Juan C. Sanchez-Arias, MD, PhD

Trained as medical doctor and neuroscientist, I use my expertise in neurobiology, computational biology, and experimental design to magnify the impact of BenchSci's platform and mission to empower scientists to improve the speed and quality of preclinical research with the most advanced biomedical Al.

EDUCATION Doctor of Philosophy in Neuroscience 2020 University of Victoria - Division of Medical Sciences Victoria, BC, Canada 2015 • Dissertation: Pannexin 1 regulates dendritic spine formation. · Relevant coursework: Developmental neurobiology, Tools for the study of ion channels. · GPA: 8.2/9.0. Doctor of Medicine (Médico y Cirujano) 2014 Universidad del Valle - School of Medicine ♥ Cali, Valle, Colombia 2007 · 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. 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. · Relevant Coursework: Functional Neuroanatomy, Cerebral cortex cytoarchitectonics, Scientific Integrity, Biostatistics, Toxicology & Pharmacodependence, Systems Pathology. GPA: 4.4/5.0 **INDUSTRY EXPERIENCE** Scientific Associate (Experimental Data) Current BenchSci 2022 using scientific insights. · Work in collaboration with Product and Engineering teams to magnify the impact and applications of BenchSci's platform. · Work in collaboration with R&D to improve the data processing cycle within BenchSci's platform. RESEARCH EXPERIENCE Postdoctoral Fellow 2022 **Division of Medical Sciences** 2020 · Advisors: Leigh Anne Swayne, PhD; Laura Arbour MSc, MD, · Area of study: ankyrin adapter proteins, ion channels, calcium and voltage dysregulation in cardiomyocytes and neurons with ankyrin variants. · Community medical genetics in inherited arrhythmias. · Cardiomyocyte and neuronal calcium homeostasis · Bioinformatics and computational modelling of cardiomyocyte physiology. Graduate Research Assistant 2020 **Division of Medical Sciences** • University of Victoria 2015 · 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.

CONTACT

- ∑juansa@uvic.ca
- 🕑 juan_sanar
- 🖓 juansanar
- Ø juansanar.com
- in juancsanchezarias

📩 CV's PDF version

TECHNICAL SKILLS

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

Made with the R package pagedown.

Source code forked from nstrayer/datadrivencv 🖓 and available at juansanar/datadrivencv 0

Last updated on 2022-07-03.





- Envision and evaluate features to improve BenchSci's platform and future roadmap
- - University of Victoria

