AM. Trigonalidae (Hymenoptera) from cacao agroforestry systems in northeastern Brazil, with two new species of *Trigonalys* Westwood. *Journal of Hymenoptera Research* 25:19–33.

2012 Aguiar, A.P. & **Santos**, **B**.**F**. Additions to the revision of *Digonocryptus* Viereck (Hymenoptera, Ichneumonidae, Cryptinae), with nine new taxa, new males and distribution maps for all known species. *Zootaxa* 3282:1–41.

2012 **Santos**, **B**.**F**. & Aguiar, A.P. Phylogeny and description of *Eknomia*, a morphologically unusual new genus of Neotropical Cryptinae (Hymenoptera, Ichneumonidae, Cryptinae). *Zootaxa* 3237: 35–52.

2010 Aguiar, A.P. & **Santos**, **B**.**F**. Discovery of potent, unsuspected sampling disparities for Malaise and Möricke traps, as shown for Neotropical Cryptini (Hymenoptera, Ichneumonidae). *Journal of Insect Conservation* 14:199–2010.

2010 Scherrer, M.V., **Santos**, **B**.**F**. & Aguiar, A.P. Generic redefinition, key and two new species of *Acorystus* Townes (Hymenoptera, Ichneumonidae, Cryptinae). *Zootaxa* 2721:28–38.

2009 **Santos**, **B**.**F**., Aguiar, A.P. & Tedesco, A.M. Phylogenetic revision and the origin of *Polyphrix* Townes (Hymenoptera, Ichneumonidae, Cryptinae), with description of a new species. *Zootaxa* 2214:29–44.

2009 Aguiar, A.P. & **Santos**, **B**.**F**. Biological synopsis of *Photocryptus* Viereck (Hymenoptera, Ichneumonidae, Cryptinae), with eight new host records and fourteen new geographic records. *Zootaxa* 2148:49–45.

2008 **Santos**, **B**.**F**. & Aguiar, A.P. Phylogeny and reclassification of *Distictus* Townes (Hymenoptera, Ichneumonidae, Cryptinae), with description of a new species. *Zootaxa* 1934:30–39.

Book chapter

2009 Aguiar, A.P., **Santos, B.F**., Couri, M.S., Rafael, J.A., Costa, C. Ide, S., Duarte, M., Grazia, J., Schwertner, C.F., Freitas, A.V.L. & Azevedo, C.O. 2009. Insecta. *In*: Rocha, R.M. & Boeger, W.A. *Estado da Arte e Perspectivas para a Zoologia no Brasil* [State of Art and Perspectives to the Zoology in Brazil]. Editora UFPR, Curitiba, pp.131–155.

RESEARCH GRANTS, FELLOWSHIPS AND AWARDS

2022 Agence National de Recherche: Programme Jeunes Chercheuses et Jeunes Chercheurs (JCJC). €298,614 *(grant awarded but not implemented due to institutional move from France to Germany)*

