Juan C. Sanchez-Arias, MD, PhD   ·   Curriculum Vitae

**PhD in Neuroscience** University of Victoria Victoria, BC. Canada Jan. 2015 - April. 2020

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

**GPA**: 8.2/9.0.

* **Relevant Coursework:** Developmental neurobiology, Tools for the study of ion channels.

**Doctor of Medicine** Universidad del Valle - School of Medicine Cali, Valle. Colombia Aug. 2007 - Oct. 2014

**Pre-Diploma Rotatory Internship**: Hospital Universitario del Valle ESE - Universidad del Valle. Cali, Valle. Colombia.

**Research Internship**: Centro de Estudios Cerebrales (Centre for Brain Studies). Universidad del Valle. Cali, Valle. Colombia

* *Area of study*: Cerebral cortex cytoarchitectonics, functional neuronatomy, diffuse traumatic brain injury and ischemic stroke models in rats. Supervisors: Prof. Hernan Pimienta, Prof. Marhta Escobar, and Prof. Efrain Buritica.

**Observership**: Functional Neurosurgery. Department of Neurosurgery. University of Illinois Hospital & Health Sciences System. University of Illinois at Chicago. Chicago, IL. USA. Supervisor: Dr. Konstantin Slavin.

**Professional elective**: Neurosurgery and Neurocritical Care. Department of Neurosurgery.Hospital Universitario del Valle ESE - Universidad del Valle. Cali, Valle. Colombia.

**GPA**: 4.4/5.0.

* **Relevant Coursework:** Functional Neuroanatomy, Cerebral cortex cytoarchitectonics, Scientific Integrity, Bio-statistics, Addiction and Pharmacology, Systems Pathology

Research Project management, experimental design, data management, statistical analysis and modeling, scientific writing, delivery of reports and presentation of results to specialized and lay audiences.

Laboratory Confocal and Stimulated-emission-depletion (STED, super-resolution) microscopy, live cell microscopy, cell culture and transfection (cell lines and primary neurons), immunocyto(histo)chemistry, transgenic mouse colony management and generation of conditional knockouts (Cre-Lox), rodent surgery (stroke induction and viral vector injection), rodent behavioural testing

Programming R, Python, ImageJ Macro Language (IJM), HTML, Markdown, LaTeX

Software Microsoft Office Suite, Adobe Creative Suite, ImageJ/FIJI, RStudio

Languages English (fluent), Spanish (native)

Postdoctoral Fellow University of Victoria Victoria, BC. Canada Aug. 2020 - Aug. 2022

Advisors: Leigh Anne Swayne, PhD., Laura Arbour, MSc, MD, MSc, FRCPC, FCCMG

Area of Study: Neuronal and cardiomyocyte devleopment, Medical Genetics, Community Genetics

Graduate Fellow in Neuroscience University of Victoria Victoria, BC. Canada Jan. 2015 - Apr. 2020

Advisor: Leigh Anne Swayne, PhD.

Area of Study: Pannexin 1 channels, dendritic spine plasticity, synapse formation, channel trafficking, neuronal cytoskeleton dynamics, neural stem cells, advanced microscopy for cell biology.

* Generated conditional and conditional-inducible knockout models for the study of cerebral cortex development.
* Optimized protocols to generate primary neuronal cultures from neonatal mice suitable for network analysis.
* Developed methods to visualize dendritic spines and filopodia in tissue sections and living primary neurons.
* Established immunocyto(histo)chemistry protocols that preserve the neuronal cytoskeleton.

Research Intern in Biomedical Sciences - Neuroscience Concentration Centro de Estudios Cerebrales - Universidad del Valle Cali, Valle. Colombia Feb. 2014 - Jun. 2014

Advisors: Prof. Martha Escobar, MSc; Prof. Hernan Pimienta, MSc, Prof. Efrain Buritica, PhD.

Area of study: functional neuroanatomy, cerebral cortex organization, traumatic brain injury, stroke, neuroprotection.

Performed carotid ligation in Whistar rats using microsurgery techniques.

Used the weight-drop model of diffuse traumatic brain injury to generate organotypic slice cultures from rats.

Optimized immunohystochemistry for neuronal and astrocytic markers in thick rat brain tissue sections.

Student Researcher School of Public Health - Universidad del Valle Cali, Valle. Colombia Aug. 2010 - Feb. 2011

Advisors: Enrique A. Estevez, MD and Elsa P. Muñoz, MD, MPH

Area of study: ardiovascular risk factor assessment in spinal cord injured patient assisting to a tertiary-level hospital.

