

TIAGO GUARDIA

Research & Development Scientist / Apitherapist



PERSONAL INFO

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SOFT SKILLS

- Strategy & Planning
- Critical Thinking
- Project Management
- Adaptable & Industrious
- Active Listener & Coordination
- Leadership
- Entrepreneurial mindset

THERAPEUTIC SKILLS

- Apitherapy
- Iridology
- Herbalism

HARD SKILLS

- Data Analysis (R, SPSS)
- Programming (MATLAB, HTML, Javascript)
- Online testing platforms (Testable, Prolific)
- Anatomical and Functional Neuroimaging Analysis (FreeSurfer, ITK-SNAP, ASHS, SPM, CONN)
- Immunohistochemistry

INTERESTS & HOBBIES

- Hiking in nature
- Yoga & Meditation
- Ayurveda
- Beekeeping

SUMMARY

- Visionary and innovative professional with experience in neuroscience, apitherapy, project management, and business development, resulting in award-winning projects, fundings, and launch of products.
- Purpose-driven and creative problem-solving skills applied in the development of scientific projects, and innovative solutions in different areas of expertise, as evidenced by publications and presentations, creation of therapeutic protocols, and improvement of existing services.
- Relationship builder and leader within private and public institutions as demonstrated by a fruitful career trajectory, philanthropic work, and business partnerships.

EDUCATION

- **PhD - Behavioral and Cognitive Neuroscience** **2018 – Present**
Brock University – Canada
Advisor: Prof. Dr. Karen L. Campbell
Thesis: “Lifestyle factors and neuroimaging metrics as predictors of cognitive performance in healthy aging”.
- **MSc – Neuroscience and Behavior** **2015 – 2017**
University of São Paulo – Brazil
Advisor: Prof. Dr. Maria Regina L. Sandoval
Thesis: “Evaluation of neuroprotective and behavioral effects of treatment with royal jelly in Wistar rats submitted to intracerebroventricular administration of streptozotocin, a model of sporadic Alzheimer's disease.”
- **BSc – Biological Sciences** **2014 - 2018**
Paulista University – Brazil
Advisor: Prof. Dr. Ligia M. Bonini
Thesis: “Therapeutic inhalation of beehive air - Study to characterize the volatile components present in the air of beehive of *Apis Mellifera* species.”
- **BSc – Computer Sciences** **2001 - 2005**
Braz Cubas University – Brazil
Advisor: Prof. Dr. José Demísio S. da Silva
Thesis: “Living Water Project - A study for the application of artificial neural networks in the water consumption forecast of the cities of the north coast of the state of São Paulo.”

DISTINCTIONS & AWARDS

- **Best Project Design**
EvoBrain - First German-Brazilian summer school on comparative neuroscience of brain evolution (2015). German Federal Ministry of Education and Research / Federal University of Rio de Janeiro.
Awarded Project: “Evaluation of sloth’s (*Bradypus variegatus*) brain activity and body temperature during different times of the day.”

RESEARCH FUNDING & SCHOLARSHIPS

- **Brock University (2018 – 2022)**
 - Ontario Trillium Scholarship
 - Graduate Assistantship
 - International Fellowship
 - International PhD Fellowship
- **Brock University (2021 – 2022)**
 - Research Assistantship - FOSS Student Funding Initiative
- **University of São Paulo (2021 – 2022)**
 - Graduate Scholarship – CAPES-DS