2022 Action Transversale du Muséum (call for research projects). €11,180

2020 Smithsonian Institution DNA Barcoding Network. $11,900

2019 Associate Director for Science Research Grant, NMNH. $42,455

2018 Brazilian National Council of Research and Development, Universal Call (Co-PI). R$27,000

2018 Peter Buck postdoctoral fellowship, Smithsonian Institution. $108,800

2018 Global Genome Initiative, Peer Review Awards, Smithsonian Institution. $14,712

2017 Global Genome Initiative Award, Smithsonian Institution. $9,600

2017 Marie Stopes student and early career travel award, Willi Hennig Society. $600

2017 Willi Hennig Award for best student presentation, Willi Hennig Society. $3,000

2016 Peter Buck postdoctoral fellowship, Smithsonian Institution. $104,000

2016 Systematics Research Fund, Linnean Society. £1,500

2016 Student Travel Award, International Society of Hymenopterists. $500

2015 Doctoral Dissertation Improvement Grant, National Science Foundation. $19,250

2015 Annette Kade Graduate Fellowship, American Museum of Natural History. $7,000

2015 Student Bursary to the Systematics Association Biennial, Linnean Society. £200

2014 Mini-ARTS awards, Society of Systematic Biologists. $1,500

2014 Student Travel Award, International Society of Hymenopterists. $500

2013 Theodore Roosevelt Memorial Grant, American Museum of Natural History. $1,900

2013 Essig Museum Visiting Taxonomist Award, UC Berkeley. $800

2012 Ph.D. Fellowship, Richard Gilder Graduate School. $175,000

2010 Ernst Mayr Grant, Harvard University. $1,500

2010 Research grant, Fundação de Amparo à Pesquisa de Vitória, Brazil. R$3,000

2009 CAPES M.S. Fellowship, Coordenação de Aperfeiçoamento de Pessoal Superior, Brazil. R$28,800

2008 CanaColl Grant, Agriculture and Agri-Food Canada. C$1,250

2008 Undergraduate Scientific Initiation Fellowship, UFES. R$3,600

2007 Undergraduate Scientific Initiation Fellowship, UFES. R$3,600

TEACHING EXPERIENCE

2019-2020 Workshop: Ultra-conserved elements, theory and practice, Smithsonian Institution [2-week long informal workshop, one two-hour lecture and eight lab sections of 4-8 hours; taught twice]

2019 Assistant instructor: field class for the George Washington University undergraduate Insect Biology course, Virginia State Arboretum (2 days)

2014 Assistant instructor: Remote iDigBio Data Carpentry Workshop, AMNH [8-hour day-long course, taught once]

2014 Teaching Assistant: The Tree of Life and Invertebrate Zoology, AMNH [32-hour course, lab sections, one lecture, logistics; taught for one semester]

2012 Lecturer: Paleontology (Biology majors), Universidade Federal do Espírito Santo [75-hour full course, lectures and field excursion; taught for one semester]

2011-2012	Lecturer: Cell Biology (Biology majors), Universidade Federal do Espírito Santo [60-hour full course, lecture component; taught for two semesters]
2011-2012	Lecturer: General Biology (Nursing program), Universidade Federal do Espírito Santo [90-hour full course with lectures and lab practice; taught for two semesters]
2010	Teaching Assistant: Invertebrate Zoology (lectures), Universidade Federal do Espírito Santo [10 two-hour lectures over one semester]
2006	Teaching Assistant: Invertebrate Zoology (lab practice), Universidade Federal do Espírito Santo [10 sessions of lab practice over one semester]

MENTORING

2022	Louise Lepert (2nd year B.S. student). Undergraduate summer internship: "Taxonomy of *Stenarella* (Ichneumonidae, Cryptinae)"
2022	Joan Kolasa (2nd year M.Sc. student). M2 internship. Research title: "Parasitism strategy as a driver of phenotypic diversification in parasitic wasps".
2021	Uriell Quentel (1st year M.Sc. student). M1 internship. Research title: "Sexual dimorphism in the body shape of Ichneumoninae".
2020	Michael Troutman (4th year B.S. student). Smithsonian Internship Program. Research title: "Investigating host-related convergent evolution in cryptine wasps"
2019	Marissa Sandoval (2nd year B.S. student). Natural History Research Experiences (REU site). Research title: A parasitoid puzzle: phylogenetic relationships of Labeninae wasps (Ichneumonidae)".
2018	Callie Levigne (senior B.S. student). Smithsonian Internship Program. Research title: "Unraveling global patterns of wasp biodiversity: could a decades-long mystery be revealed as a sampling bias?"
2018	Ernesto Samacá, Ph.D. student: UCE wet lab methods and analyses
2015 – 2016	Andriy Repik and Bayle Smith-Salzberg (high school students). Science Mentorship Research Program, AMNH. Research title: "Hidden diversity in parasitic wasps from the Andes mountains: a case study on Cryptopteryx wasps"

