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CONTACT INFORMATION

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Google Scholar Profile: <https://scholar.google.com/citations?user=3LVRfeMAAAAJ&hl=en>

EDUCATION AND WORK

- 2021-Present Associate Research Scientist
Director: UCSC Live Cell Biotechnology Discovery Lab
UCSC Genomics Institute
University of California Santa Cruz
- 2017-2021 National Institutes of Health TL1 Postdoctoral Scholar
Eli and Edythe Center for Regeneration Medicine and Stem Cell
Research – University of California San Francisco
Research Topic: Generation of *in vitro* models of cortical assembly and interneuron specification.
Postdoctoral Mentor: Alex Pollen, PhD
- 2011 – 2017 PhD, Molecular and Cellular Biology
Harvard University, Cambridge, MA
Research Topic: *In vivo* reprogramming of neuronal identity and local connectivity in the neocortex.
Thesis Advisor: Paola Arlotta, PhD.
- 2013 MA, Biology
Harvard University, Cambridge, MA
- 2007 – 2011 BS, Biotechnology – Bioinformatics Option. High Honors
Minor: Science, Technology and Society
Rochester Institute of Technology, Rochester, NY

OTHER POSITIONS

- 2020 **Ministry of Foreign Affairs of Bolivia**
Ambassador extraordinary and plenipotentiary for science, technology and innovation to international organizations.
Collaborated with multinational organizations including the United Nations Development Program, the Interamerican Development Bank and USAID to establish technology startups incubators and acceleration laboratories, as well as increase access to science education, with emphasis in Biotechnology.
- 2020 **Ministry of Presidency of Bolivia**
Head of the COVID-19 strategic response team.
Designed Bolivia's COVID-19 response, including lockdowns strategies (among the lowest people mobility in the world), repatriation protocols, testing and treatment strategies. Collaborated with the Health Ministry, the Planning and Development Ministry, the Foreign Affairs Ministry and the Armed Forces. Worked closely with the US Department of State, The US Center for

Disease Control, the US Food and Drug Administration, the White House, MERCOSUR, the Chinese Ministry of Foreign Affairs, the World Health Organization, COVAX and the United Nations Development Program.

2015 – 2020 **Science Clubs Bolivia educational startup**

Chief Executive Officer

Additional responsibilities include leading Instructor recruitment, workshop design, and being part of the Admissions Committee and the Fundraising teams. Workshops were both in-person and web-based. Collaborated closely with the US Department of State. Fundraised over \$1M. Topics included, but were not limited to: Neuroscience, Molecular Biology, Internet of Things, Bioinformatics and network sciences, Microbiology, Oncology, Immunology and Genome Engineering.

RESEARCH GRANTS

Pending: National Institute of Neurological Disorders and Stroke (R01): Developmental mechanisms of motor circuit specialization. \$2.5M (Co-Investigator)

Pending: National Human Genome Research Institute (RM1): Center for Live Cell Genomics; enabling analysis of living tissues. \$10M. (Co-Investigator)

Pending: Brain and Behavior Research Foundation: Evolutionary Insights into SHANK3-Driven Synaptic Dysfunction in Schizophrenia and Autism. \$70K. (Principal Investigator).

Pending: SHANK2 Foundation: SHANK2, Synaptic Plasticity, and Evolutionary Divergence in Autism and Schizophrenia . \$25K. (Principal Investigator).

Pending: National Science Foundation. EFRI BEGIN OI: Reinforcement Learning for Scalable Biocomputing. \$1.9M (Co-Investigator)

Pending: National Institute of Mental Health (U24). UCSC Human Brain Single-cell Genomics Explorer. \$2.5M (Co-Investigator)

2025-2029: California Institute for Regenerative Medicine. DISC4-16337: Defining Neurovascular Metabolism in Neurodevelopmental and Neuropsychiatric Disorders. \$10.3M (Co-Investigator; Lead UCSC Investigator)

2025-2029: California Institute for Regenerative Medicine. DISC4-16285: Deep phenotyping of human brain organoid models of autism spectrum disorders (ASD) to unravel disease heterogeneity and develop new ASD biomarkers and treatments. \$12.3M (Co-Investigator; Lead UCSC Investigator).

2025-2028: University of California Office of the President. M25PR9045: Unraveling disease pathways for autism spectrum disorder with phenotyping of human brain organoids. \$1.8M (Co-Investigator)

2023-2028: National Institute of Mental Health. U24MH132628: Data Resource and Administrative Coordination Center for the Scalable and Systematic Neurobiology of Psychiatric and Neurodevelopmental Disorder Risk Genes Consortium. \$10.1M. (Co-Investigator).

