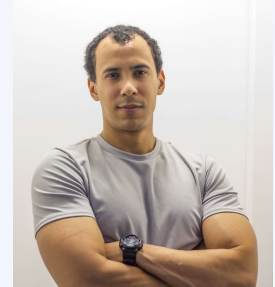# JUAN C. SANCHEZ-ARIAS, MD, PHD

Trained as medical doctor and neuroscientist, I'm currently investigating the molecular and cellular mechanisms underlying cardiac arrythmias and seizures associated with a novel genetic variant in an ion channel adapter protein combining model organism research, clinical genetics and computational biology.

🎓 EDUCATION

2020 | 2015

Doctor of Philosophy in Neuroscience
University of Victoria - Division of Medical Sciences　　📍 Victoria, BC, Canada

· **Dissertation:** Pannexin 1 regulates dendritic spine formation.

2014 | 2007

Doctor of Medicine (Médico y Cirujano)
Universidad del Valle - School of Medicine　　📍 Cali, Valle, Colombia

· **Pre-Diploma Rotatory Internship:** Hospital Universitario del Valle ESE - Universidad del Valle. Cali, Valle. Colombia.
· **Professional elective:** Neurosurgery and Neurocritical Care. Department of Neurosurgery. Hospital Universitario del Valle ESE - Universidad del Valle. Cali, Valle. Colombia.
· **Observership:** Functional Neurosurgery. Department of Neurosurgery. University of Illinois Hospital & Health Sciences System. Chicago, IL. USA.

🖥 RESEARCH EXPERIENCE

Current | 2020

Postdoctoral Fellow - Michael Smith Health Research BC Awardee
Division of Medical Sciences　　📍 University of Victoria

· **Area of study:** Inherited arrhythmias, community genetics, bioinformatics, ion channel biology, calcium homeostasis in cardiomyocytes.
· **Roles:** Project and data management, research execution, presentation of results, and grant and research writing.
· **Techniques:** RNA seq and microarray gene expression analysis using R and bioconductor tools (DESeq2, oligo, limma).
· Analysis of protein-protein interaction networks and pathway enrichment analysis using R and Cytoscape.
· Immunohistochemistry and confocal microscopy of embryonic and adult mouse heart sections.

2020 | 2015

Graduate Research Assistant
Division of Medical Sciences　　📍 University of Victoria

· **Area of study:** Ion and metabolite channels, developmental neurobiology, channel trafficking, cytoskeletal dynamics, neural stem cells, advanced microscopy.
· **Roles:** Project and data management, research execution, presentation of results, and grant and research writing.
· **Techniques:** Fixed and live-cell fluorescence microscopy of cultured neurons. Immunocytochemistry. Super-resolution microscopy.
· Analysis of calcium imaging data from cultured neurons using MATLAB.
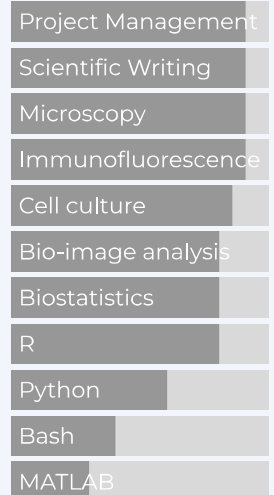
2014 | 2013

Research Medical Intern
Centro de Estudios Cerebrales　　📍 Universidad del Valle

· **Area of study:** functional neuroanatomy, cerebral cortex organization, traumatic brain injury, stroke, neuroprotection.
· **Roles:** Support and execution of experimental research on traumatic brain injury and ischemic stroke in rats.
· **Techniques:** Immunohistochemistry and confocal microscopy of rat brain sections.

CONTACT

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in juancsanchezarias

View my full CV online

TECHNICAL SKILLS

- Project Management
- Scientific Writing
- Microscopy
- Immunofluorescence
- Cell culture
- Bio-image analysis
- Biostatistics
- R
- Python
- Bash
- MATLAB

2011 | 2010

Undergraduate Medical Researcher
School of Public Health   📍 Universidad del Valle

- **Area of study:** Cardiovascular risk health, spinal cord injury, rehabilitation medicine, public health.
- **Roles:** Project management, data management with Epi Info, research execution, grant and research writing, and presentation of results to stakeholders.
- Supported clinical assessment of patients in the spinal cord injury clinic.

👊 SERVICE & LEADERSHIP

Current | 2021

Who Can Become a Scientist?
Co-founder and Co-organizer   📍 University of Victoria

- "Who can become a scientist?" is a workshop for high school students that discusses equity, diversity, and inclusion issues in STEMM.
- It reflects on the stereotypical image of scientists and the importance of leveraging support from role models and mentors to increase diversity in STEMM.

Current | 2018

Let's Talk Science
University of Victoria   📍 Victoria, BC, Canada

- Volunteer for public audience presentations and high school science tours.

Current | 2017

CIHR Brain Bee
Victoria Chapter   📍 Victoria, BC, Canada

- Organize and coordinate social media outlets for the Victoria Brain Bee. Mentored high school students from the Greater Victoria Area who participated in the Brain Bee competition.
- Secured funding to sponsor Victoria Brain Bee winners traveling to the CIHR National Brain Bee.

2020 | 2017

Neuroscience Graduate Student Association (NGSA)
University of Victoria   📍 Victoria, BC, Canada

- Student Representative - Division of Medical Sciences 2017-2018.
- Contributed to organizing the Neuroscience Graduate Program Kick-Off. Liaised and recruited keynote speakers for seminar lectures.

2019 | 2017

BCREGMED Newsletter
Co-editor   📍 BCREGMED

- Co-organized the BC Regenerative Medicine Symposium and Trainee workshop. Liaise with speakers and sponsors. Served as scientific committee member for abstract review and evaluation.

🎓 OTHER EDUCATION

2022 | 2022

Curso Introductorio en Epidemiologia Genetica y Epigenetica
Universidad del Valle - School of Public Health   📍 Virtual

- Two-week introductory course on Genetic Epidemiology and Epigenetics offered by the School of Public Health at Universidad del Valle

2021 | 2021

CodeinPlace 2021
Stanford University   📍 Virtual

- April-May 2021: Completed a 5-week introductory online Python programming course based on material from the first half of Stanford's introductory programming course, CS106A
- Project Showcase #153: BrainBeez

Selected presentations

2022

🖥 **65th Annual Meeting of the Canadian Society for Molecular Biosciences** | An integrative systems biology and experimental approach to study the impact of a novel variant in ANK2 membrane-binding domain associated with cardiac arrhythmia and cardiomyopathy | *Poster*

2021

🎤 **COLNE - Tertulia Metodologica** | Flujos de Trabajo para Analisis de Imagenes Adquiridas por Microscopia (Bio-image analysis workflows) | *Talk*

2020

🎤 **University of British Columbia 2nd Annual Tri-Cluster Research Day: The Future of Health** | Pannexin 1 regulates dendritic protrusion dynamics in developing cortical neurons | *Talk*

2019

🎤 **International Gap Junction Conference** | Pannexin 1 regulates neuronal networks and dendritic spine formation in cortical neurons | *Star Award Talk*

2018

🖥 **Society for Neuroscience** | Pannexin 1 regulates somatosensory pyramidal neuron dendritic spine density and sensorimotor function | *Poster*

2017

🎤 **BC Regenerative Medicine Symposium** | Pannexin 1 regulates cortical dendritic spine formation | *Talk*