Remote

	T	Desserveb Madian laters				
2014 	•	Centro de Estudios Cerebrales	• Universidad del Valle			
2013		 Advisors: Martha Escobar, MSc; Hernán Pimienta Area of study: functional neuroanatomy, cerebral brain injury, stroke, neuroprotection. Performed carotid ligation in Wistar rats using m Investigated diffuse traumatic brain injury using rat rain brain slices. fluorescent immunochemistr 	, MSc, Efrain Buritica, PhD. cortex organization, traumatic nicrosurgery techniques. a weight-drop model, organotypic ry and microscopy.			
2011 2010	•	Undergraduate Medical Researcher School of Public Health	• Universidad del Valle	Q Research interests		
2010		 Advisors: Enrique A. Estevez, MD and Elsa P. Mun Area of study: Cardiovascular risk factor assessme assisting to a tastional base its factor. 	oz, MD, MPH ent in spinal cord injured patient	U Translational research		
		 Prepared a research project proposal, liaised with network of collaborators to complete a standardi 	n ethical boards, and established a zed and regional survey in	 Bio-Image analysis Neuronal and cardiac 		
		cardiovascular health. • Led data management and prepared reports and	d presentations to share project			
		 results in local and national meetings. Contributed to the assessment and management and injury including proceedings in the bilitytian proceedings. 	nt of patients with chronic spinal	Clinical genetics		
		and laboratory ancillary tests. Discussed cases wi Rehabilitation attendings and residents.	th Physical Medicine and	Open science.		
	.	TEACHING EXPERIENCE		Teaching philosophy		
2020 I	•	Foundations of Medical Practice I and II Island Medical Program	• University of Victoria	l strive to foster an active learning and		
 2017		 Courses: MEDD412 (Year 1), MEDD421 (Year 2), ME TA for Neuroanatomy Bootcamp and Laboratorie Subjects: Cranial Nerves V & VII and Pain, Eye Mo Cortex, Functional Areas, and Blood Supply, Cont Limbic System/Dementia 	.DD422 (Year 2). ٤s. vements and Brainstem, Cerebral crol of Movement and Cerebellum,	respectful environment for students in which each student has equal opportunity to exchange ideas and ask questions. I believe that discussing ideas is key for doveloping critical		
	5	SERVICE & LEADERSHIP		thinking, communication skills,		
Current 	•	Who Can Become a Scientist? Co-founder and Co-organizer	• University of Victoria	while providing immediate feedback on		
2021		 "Who can become a scientist?" is a symposium for discusses equity, diversity, and inclusion issues in It reflects on the stereotypical image of scientists support from role models and mentors to increase 	or a high school age audience that science. and the importance of leveraging se diversity in STEM.	understanding of the discussed topic.		
2022 I	•	Let's Talk Science University of Victoria	🗣 Victoria, BC, Canada	📽 Society memberships		
2018		 Contribute to Neuroscience Outreach talks and h the University of Victoria - Division of Medical Science 	high school science excursions at ences.	Canadian Society for Molecular Bioscience		
2022		CIHR Brain Bee		Canadian Cardiovascular Society		
2017		 Organize and coordinate social media for the Vic 	toria Brain Bee. Mentored high	Canadian Association of Neuroscience		
		school students from the Greater Victoria Area who participated in the Brain Bee competition		Society for Neuroscience		
		Secure funding to sponsor victoria Brain Bee wir Brain Bee.	iners traveling to the CIHR National	Colegio Colombiano de		
2020 I	•	Neuroscience Graduate Student Association University of Victoria	I (NGSA) ♥ Victoria, BC, Canada	Neurociencias - COLINE		
2017		 Student Representative - Division of Medical Scie Investigated diffuse traumatic brain injury using rat brain brain slices. fluorescent immunochemis 	nces 2017-2018. a weight-drop model, organotypic try and microscopy.			
2019	•	BCREGMED Newsletter				
l 2017		Involved in BC Regenerative Medicine Symposium and sponsors, and evaluating abstract submissions in the second symposium workshow the second symposecond symposecond symposecond symposecond symposecond symposecon	m organization, recruiting speakers ns and posters. nops for trainees			

3

0

	¥.	AWARDS
2024 	•	Research Trainee Award Michael Smith Foundation for Health Research
2021		 Project: The impact of the loss-of-function ankyrin-B p.S646F variant on cardiomyocyte and neuronal excitability: Implications for diagnosis and treatment of heart disease.
2019 I	•	NB Gilula Star Award International Gap Junction Conference
2019		Star Award and lecture for top-ranked abstracts.
2019 2019	•	John & Myrtle Tilley Graduate Scholarship University of Victoria - Faculty of Graduate Studies
2019 2019 2016	•	Vera Allen Travel Award for Medical Sciences, University of Victoria - Faculty of Graduate Studies
2019 2015	•	James A. & Laurette Agnew Memorial Scholarship & Award University of Victoria - Faculty of Graduate Studies
2013	•	BC Regenerative Medicine Travel Award BC Regenerative Medicine Network
2018	•	Donald Wagg Graduate Scholarship University of Victoria - Faculty of Graduate Studies
2017 2017 	•	University of Victoria Graduate Award University of Victoria - Faculty of Graduate Studies
2015 2016	•	University of Victoria Student Travel Grant University of Victoria - Faculty of Graduate Studies
2016 2015	•	University of Victoria Fellowship Entrance Award University of Victoria - Faculty of Graduate Studies
2015 2014	•	School of Medicine Dean's List Universidad del Valle - School of Medicine
2007		• Years awarded: 2007, 2009, 2013, 2014
2007 2006	•	Valle del Cauca Public High School Academic Excellence Scholarship Infivalle-Colombia
		PUBLICATIONS
2021 2021	•	A systematic, open-science framework for quantification of cell-types in mouse brain sections using fluorescence microscopy Frontiers in Neuroanatomy
		 Juan C. Sanchez-Arias, Michael Carrier, Simona D. Frederiksen, Olga Shevtsova, Chloe Mckee, Emma van der Slagt, Elisa Gonçalves De Andrade, Hai Lam Nguyen, Penelope A. Young, Marie-Ève Tremblay, Leigh Anne Swayne. DOI: 10.3389/fnana.2021.722443. Type: Original research article.
2021 	•	Purinergic signaling in nervous system health & disease: Focus on pannexin 1 Pharmacology & Therapeutics
2021		 Juan C. Sanchez-Arias, Emma Slagt, Haley A. Vecchiarelli, Rebecca C. Candlish, Nicole York, Penelope A. Young, Olga Shevtsova, Afnan Juma, Marie-Ève Tremblay, Leigh Anne Swayne. DOI: 10.1016/j.pharmthera.2021.107840.

