

# Ana Caroline Colombo

email: [acarolcolombo@gmail.com](mailto:acarolcolombo@gmail.com) — phone: +44 0757 718 7908

Biologist and teacher. Curious about nature, different cultures and behavior patterns. Looking for opportunities to work with outreach programs and education.

Versatile and collaborative, interested in short term assignments for companies or nonprofits that have an engaging workplace. With experience in biology and teaching, I enjoy working in education, health and environmental science and I am open to new experiences.

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St Andrew Street, Alexander Court - Ap 58, L3 5XY- Liverpool, UK.

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A constant throughout my career is the belief that knowledge should be shared and spread. I worked with 5 different research groups in the fields of neuroscience and behavior, neuropharmacology, fungal infection and biochemistry, and vaccine development research. I have teaching experience from elementary school to undergraduate level. Currently, I am expanding my knowledge in botany, outreach and teaching. I am curious about nature, different cultures and behavior patterns. I am looking for opportunities to work with science, outreach and/or education programs.

## PROFESSIONAL EXPERIENCE

### 06/2019–08/2019 **Arboretum Intern OR Education Department Intern**

*Lyon Arboretum - Honolulu, HI, USA.*

Hybrid experience with part-time spent in the Education Department, and part-time spent across three other Departments: Grounds, Horticulture and Micropropagation and Seed Labs.

- Developed a field-trip material for 3rd grade about plant adaptations
- Learned about Hawaiian culture
- Helped with k-12 summer camp
- Guided tours through the arboretum
- Participated in outreach at public events
- Learned and Assisted with plant propagation techniques, identification of plants and maintenance of gardens and trails.

### 03/2019–06/2019 **Provider Credentialing Assistant**

*HMAA/HWMSG - Honolulu, HI, USA.*

- Reached out to providers for credentialing in the health insurance company system
- Organized data and files.

### 08/2016–12/2017 **Research Support Specialist,**

*Stony Brook University, Stony Brook, NY, USA.*

- Managed projects independently
- Established external collaborations
- Processed and analyzed data
- Authored two published scientific papers
- Presented in conferences
- Conducted research in biomedical topics and performed laboratory experiments.

## EDUCATION

2018 **PhD in Biological Chemistry**, Federal University of Rio de Janeiro (UFRJ), Brazil.

2014 **MSc in Psychobiology**, University of São Paulo (USP), Brazil.

2011 **BSc in Biology**, State University of São Paulo (UNESP), Brazil.

2010 **Licentiate degree in Biology**, State University of São Paulo (UNESP), Brazil.  
*Undergraduate level degree for teaching in primary and secondary education.*

## RESEARCH EXPERIENCE

2010–2016	<b>Neuroscience, Behavior and Pharmacology</b> <ul style="list-style-type: none"> <li>• Small animals models (mouse, rat and fish) • Behavioral tests (fear and anxiety, memory and depression), such as: catalepsy, open field and contextual fear conditioning, ultrasonic vocalization recording, elevated plus-maze and fear potentiated startle, novel object recognition, tail suspension • Local and systemic drug injection • Stereotaxic surgery • Perfusion • Histology and tissue staining.</li> </ul>
2014–2018	<b>Microbiology, Biochemistry and Immunology</b> <ul style="list-style-type: none"> <li>• Mouse model • Intranasal infection • Gavage technique • Systemic drug injection • Dissection • CFU • Histology and tissue staining • Galleria mellonella infection model • Primary culture of rat astrocytes and neurons • Cell line culture • Hybridoma culture • Immunocytochemistry and Immunohistochemistry • Dot blot • MTT assay • Antibody biotinylation • Cultivation of pathogen yeast • Media preparation • Urease and melanin assay • Fungi growth and pH tests • Polysaccharide isolation and quantification • Vesicle purification and quantification • Enzyme-linked immunosorbent assay (ELISA) and Dubois colorimetric assay • Scanning Electron Microscopy (SEM) • Thin-layer chromatography (TLC) • Western blot • Southern blot • Flow cytometry • Lipid extraction and quantification • DNA purification • Biobalistic DNA delivery method</li> </ul>

## AWARDS

2014–2018	National Council for Scientific and Technological Development (CNPq), Brazil. <b>PhD Research Scholarship.</b>
2012–2014	São Paulo Research Foundation (FAPESP), Brazil. <b>Masters Research Scholarship.</b>
2012	National Council for Scientific and Technological Development (CNPq), Brazil. <b>Masters Research Scholarship.</b> (3 months)
2010	Coordination for the Improvement of Higher Education Personnel (CAPES), Brazil. <b>Undergraduate Institutional Program of Teaching Initiation Scholarship.</b> (9 months)
2009	State University of São Paulo (UNESP, Botucatu), Brazil. <b>Undergraduate Academic Support and Outreach Scholarship.</b> (6 months)