* Prepared a research project proposal, liaised with ethical boards, and established a network of collaborators to complete using a standarized survey.
* Prepared reports and presentations to share project results in local and national meetings.
* Created a database in EpiInfo 7 for data collection, data management, and statistical analysis.
* Contributed to the assessment and management of patients with chronic spinal cord injury, including prescribing rehabilitation plans and ordering of radiological and laboratory ancillary tests. Discussed cases with Physical Medicine and Rehabilitation attendings and residents.

Teaching Assistant University of Victoria - Division of Medical Sciences Victoria, BC. Canada Spring 2017, Fall 2018, Spring 2020

Course: Foundations of Medical Practice I and II

Program: Island Medical Program - University of British Columbia

* MEDD412 - Neuroanatomy Bootcamp #1 (Year 1).
* MEDD412 - Neuroanatomy Lab on Cranial Nerves V & VII and Pain (Year 1).
* MEDD412 - Neuroanatomy Lab on Eye Movements and Brainstem (Year 1).
* MEDD421 - Neuroanatomy Lab on Cerebral Cortex, Functional Areas, and Blood Supply (Year 2).
* MEDD421 - Neuroanatomy Lab on Control of Movement and Cerebellum (Year 2).
* MEDD422 - Neuroanatomy Lab on Limbic System/Dementia (Year 2).

Trainee Steering Committee BC Regenerative Network (BCREGMED) Victoria & Vancouver, BC. Canada Feb. 2017 - PRESENT

Co-editor for the BC Regenerative Medicine Network Newsletter.

Member of the BCREGMED Symposium Organizing and Scientific committee.

Organizer CIHR Brain Bee - Victoria Chapter Victoria, BC. Canada 2017 - PRESENT

Organized and coordinated social media 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.

Student Member Neuroscience Graduate Student Association (NGSA) Victoria & Vancouver, BC. Canada 2017 - 2020

Student Representative - Division of Medical Sciences 2017-2018.

Member of the Organizing Committee for the Neuroscience Graduate Program Kick-Off. Liased and recruited keynote speakers for seminar lectures.

Volunteer Let’s Talk Science - UVic Victoria, BC. Canada Oct 2018 - PRESENT

Involved in Neuroscience Outreach talks and high school science excursions at the University of Victoria - Division of Medical Sciences.

International Gap Junction Conference NB Gilula Star Award 2019 IGJC2019

John & Myrtle Tilley Graduate Scholarship 2019 UVic-FGS

BC Regenerative Medicine Travel Award 2018 BCREGMED

Donald Wagg Graduate Scholarship 2017 2018 UVic-FGS

Vera Allen Travel Award for Medical Sciences 2016 2017 2018 2019 UVic-FGS

University of Victoria Student Travel Grant 2016 UVic-FGS

James A. & Laurette Agnew Memorial Scholarship & Award 2015 2016 2017 2018 2019 UVic-FGS

University of Victoria Graduate Award 2015 2017 2018 2019 UVic-FGS

University of Victoria Fellowship Award 2015 UVic-FGS

Universidad del Valle - School of Medicine Dean’s List 2007 2009 2013 2014 UniValle

Public High School Academic Excellence Scholarship 2006 InfiValle-Colombia

*Top 10 Submissions Lighting Round*: Pannexin 1 regulates dendritic protrusion dynamics in developing cortical neurons UBC 2nd Annual Tri-Cluster Research Day: The Future of Health Virtual November 4, 2020 *Star Award Talk*: Pannexin 1 regulates neuronal networks and dendritic spine formation in cortical neurons International Gap Junction Conference Victoria, BC. Canada July 27-31, 2019 Pannexin 1 regulates cortical dendritic spine formation University of Victoria - Neuroscience Graduate Program Kick-Off Victoria, BC. Canada September 14, 2018 Pannexin 1 in neuronal development BC Regenerative Medicine Symposium Vancouver, BC. Canada May 10, 2017 Behavioural risk factors associated with cardiovascular disease in chronic spinal cord injury XV Health Sciences Research Symposium: Disability and Life Cycle - Universidad del Valle Cali, Colombia Oct. 14, 2013 A pilot for the assessment of behavioural risk factors associated with cardiovascular disease in spinal cord injury XXI Colombian Student´s Congress of Medical Research (CECIM) Bucaramanga, Colombia May. 5, 2010

Member Canadian Association for Neuroscience 2015 - Present Active

Member Society for Neuroscience 2016 - Present Active

Member Colegio Colombiano de Neurociencias 2021 - Present Active Member Trainee Steering Committee - BC Regenerative Medicine Network 2017 - Present Active