Type: Review article.

Selected presentations

2021	

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

SfN Global Connectome 2021 | Pannexin 1 regulates dendritic protrusion dynamics in developing cortical neurons | Poster

2020

University of British Columbia 2 Annual Tri-Cluster Research Day: The Future of Health | Pannexin 1 regulates dendritic protrusion dynamic 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

🖬 Canadian

Association of Neuroscience Meeting | Pannexin 1 regulates network ensembles and dendritic spine development in cortical somatosensory neurons | Poster

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*

2015

🗗 Canadian Association of Neuroscience Meeting | Investigation of Pannexin 1 in the response of developing neurons to stroke Poster

2020 2020	•	ATP Triggers Macropinocytosis That Internalizes and Is Regulated by PANX1 bioRxiv		
2020		 Andrew K. J. Boyce, Emma Slagt, Juan C. Sanchez-Arias, Leigh Anne Swayne. DOI: 10.1101/2020.11.19.389072. Type: Original research article. 		
2020 2020	•	Pannexin 1 Regulates Dendritic Protrusion Dynamics in Immature Cortical Neurons eNeuro		
		• Juan C. Sanchez-Arias, Rebecca C. Candlish, Emma Slagt, Leigh Anne Swayne. • DOI: 10.1523/ENEURO.0079-20.2020. • Type: Original research article.		
2020 2020	•	PANX1 in Inflammation Heats up: New Mechanistic Insights with Implications for Injury and Infection Cell Calcium		
		 Juan C. Sanchez-Arias, Leigh E. Wicki-Stordeur, Rebecca C. Candlish, Emma Slagt, Irina Paci, Praveen P. N. Rao, Brian A. MacVicar, Leigh Anne Swayne. DOI: 10.1016/j.ceca.2020.102253. Type: Review article. 		
2020	•	Consideration of Pannexin 1 Channels in COVID-19 Pathology and Treatment		
ا 2020		American Journal of Physiology-Lung Cellular and Molecular Physiology		
		 Leigh Anne Swayne, Scott R. Johnstone, Chen Seng Ng, Juan C. Sanchez-Arias, Miranda E. Good, Silvia Penuela, Alexander W. Lohman, Abigail G. Wolpe, Victor E. Laubach, Michael Koval, Brant E. Isakson. DOI: 10.1152/ajplung.00146.2020. Type: Perspective article. 		
2020 2020	•	Ankyrin-B p.S646F undergoes increased proteasome degradation and reduces cell viability in the H9c2 rat ventricular cardiomyoblast cell line Biochemistry & Cell Biology		
		 Lena Chen, Catherine S. W. Choi, Juan C. Sanchez-Arias, Laura T. Arbour, Leigh Anne Swayne. DOI: 10.1139/bcb-2019-0082. Type: Original research article. 		
2020 2020	•	Ankyrin B and Ankyrin B variants differentially modulate intracellular and surface Cav2.1 levels Molecular Brain		
		 Catherine S. W. Choi, Ivana A. Souza, Juan C. Sanchez-Arias, Gerald W. Zamponi, Laura T. Arbour, Leigh Anne Swayne. DOI: 10.1186/s13041-019-0494-8. Type: Original research article. 		
2019 2019	•	A novel motif in the proximal C-terminus of Pannexin 1 regulates cell surface localization Scientific Reports		
		 Anna L. Epp, Sarah N. Ebert, Juan C. Sanchez-Arias, Leigh E. Wicki-Stordeur, Andrew K. J. Boyce, Leigh Anne Swayne. DOI: 10.1038/s41598-019-46144-5. Type: Original research article. 		
2019 2019	•	Exploring the Pannexin 1 interactome: In silico cross-analyses with postsynaptic proteins and neuropsychiatric disorder susceptibility genes bioRxiv		
		 Simona D. Frederiksen, Leigh E. Wicki-Stordeur, Juan C. Sanchez-Arias, Leigh Anne Swayne. DOI: 10.1101/801563. Type: Original research article. 		