2025-2026: National Science Foundation. 2451680: Accelerating Molecular Dynamics using Coarse-Grained Neural Network Potentials. \$305K. (Co-Principal Investigator, Lead UCSC Investigator)

2024-2025: Center for Information Technology Research in the Interest of Society and the Banatao Institute: Reducing Education Inequalities in Latinx Communities Through Cloud-Enabled Project-Based Learning. \$70K. (Principal Investigator).

2019-2020: National Institutes of Health – Clinical and Translational Sciences Institute TL1 Postdoctoral Fellowship. Project: Establishing chimeric brain organoids as a platform to study neurodevelopmental disorders. (Completed)

2015-2016 Harvard Center for Biological Imaging Simon Award. (Completed)

OUTREACH AND EDUCATION GRANTS

2024-2025: The Center for Information Technology Research in the Interest of Society. Reducing Education Inequalities in Latinx Communities Through Cloud-Enabled Project-Based Learning. (Principal Investigator)

2020: Dana Foundation Brain Awareness Week through the International Brain Research Organization. Project: Brain Awareness Week. Principal Investigator. (Completed)

2019-2020: United States Department of State Federal Assistance Grant SF424 (S-BL400-19-IN0093) in Public Diplomacy. Project: Entrepreneurship education and science diplomacy. Principal Investigator. (Completed)

2019: International Brain Research Organization Global Advocacy Grants. Project: Neuroscience teaching Bolivia. Principal Investigator (Completed)

2018-2019: United States Department of State Federal Assistance Grant SF424 (S-BL400-18-IN0037) in Public Diplomacy. Project: Biology teaching in developing countries. Principal Investigator (Completed)

2017-2018: United States Department of State Federal Assistance Grant SF424 ((S-BL400-17-IN0055) in Public Diplomacy. Project: Science Clubs Bolivia. Principal Investigator (Completed)

2016-2017: United States Department of State Mission Driven Alumni Outreach Program (S-BL400-16-IN0017). Project: Science Clubs Bolivia. Principal Investigator. (Completed)

2015-2016 United States Department of State Federal Assistance Grant SF424 (S-BL400-15-G102) in Public Diplomacy. Project: Science Clubs Bolivia. Principal Investigator (Completed)

ARTICLES CURRENTLY UNDER REVIEW ^Corresponding authorship

Van der Molen T, Spaeth A, Chini M, Hernandez S, Kaurala GA, Schweiger HE, Duncan C, McKenna S, Geng J, Lim M, Bartram J, Dendukuri A, Zhang Z, Gonzalez-Ferrer J, Bhaskaran-Nair K, Blauvelt LJ, Harder CRK, Petzold LR, El Din DMA, Laird J, Schenke M, Smirnova L, Colquitt BM, **Mostajo-Radji MA**, Hansma PK, Teodorescu M, Hierlemann A, Hengen KB, Hanganu-Opatz IL, Kosik KS, Sharf T. (*In Press*). Protosequences in human cortical organoids model intrinsic states in the developing cortex. Nature Neuroscience. Preprint available: <https://www.biorxiv.org/content/10.1101/2023.12.29.573646v2>.

Hernandez S*, Schweiger HE*, Cline I, Kaurala GA, Robbins A, Solis D, Geng, van der Molen T, Reyes F, Asogwa CN, Voitiuk K, Chini M, Rolandi M, Salama SR, Colquitt BM, Sharf T, Haussler, Teodorescu M, **Mostajo-Radji MA**^ (*Under Review*). Self-Organizing Neural Networks in Organoids Reveal Principles of Forebrain Circuit Assembly. Stem Cell Reports. Preprint available: <https://www.biorxiv.org/content/10.1101/2025.05.01.651773v1>.

Gonzalez-Ferrer J*, Lehrer J*, Schweiger HE, Geng J, Hernandez S, Reyes F, Severson JL, Salama SR, Teodorescu M, Haussler D, **Mostajo-Radji MA**^ (*Under Review*). HIPPIE: A Multimodal Deep Learning Model for Electrophysiological Classification of Neurons. Nature Methods. Preprint available: <https://www.biorxiv.org/content/10.1101/2025.03.14.642461v1>.

Robbins A, Schweiger HE, Hernandez S, Spaeth A, Voitiuk K, Parks DF, van der Molen T, Geng J, Sharf T, **Mostajo-Radji MA**, Haussler H[^], Teodorescu T[^]. (Under Review) Goal-Directed Learning in Cortical Organoids. *Cell Reports*. Preprint available: <https://www.biorxiv.org/content/10.1101/2024.12.07.627350v1.full>.