PROFESSIONAL EXPERIENCE

- **Brock University – Canada** **09/2018 – Present**
PhD Graduate Student
 - Planning, development, and management of studies for the investigation of the relationship between lifestyle, brain health, and cognitive performance in humans. Idealization and establishment of collaboration between the Neurocognitive Aging Lab (Dr. Campbell), Sleep Research Laboratory (Dr. Cote), and the Brock-Niagara Centre for Health & Well-Being (Dr. Gammage).
 - Structural and functional human neuroimaging analysis. International collaboration for the investigation of the relationship between brain's structure and connectivity and cognitive function across the lifespan. Usage of the Cambridge Centre for Ageing and Neuroscience (Cam-CAN) dataset.
 - Evaluation of cognitive performance in memory (paired-associate learning test; operational span task; n-back task; multifactorial memory questionnaire), executive functions (Cattell test of fluid intelligence), and general cognitive health (ACE-R; MMSE). Assessment of lifestyle, health, and life satisfaction factors, such as sleep quality (PSQI), physical activity (RAPA), anxiety and depression (HADS), and quality of life (CASP-19).
- **Independent R&D Consultant (Canada / Online)** **06/2019 – Present**
 - BY's Apitherapy Wellness Center – Research and Clinical Advisory Board Member. Collaboration for planning the setting of the Beehive Air Therapy room and the Sleep on Beehive Cabin. Planning and design of clinical trials on Apitherapy.
 - Miracle Bees - Collaboration for startup business development. Elaboration of skin care & health related products manufactured with beehives' products and other natural components.
 - PranaHive OM - Collaboration for startup business development. Elaboration of educational programs and therapeutic services on Apitherapy, Herbalism, Ayurveda, Yoga, Healthy Living, and Healthy Aging.
 - Bee Venom Farms - Collaboration for startup business development. Creation of a medical grade beekeeping network for the Apitherapy segment.
- **University of São Paulo / Butantan Institute – Brazil** **03/2014 – 06/2017**
MSc Graduate Student
 - Conceptualization, planning, development, and leadership of a new line of research for the investigation of the neuroprotective effects of oral consumption of royal jelly.
 - Conduction of experiments with a variety of techniques, such as primary cultures of hippocampal neurons, stereotactic surgery, intracerebral injections, immunohistochemistry, and behavioral and cognitive assessment in rats. Evaluation of neurogenesis, neurodegeneration, cerebral oxidative stress and neuroinflammation.
- **Center of Natural Therapies and Quality of Life** **02/2014– 03/2015**
Health Coach and Natural Therapist (Apitherapist / Iridologist)
 - Conduction of one-on-one health coaching and therapeutic sessions. Application of a unique approach that combines the science-based knowledge of the therapeutic use of honeybees' products (e.g., bee venom, honey, bee pollen, royal jelly and bee propolis) with the wisdom from ancient civilizations, guided meditations, energetic healing, and the acknowledgment of sacredness of life.
 - The foundation of my holistic therapeutic approach relies on education and support tailored to the needs of each client. After assessing one's health condition, I used to assist my clients by offering advice, formulating health goals, and establishing integrated treatment plans.
- **Nutrisol Healthy Foods – Brazil** **06/2011 – 09/2013**
Business Developer
 - Idealization and development of a start-up business in healthy foods and honeybees' products. Active role in business planning, management, branding, marketing, and production.

- Negotiation and establishment of partnerships with third-party service providers and suppliers.
 - Support to social responsibility projects for the benefit of small beekeepers' family business in the Northeast of Brazil.
- **Nexus Geoengineering** **05/2007 – 04/2012**
Project Manager
 - Project management in the areas of innovation, software development, and implementation of information technology systems in public and private institutions.
 - Coordination of internal resources and third parties for the execution of multiple projects. Relationship with stakeholders and clients. Development projects' plans and progress tracking. Management of scope, schedule, resources, changes, communication, risks, and quality.
 - Preparation of summary reports and presentations for executive staff, clients, and stakeholders.System and Process Analyst
 - Translation of clients' requirements into specified project briefs. Identification of options for potential solutions and their assessment for both technical and business suitability. Development and presentation of proposals.
 - Leadership within teams of programmers to ensure technical compatibility and user satisfaction.
 - Conduction of site visits to analyse established processes. Designing workflow and process strategies to improve performance of services.
 - Development of user manuals and training materials. Elaboration and conduction of courses and training sessions.
- **Solomon's Light Beneficent Association** **06/2011 – 12/2013**
Volunteer
 - Conceptualization and development of the "Liberta Apis Methodology", an integral and natural methodology for the treatment of drug addiction. The Liberta Apis Methodology integrates the physiological (therapeutic use of honeybee's products), psychological (clinical psychotherapy and labour therapy in apiaries) and social (generation of job and income through the sales of bee products) approaches to best help people in the process of recovery from drug addiction.