2019	•	Pannexin 1 Regulates Network Ensembles and Dendritic Spine Devel in Cortical Neurons	lopment	
2019		eNeuro		
		 Juan C. Sanchez-Arias, Mei Liu, Catherine S. W. Choi, Sarah N. Ebert, Craig E Leigh Anne Swayne. DOI: 101523/ENELIDO 0503-18 2019 	. Brown,	
		Type: Original research article.		
2018 2018	•	Probenecid Disrupts a Novel Pannexin 1-Collapsin Response Mediate Protein 2 Interaction and Increases Microtubule Stability Frontiers in Cellular Neuroscience	or	
		 Xiaoxue Xu, Leigh E. Wicki-Stordeur, Juan C. Sanchez-Arias, Mei Liu, Maria S Catherine S. W. Choi, Leigh A. Swayne. DOI: 10.3389/fncel.2018.00124. Type: Original research article. 	. Weaver,	
2017 2017	•	Upregulation of inflammatory mediators in the ventricular zone afte cortical stroke PROTEOMICS - Clinical Applications	er	
2017		 Adrianna N. Gunton, Juan C. Sanchez-Arias, Esther O. Carmona-Wagner, Le Wicki-Stordeur, Leigh Anne Swayne. DOI: 10.1002/prca.201600092. Type: Original research article. 	igh E.	
2016 	•	Perspectives on the role of Pannexin 1 in neural precursor cell biolog Neural Regeneration Research	у	
2016		 Juan C. Sanchez-Arias, Leigh E. Wicki-Stordeur, Leigh Anne Swayne. DOI: 10.4103/1673-5374.193221. Type: Review article. 		
2016 	•	What Are Neural Stem Cells, and Why Are They Important? Frontiers for Young Kids		
2016		 Leigh Anne Swayne, Juan C. Sanchez-Arias, Agbay Andrew, Stephanie M. W DOI: 10.3389/frym.2016.00020. Type: Review article. 	/illerth.	
2016 2016	•	Pannexin 1 Differentially Affects Neural Precursor Cell Maintenance i Ventricular Zone and Peri-Infarct Cortex Journal of Neuroscience	in the	"Any man could, if he were so inclined, be the
2010		 Leigh E. Wicki-Stordeur, Juan C. Sanchez-Arias, J. Dhaliwal, Esther O. Carmona-Wagner, Valery I. Shestopalov, Diane C. Lagace, Leigh Anne Swayi DOI: 10.1523/JNEUROSCI.0436-15.2016. Type: Original research article. 	ne.	sculptor of his own brain." <i>Santiago Ramón</i> <i>y Cajal</i>
		DATASETS		
2021 	•	PFIA - Pipeline for Image Analysis of Cell Density in Mouse Brain Sec Scholars Portal Dataverse	ctions	
2021		 Juan C. Sanchez-Arias, Michael Carrier, Simona D. Frederiksen, Olga Shevtse Chloe Mckee, Emma van der Slagt, Elisa Gonçalves De Andrade, Hai Lam Ny Penelope A. Young, Marie-Ève Tremblay, Leigh Anne Swayne. DOI: 10.5683/SP2/KRGFTC Test Image Files and Associated Scripts 	ova, guyen,	
		OTHER EDUCATION		
2022 	•	Curso Introductorio en Epidemiologia Genetica y Epigenetica Universidad del Valle - School of Public Health	♀ Virtual	
2022		\cdot Two-week introductory course on Genetic Epidemiology and Epigenetics.		
2021 	•	CodeinPlace 2021 Stanford University	♀ Virtual	
2021		 5-week introductory online Python programming course based on materia the first half of Stanford's introductory programming course, CS106A Project Showcase #153: BrainBeez 	Il from	