CONFERENCE TALKS AND SEMINARS

Invited seminars

2023	American Museum of Natural History. Techniques Tuesday seminars. "Ultraconserved Elements".
2022	*Museum für Naturkunde.* Evolutionary Biology Seminars. "Linking form, function and genomes in parasitic wasps".
2022	*Université de Montpellier*. Seminars of the DGIMI institute. "Evolutionary pathways to viral domestication in ichneumonid parasitic wasps".
2022	*Université de Tours*. Seminars of the IRBI institute. "Genomic architecture and the evolutionary pathways to viral domestication in ichneumonid parasitic wasps".
2021	*Muséum National d'Histoire Naturelle*. Seminars of the ISYEB institute. "Genomic architecture and the evolutionary pathways to viral domestication in ichneumonid parasitic wasps".
2021	*Universidade Federal de Santa Maria*, Brazil. VIII Biodiversity Symposium. "When phylogenomics meets morphology: evolution of Ichneumonidae, the 'Darwin wasps'" [In Portuguese]
2021	*Universidade Federal do Espírito Santo*, Brazil. International Week. Roundtable talk, "Experiences with international mobility of students and alumni" [In Portuguese]
2020	*Universidad Nacional Autónoma de México*, Mexico City, Mexico (remote talk): "Evolution, symbiosis and biodiversity of Ichneumonidae, the 'Darwin wasps'"
2020	*Instituto Nacional de Pesquisas da Amazônia*, Manaus, Brazil: "When phylogenomics meets morphology: evolution of Ichneumonidae, the 'Darwin wasps'" [In Portuguese]

2019 International symposium in ichneumonid systematics: "Ichneumonid phylogenomics, convergent evolution and predicting function from form".

2019 Entomological Society of Washington monthly meeting: "Unraveling the library of Babel: wasp phylogenomics, convergent evolution and the nature of our universe"

2019 George Washington University, Biological Sciences Weekly Seminar: "Unraveling the library of Babel: phylogenomics and convergent evolution in ichneumonid parasitic wasps"

2019 Utah State University, graduate student discussion group: "Phylogenomics and morphological diversification in ichneumonid wasps"

2017 National Museum of Natural History, "Phylopizza": "Evolution of convergent functional systems in a hyperdiverse clade of parasitic wasps: a phylomorphospace approach"

2016 *Associación Mexicana de Sistemática de Artrópodos*, Mexico City, "Phylogeny of cryptine wasps (Hymenoptera, Ichneumonidae, Cryptinae) and the evolution of convergent functional systems"

2013 *Universidade Federal do Espírito Santo*, Brazil, "Next Generation Sequencing: systematics and evolutionary Biology at the age of genomes" [In Portuguese]

2013 University of California, Berkeley, "Phylogeny, morphological evolution and global patterns of diversification in ichneumonid wasps"

Conference talks (past 5 years)

2022 **International Congress of Entomology, Helsinki, Finland**: Phylogenomics and diversification of Ichneumonidae

2022 **International Congress of Entomology, Helsinki, Finland**: Whole genome sequencing and the phylogenetic distribution of viral domestication events in ichneumonid parasitic wasps

2022 **II Darwin Wasp Conference, Öland, Sweden**: Where to next? Future challenges for understanding ichneumonid diversity

2022 **II Darwin Wasp Conference, Öland, Sweden**: Phylogenetic history and whole genome sequencing illuminate the evolutionary pathways to viral domestication in Darwin wasps

2021 **"Hymathon": marathon symposium of the International Society of Hymenopterists, online**: Using hybrid datasets to combine high support and deep taxon sampling in the phylogeny of Cryptini

2020 **International Society of Hymenopterists Symposium, online**: Genomic architecture of endogenous polydnaviruses revealed by whole genome sequencing of two ichneumonid wasps.

2019 **Entomological Society of America, Saint Louis, USA**: Paper wasps on the road: phylogenomics, biogeography and diversification in *Polistes* social wasps (Hymenoptera, Vespidae)

2018 **Entomological Society of America, Vancouver, Canada**: Ichneumonid phylogenomics, convergent evolution and predicting function from form: from evolutionary theory to real-world applications

2018 **International Society of Hymenopterists, Matsuyama, Japan**: Ichneumonid phylogenomics, convergent evolution and predicting function from form

SERVICE ACTIVITIES

- Member of the Sample Collection and Processing subcommittee, Earth BioGenome Project, The Wellcome Sanger Institute.
- Project Manager (2019–2020): "Barcoding NMNH Arthropod Genera" project. Partnership between the Smithsonian Institution and the Centre for Biodiversity Genomics at Guelph University. Overseeing specimen sampling, collection transactions and data delivery.
- 2021–2022: Co-organizer and manager of the Seminar Series of the Institut de Systématique, Évolution, Biodiversité at the MNHN.