PUBLICATIONS

- **Published Articles**
 - **Guardia, T.**, Geerligs, L., Tsvetanov, K. A., Ye, R., & Campbell, K. L. (2021). The role of the arousal system in age-related differences in cortical functional network architecture. *Human Brain Mapping*, 1–13. <https://doi.org/10.1002/hbm.25701>
 - **Guardia de Souza e Silva, T.**, do Val de Paulo, M. E. F., da Silva, J. R. M., da Silva Alves, A., Britto, L. R. G., Xavier, G. F., & Lopes Sandoval, M. R. (2020). Oral treatment with royal jelly improves memory and presents neuroprotective effects on icv-STZ rat model of sporadic Alzheimer's disease. *Heliyon*, 6(2), e03281. doi:<https://doi.org/10.1016/j.heliyon.2020.e03281>
- **Manuscripts in Preparation and Under Review**
 - **Guardia, T.**, Cote K.A., Healey, M.K., Gammage, K.L., & Campbell, K. L. (Under Review). Physical activity and sleep quality predict memory function in middle-aged and older adults.
 - **Guardia, T.** (In Preparation). Beehive Air Therapy: Combining modern science and ancient wisdom for healing and promotion of health and well-being.
 - J. R. M., da Silva; **Guardia, T.**, do Val de Paulo, M. E. F., da Silva, Alves A., Silva, M.F.P., Abdalla, F.M.F., Britto, L. R. G., Astray, R.M., & Lopes Sandoval, M. R. (Under Review). Royal Jelly restores the expression of hippocampal M1 muscarinic acetylcholine receptor, ameliorates the neuroinflammation and cognitive deficit in the Streptozotocin induced rat model of sporadic Alzheimer's disease.

- **Book Chapters**

- Guardia, T. (2018). Life, Light, and Aliments from the Beehive: Awakening Human Royalty. Unpublished Book. Integrative Care and Nutrition: Between, Beyond and Through Nutrition Science. Brazil.

- **Published Abstracts**

- **Guardia, T;** Geerligs, L; Tsvetanov, K; Campbell, K. (2021). The role of the arousal system in age-related differences in cortical functional network architecture. CNS2021 - Cognitive Neuroscience Society Annual Meeting
- **Guardia, T;** Geerligs, L; Tsvetanov, K; Campbell, K. (2020) The arousal system mediates age-related decline in functional segregation of cortical networks. 26th Annual Meeting of the Organization for Human Brain Mapping.
- **Silva, TGS;** Britto, LRG; Xavier, GF; Sandoval, MRL (2019). Oral treatment of royal jelly improves memory and presents neuroprotective effects on an experimental model of Alzheimer's disease. 46th International Apicultural Congress - Symposium: Apitherapy from Science to Practice - Session: Validation of Apitherapy in Modern Medicine. Montreal-Quebec, Canada.
- **Silva, TGS;** Britto, LRG; Xavier, GF; Sandoval, MRL (2016). Effects of royal jelly on neuroprotection, oxidative stress, and cognition in a rat model of sporadic Alzheimer's disease. 2nd Congress of the Federation of Latin-American and Caribbean Societies for Neuroscience (FALAN). Buenos Aires, Argentina.
- **Silva, TGS.;** Britto, LRG; Xavier, GF; Sandoval, MRL (2016). Evaluation of effects of royal jelly on neuroprotection, oxidative stress, and cognition in an ICV-STZ rat model of sporadic Alzheimer's disease. 18th Annual Scientific Meeting of Instituto Butantan. São Paulo-SP, Brazil.
- **Silva, TGS;** Silva JDS (2006) Living Water Project - Optimizing the operation of urban water supply systems with the use of intelligent computer systems. First Workshop on Strategic Management of Water Resources. Brasilia-DF, Brazil
- **Silva, TGS;** Silva JDS (2005) Living Water Project - Living Water Project - A study for the application of Artificial Neural Networks in the water consumption forecast of the cities of the North Coast of the State of São Paulo. 16th Brazilian Symposium on Water Resources. Joao Pessoa-PB, Brazil.