## PUBLICATIONS

2019	<b>Colombo, AC</b> , Rella, A, Normile, T, Joffe, LS, Tavares, PM, Araújo, GRS, Frases, S, Orner, EP, Farnoud, AM, Fries, BC, Sheridan, B, Nimrichter, L, Rodrigues, ML, Del Poeta, M. <i>Cryptococcus neoformans</i> glucuronoxylomannan and sterylglucoside are required for host protection in an animal vaccination model. <i>mBio</i> , doi: <a href="https://doi.org/10.1128/mBio.02909-18">10.1128/mBio.02909-18</a> .
2019	Barroca, NCB, Guarda, MD, Silva, NT, <b>Colombo, AC</b> , Reimer, AE, Brandão, ML, De Oliveira, AR. Influence of aversive stimulation on haloperidol-induced catalepsy in rats. Accepted at <i>Behavioural Pharmacology</i> . doi: <a href="https://doi.org/10.1097/FBP.0000000000000462">10.1097/FBP.0000000000000462</a> .
2018	Rizzo, J, <b>Colombo, AC</b> , Zamith-Miranda, D, Silva, VKA, Allegood, JC, Casadevall, A, Del Poeta, M, Nosanchuk, JD, Kronstad, JW, Rodrigues, ML. The putative flippase Atp1 is required for intracellular membrane architecture and biosynthesis of polysaccharide and lipids in <i>Cryptococcus neoformans</i> . <i>BBA - Molecular Cell Research</i> , doi: <a href="https://doi.org/10.1016/j.bbamcr.2017.12.007">10.1016/j.bbamcr.2017.12.007</a> .
2015	Brandão, ML, De Oliveira, AR, Muthuraju, S, <b>Colombo, AC</b> , Saito, VM, Talbot, T. Dual role of dopamine D2-like receptors in the mediation of conditioned and unconditioned fear. <i>FEBS Letters</i> , doi: <a href="https://doi.org/10.1016/j.febslet.2015.02.036">10.1016/j.febslet.2015.02.036</a> .  <b>Colombo, AC</b> , Rodrigues, ML. Fungal colonization of the brain: anatomopathological aspects of neurological cryptococcosis. <i>Annals of the Brazilian Academy of Sciences</i> , doi: <a href="https://doi.org/10.1590/0001-3765201520140704">10.1590/0001-3765201520140704</a> .

- 2014 De Oliveira, AR, **Colombo, AC**, Muthuraju, S, Almada, RC, Brandão, ML. Dopamine D2-like receptors modulate unconditioned fear: Role of the inferior colliculus. *Plos One*, doi:[10.1371/journal.pone.0104228](https://doi.org/10.1371/journal.pone.0104228).
- 2013 **Colombo, AC**, De Oliveira, AR, Reimer, AE, Brandão, ML. Dopaminergic mechanisms underlying catalepsy, fear and anxiety: Do they interact?. *Behavioural Brain Research*, doi:[10.1016/j.bbr.2013.10.002](https://doi.org/10.1016/j.bbr.2013.10.002).

## SELECTED PUBLICATIONS

- 2019 **Colombo, AC**, Rella, A, *et al.* *Cryptococcus neoformans* glucuronoxylomannan and sterylglucoside are required for host protection in an animal vaccination model. *mBio*, doi:[10.1128/mBio.02909-18](https://doi.org/10.1128/mBio.02909-18).
- 2015 **Colombo, AC**, Rodrigues, ML. Fungal colonization of the brain: anatomopathological aspects of neurological cryptococcosis. *Annals of the Brazilian Academy of Sciences*, doi:[10.1590/0001-3765201520140704](https://doi.org/10.1590/0001-3765201520140704).
- 2013 **Colombo, AC**, De Oliveira, AR, *et al.* Dopaminergic mechanisms underlying catalepsy, fear and anxiety: Do they interact?. *Behavioural Brain Research*, doi:[10.1016/j.bbr.2013.10.002](https://doi.org/10.1016/j.bbr.2013.10.002).

## TEACHING

- 2018–2019 Botany – Kindergarten to 4th Grade (Assistant Teacher)  
Education Department at Lyon Arboretum, Honolulu, USA.
- 2015 Biochemistry – Undergraduate in Medicine (Assistant Teacher)  
Federal University of Rio de Janeiro, Brazil.
- 2015 Immune endocrine neuro system – Graduate in Biochemistry (Group Coordinator)  
Federal University of Rio de Janeiro, Brazil.
- 2010 Biology – High School (Teacher and Assistant)  
State School Professor Francisco Guedelha, Botucatu, Brazil.
- 2007 Literature – Pre-university preparatory course (Teacher)  
State University of São Paulo, Brazil.