- Co-organizer of the meeting "Identifying the next challenges in ichneumonid systematics and evolutionary ecology", with 21 researchers from 18 countries in Basel, Switzerland (2019). Funded by the Swiss National Science Foundation.
- Associate editor: Zookeys (since 2015), *Revista Brasileira de Entomologia* (2017–2021), Neotropical Entomology (since 2023).
- Journal referee (2010–2021): Bulletin de la Société entomologique de France (1), Canadian Entomologist (2), Cladistics (2), Ecology & Evolution (1), Entomobrasilis (1), European Journal of Taxonomy (2), Insect Systematics and Diversity (2), Journal of Animal Ecology (1), Journal of Hymenoptera Research (5), PLoS One (1), Proceedings of the Entomological Society of Washington (2), Revista Brasileira de Entomologia (1), Systematic Biology (1), Systematic Entomology (3), Zookeys (5), Zootaxa (6).
- Collaborator for Ichneumonidae in the Brazilian federal government Taxonomic Catalog of the Brazilian Fauna.
- Society Membership: International Society of Hymenopterists, Entomological Society of America, Society of Systematic Biologists, Willi Hennig Society (society fellow).
- Student president of the organizing committee for I Symposium of Genetics and Molecular Biology of Espírito Santo, 2008.

SELECTION AND EVALUATION COMMITTEES

2022	Member of Ph.D. defense evaluation committee: Claudia Ortiz-Sepúlveda, *Université de Lille* (France).
2020	Member of Ph.D. defense evaluation committee: João Paulo Hoppe, *Universidade Federal do Espírito Santo* (Brazil)
2019	Postdoctoral fellowship selection committee: Global Genome Initiative
2019	Member of Ph.D. defense evaluation committee: Pamella Machadi Saguiah, *Universidade Federal do Espírito Santo* (Brazil)
2012	Honors Thesis Committee member: Maria Célia Lima Carreiro, Universidade Federal do Espírito Santo. Research title: "The Asilidae (Diptera) of the Vale Natural Reserve, Espírito Santo, Brazil"

FIELD EXPERIENCE

2022	**Sweden (Öland)**: Sweep-net collecting across the island.
2022	**France (Ille de France, Occitanie)**: Muliple sites, occasional sweep-net collecting.
2021	**France (Corsica)**: Multiple sites across the southwestern coast as part of the "Our Planet Revisited" field program (11 days)
2019	**USA**: Powdermill Nature Reserve, PA. (4 days)
2018	**USA**: Powdermill Nature Reserve, PA. (1 week)
2017	**Brazil**: Jaú National Park, Western Amazonia (4 weeks)
2015	**Chile**: Central Valley and Araucanía region (3 weeks)
2014	**Peru**: Villa Carmen Biological Station, Cuzco (1 week)
2014	**Brazil**: Serra dos Órgãos National Park (1 week)
2013	**Brazil**: Monte Pascoal National Park (1 week)
2011	**Brazil**: Northern Espírito Santo: (3 weeks)
2010	**Brazil**: Vale Natural Reserve: (1 week)
2009	**Brazil**: Duas Bocas Biological Reserve: (1 week)
2007-2012	**Brazil**: Multiple short expeditions to protected areas and private reserves in the Atlantic Forest in the state of Espírito Santo

SELECTED POPULAR PRESS

Entomology Today	**Something New Every Day: What One Entomologist Likes Most About the Job**. Online piece on Entomology Today, at the "Standout ECPs" section. 2020.

WNYC radio	**After Naming 92 Species, Taxonomist Says, 'I Want to Know Them All'** "Hypothesis" segment. 2016.
Daily News	**Washington Heights sixth-graders name just-discovered Dominican Republic-native wasp species 'La Luz Brillante'** Oline piece. 2016.
Telemundo	**Estudiantes nombran nueva especie de avispa como "luz brillante"** TV segment and interview. 2016.
El Diario	**Ninõs de Washington heights nombram nueva avispa parasitaria** Online piece. 2016.
El Nuevo Diario	**"La Luz Brillante", nueva especie de avispa nativa de República Dominicana** Online piece. 2016.
AMNH blog	**Ph.D. Profile: Bernardo Santos** Online piece and interview. 2016.