- **Oral Presentations**

- **Guardia, T.** (2021). Validating Beehive Air Therapy in Modern Medicine: From Identifying Chemical Compounds to Evidence-Based Clinical Practice. Australian Apitherapy Association Conference 2021 - Online.
- **Guardia, T.** (2021). Oral treatment with royal jelly improves memory and presents neuroprotective effects on icv-STZ rat model of sporadic Alzheimer's disease. Australian Association Conference 2021 - Online.
- **Silva, TGS.** (2021). Beehive Air Therapy: From Identifying Chemical Compounds to Evidence-Based Clinical Practice. 1st Joint International Apitherapy Congress - International Federation of Apitherapy - Global Bee Medicine - Online.
- **Silva, TGS;** Bustillos, OV; Amaral, P; Motta, LB; Praxedes, LA. (2019). Therapeutic inhalation of beehive's air - Characterizing the volatile components present in the air of beehive of *Apis mellifera* species. 46th International Apicultural Congress - Symposium: Apitherapy from Science to Practice - Session: Validation of Apitherapy in Modern Medicine. Montreal-Quebec, Canada.
- **Silva, TGS;** Britto, LRG; Xavier, GF; Sandoval, MRL. (2015). Evaluation of neuroprotective and behavioral effects of prolonged treatment with Royal Jelly in Wistar rats after intracerebroventricular administration of streptozotocin, a model of sporadic Alzheimer's disease. First German-Brazilian summer school on comparative neuroscience of brain evolution. Rio de Janeiro-RJ, Brazil.
- **Silva, TGS;** Britto, LRG; Xavier, GF; Sandoval, MRL. (2015). Evaluation of neuroprotective and behavior effects of treatment with royal jelly on animal model of sporadic Alzheimer's disease. Neurogenesis Workshop: Basic aspects and implications on neuropsychiatric conditions. Maringa-PR, Brazil.
- **Silva, TGS.** (2014). Natural treatments with honeybees' products. National Congress of Natural Therapies. São Paulo-SP, Brazil.

- **Silva, TGS.** (2013). Apitherapy Applied in Addiction Treatment. First National Apitherapy Seminar of the Brazilian Apitherapy Society. Muzambinho-MG, Brazil.
- **Silva, TGS.** (2013). Ecological Bees. What honeybees can teach us to live in a sustainable world. Municipal Environment Department of São Paulo. São Paulo-SP, Brazil.

TEACHING & MENTORING

- **Training**
 - Teaching and Learning in Higher Education – Center for Pedagogical Innovation – Brock University (Spring, 2019)
 - TA Training Program - Center for Pedagogical Innovation – Brock University - (Spring, 2018)
- **Teaching Assistantships – Brock University**
 - Human Memory (Winter, 2021)
 - Health Psychology (Fall, 2020)
 - Stress (Winter, 2019)
 - Drugs and Behavior (Fall, 2019)
 - Psychology of Aging (Fall, 2019)
 - Cognition (Winter, 2019)
 - Brain & Behavior I (Laboratory) (Fall, 2018)
 - Introduction to Brain & Behavior (Fall, 2018)
- **Research Mentoring**
 - Arjun Naipaul (Brock University - Honor Thesis, 2021)
 - Jeferson Rubens Mamona da Silva (Butantan Institute - Honor Thesis, 2017)
 - Karen Alessandra Grossi Roedel (Estacio de Sa University - Postgraduate studies, 2015)

PROFESSIONAL DEVELOPMENT (COURSES)