## TEACHING INTERNSHIPS

- 10/2018–03/2019 **Assistant Teacher** – Kindergarten to 4th Grade  
*Education Department at Lyon Arboretum, Honolulu, USA.*  
• Assisted and taught field trips and classes • Organized and managed the classrooms.
- 2015 (10 classes) **Assistant Teacher** – Undergraduate Biochemistry  
*Federal University of Rio de Janeiro, Brazil.*  
• Developed guided practice worksheets • Created and implemented formative assessment • Prepared and presented theoretical classes • Designed and applied final exams.
- 2015 (10 classes) **Group Supervisor** – Graduate Immune-neuro-endocrine System  
*Federal University of Rio de Janeiro, Brazil.*  
• Guided and helped a group of seven students to prepare and teach theoretical and creative classes.
- 03/2010–12/2010 **Assistant Teacher** – Biology for High School students  
*State School Professor Francisco Guedelha, Botucatu, Brazil.*  
• Helped to develop and organize the first science fair of the school • Taught theoretical and practical biology classes • Participated in group meetings • Helped to design and apply surveys to assess student's goals.

- 2007 (9 classes)     **Volunteer Teacher** – Literature for a pre-university preparatory course  
*State University of São Paulo, Brazil.*  
 • Prepared and taught classes.

## OUTREACH AND VOLUNTEERING

- 2018–2019     Volunteer for the Lyon Arboretum, Honolulu, USA – **Gift Shop Clerk.**
- 2018–2019     Volunteer for the Lyon Arboretum, Honolulu, USA – **Elementary School Field Trip Volunteer.**
- 2018     Volunteer for the *Goodwill Goes Glam* at Goodwill, Honolulu, USA – **Retail.**
- 2018     Volunteer for the *Geographic Information System Day* at NOAA, Honolulu, USA – **Assistant.**
- 2017     Volunteer for a special class about Brazil at Nassakeag Elementary School, Setauket, USA – **Speaker/Teacher.**
- 2009     Center of Regional Reference in Intestinal Inflammatory Disease at State University of São Paulo, Brazil – **Patient survey.**

## VOLUNTEERING AND OUTREACH

- 10/2018–03/2019     **Assistant for Children’s Education Program, Lyon Arboretum, Honolulu, USA.**  
 • Taught hour long, elementary level classes • Assisted students with difficult tasks • Prepared classroom resources.
- 08/2018–03/2019     **Gift Shop Clerk, Lyon Arboretum, Honolulu, USA.**  
 • Greeted and helped visitors with general information • Operated the cash register • Organized the store.
- 2018     **Retail Helper for Goodwill Goes Glam event, Goodwill, Honolulu, USA.**  
 • Duties included customer service and organizing sales inventory.
- 2017     **Invited speaker, Nassakeag Elementary School, Setauket, USA.**  
 • Created and presented a class about Brazil.
- 2009     **Research Interviewer, State University of São Paulo, Brazil.**  
 • Collected patient information • Explained research goals and consent form • Established contact between clinic and research group.
- 04/2007–12/2010     **Accountant, Graduation Party Planning Committee, Brazil.**  
 • Surpassed the fundraising goal • Trusted for the position by peers • Helped to organize fundraising events • Designed and sold products • Participated in regular meetings and committee’s decisions.

## ACADEMIC SERVICE & AFFILIATIONS

- 2019     Ad hoc referee of undergraduate scientific projects Biology  
 Federal University of São Carlos, Brazil.
- 2018     Ad hoc referee of undergraduate scientific projects Biology  
 Federal University of São Carlos, Brazil.
- 2015     Ad hoc referee of undergraduate scientific posters Microbiology  
 Federal University of Rio de Janeiro, Brazil.
- 2009     Organizing committee of the XIII Biology Week  
 State University of São Paulo, Brazil.

## CONTINUING EDUCATION

2019 (1 month)      **101 Web Development** – DevLeague - Honolulu, HI, USA.

## ADDITIONAL SKILLS

• Bilingual (English and Portuguese) • Fundraising and Event Organization • Microsoft Office • Basic Python, JavaScript, HTML, CSS and L<sup>A</sup>T<sub>E</sub>X • Basic Image Editing and Vector Graphics Software • Data Processing and Statistical Analysis

## LANGUAGES

Portuguese	Native
English	Advanced

## EXTRAS

2019	Dog sitting – Honolulu, USA.
2018	Babysitting – Honolulu, USA.
2017	Babysitting – Setauket, USA.
2007–2010	Graduation Party Planning Committee – Botucatu, Brazil.