- **Understanding the Australian Health Care System.** The University of Queensland – edX Platform (In progress)
- **A Guide to Healthcare Innovation: Principles and Practice.** Imperial College London - Coursera Platform (12/2021)
- **Prana & Pranayama.** Yoga Academy North America – YANA (12/2021)
- **Introduction to Healthcare.** Stanford University - Coursera Platform (10/2021)
- **Health Promotion Foundations.** Public Health Ontario – (03/2021)
- **Living with Dementia: Impact on Individuals, Caregivers, Communities and Societies.** Johns Hopkins University - Coursera Platform (01/2021)
- **Designing for Implementation.** The Center for Implementation (12/2020)
- **Dissemination and Implementation - Integrating Implementation Strategies & Context.** The University of Wisconsin Madison - Institute for Clinical and Translational Research's Dissemination and Implementation Launchpad (11/2020)
- **Getting Started with Large Scale Change.** National Health Service – UK – NHS Online Platform (10/2020)
- **Implementing Innovation in Healthcare.** Monash University - Coursera Platform (10/2020)
- **Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans.** Canadian Interagency Advisory Panel on Research Ethics (09/2020)
- **Introduction to Translational Science.** University of Rochester – Coursera Platform (06/2020)
- **Sleep: Neurobiology, Medicine, and Society.** University of Michigan – Coursera Platform (05/2020)
- **Research & Development.** Cheeky Scientist Association (03/2020)
- **Knowledge Mobilization.** Brock University - Centre for Lifespan Development Research (11/2019)

- **Principles of fMRI - Design, acquisition, and analysis of fMRI data.** Johns Hopkins University - Coursera Platform (02/2018)
- **Fundamental Neuroscience for Neuroimaging.** Johns Hopkins University - Coursera Platform (01/2018)
- **Methods of Clinical and Epidemiological Studies in Neuroscience.** Medical School of the University of São Paulo - Department of Neurology (11/2017)
- **II International Advanced School of Neuroscience - Epigenetic Regulation of Brain's Specific Cells in Aging and Neurodegenerative Diseases.** Medical School of the University of São Paulo - Department of Neurology (09/2017)
- **Babaji's Kriya Yoga Initiation – Level 1.** Babaji's Kriya Yoga Order of Acharyas (09/2017)
- **International Health & Wellness Coaching.** Carevolution & Wellcoaches (06/2017)
- **Neuroimaging of Cognition and Behavior.** PSI Neuroclinic (07/2016)
- **Neuropsychology of the Elderly.** Medical School of the University of São Paulo - Institute of Psychiatry (04/2016)
- **Neuroimmunoendocrinology.** Institute of Biosciences - University of São Paulo (10/2015)
- **Diagnosis and Management of Alzheimer's Disease in Clinical Practice.** Alzheimer Ibero America (10/2015)
- **Lifestyle, Prevention, and Treatment of Alzheimer's Disease.** Alzheimer Ibero America (10/2015)
- **EvoBrain - First German-Brazilian summer school on comparative neuroscience of brain evolution.** German Federal Ministry of Education and Research - Federal University of Rio de Janeiro (06/2015)
- **Introduction to functional Near-InfraRed Spectroscopy.** The Latin America Brain Mapping Network Initiative – LABMAN (03/2015)
- **Auriculoacupuncture.** Shenlong Study Center (10/2014)
- **Principles of Epigenetics in Neuroscience.** Brazilian Society of Neurosciences and Behavior (09/2014)
- **Therapeutic Communities.** University of São Paulo – UNESP (05/2014)
- **Systemic Iridology - Jensen and OPI Method.** Unit of Being - Human Development Nucleus (04/2014)
- **Medicinal Plants.** São Paulo Municipal Health Department (12/2013)
- **Prevention of Drugs Use.** Federal University of Santa Catarina – UFSC (11/2013)
- **Holistic Apitherapy - Therapeutic Use of Bee Products.** Federal Institute of Education Science and Technology (07/2013)
- **Beekeeping – From Basic to Advanced.** National Service of Rural Apprenticeship (SENAR); Paulista Association of Beekeepers (APACAME); Serapis Institute - Beekeeping Research and Consultancy. (2011-2013)
- **Body, Nature and Universe Connection.** Open University of Environment and Culture of Peace (07/2012)
- **Psique & Soma: Jung and the Body.** Sedes Sapientiae Institute - Center for Development and Integration (07/2010)
- **Project Management – Project Management Institute (PMI).** Impact Technology (09/2008)
- **Reiki Level I.** Mikao Usui Reiki Society (01/2005)