Hawthorne N, Franco C, Draeger E, Hernandez S, Schweiger HE, Vera-Choqueccota S, Nicholson S, Voitiuk K, Hee WS, Krygsman D, Haussler D, Salama SR, **Mostajo-Radji MA**, Mircea Teodorescu[^]. (Under Review). Affordable, Multi-Channel Fluorescence Microscope for Wide Field-of-View Imaging of Fast Neural Activity. *Scientific Reports*.

Geng J, Voitiuk K, Parks DF, Robbins A, Spaeth A, Sevetson JL, Hernandez S, Schweiger HE, Andrews JP, Seiler ST, Elliott MAT, Chang EF, Nowakowski TJ, Currie R, **Mostajo-Radji MA**, Haussler D, Sharf T, Salama SR, Teodorescu M. (Under Review). Multiscale Cloud-based Pipeline for Neuronal Electrophysiology Analysis and Visualization. *Cell Reports Methods*. Preprint available: <https://www.biorxiv.org/content/10.1101/2024.11.14.623530v1>.

Mostajo-Radji[^]. (Under Review). Why Online Science Education Falls Short. *iScience*.

Mostajo-Radji[^]. (Under Review). Teaching Science Diplomacy in the Era of Artificial Intelligence. *Computers and Education Open*.

PUBLISHED ARTICLES

ARTICLES IN SCIENCE *Cofirst authorship; ^Corresponding authorship

Voitiuk K, Seiler ST, Pessoa de Melo M, Geng J, van der Molen T, Hernandez S, Schweiger HE, Sevetson JL, Parks DF, Robbins A, Torres-Montoya S, Ehrlich D, Elliott MAT, Sharf T, Haussler D, **Mostajo-Radji MA**, Salama SR, Teodorescu M. (2025). A feedback-driven IoT microfluidic, electrophysiology, and imaging platform for brain organoid studies. *Internet of Things* 33: 101671.

Tanveer MS, Patel D, Schweiger HE, Abu-Bonsrah K, Watmuff B, Azadi A, Pryshchep S, Narayanan K, Puleo C, Nataraja K, **Mostajo-Radji MA**[^], Kagan B[^], Wang G[^]. (2025). Starting a Synthetic Biological Intelligence Lab from Scratch. *Patterns* 6(5): 101232. (Cover article).

Zabetian Z, Gonzalez-Ferrer J, Lehrer J, Teodorescu M, Haussler D, **Mostajo-Radji MA**[^]. (2025). Protocol for Deep Learning-Driven Cell Type Label Transfer in Single-Cell RNA Sequencing Data. *STAR Protocols* 6:103768.

Gonzalez-Ferrer J, **Mostajo-Radji MA**[^]. (2025). Towards Automated and Explainable High-Throughput Perturbation Analysis in Single Cells. *Patterns* 6(4): 101228.

Mostajo-Radji MA[^], Mancia Leon WR, Breevoort A, Gonzalez-Ferrer J, Schweiger HE, Lehrer J, Zhou L, Schmitz MT, Perez Y, Mukhtar T, Robbins A, Chu J, Andrews MG, Sullivan FN, Tejera D, Choy EC, Paredes MF, Teodorescu M, Kriegstein AR, Alvarez-Buylla A, Pollen AA[^]. (2025). Fate plasticity of interneuron specification. *iScience* 28 (4): 112295.

Kuznetsov M, Teodorescu M, **Mostajo-Radji MA**, Kurniawan S. (2024). QuickVol: a lightweight browser tool for immersive visualizations of volumetric data. *iScience* 27(12): 111379.

Gonzalez-Ferrer J*, Lehrer J*, O'Farrell A, Paten B, Teodorescu M, Haussler D, Jonsson VD[^], **Mostajo-Radji MA[^]**. (2024). SIMS: A deep-learning label transfer tool for single-cell RNA sequencing analysis. *Cell Genomics* 4(6): 100581.

Park Y*, Hernandez S*, Hernandez CO, Schweiger HE, Li H, Voitiuk K, Dechiraju H, Hawthorne N, Muzzy EM, Selberg JA, Sullivan FN, Urcuyo R, Salama SR, Alsankoohi E, Teodorescu M[^], **Mostajo-Radji MA[^]**, Rolandi M[^]. (2024). Modulation of neuronal activity in cortical organoids with bioelectronic delivery of ions and neurotransmitters. *Cell Reports Methods* 4(1): 100686.

Parks DF, Voitiuk K, Geng J, Elliott MAT, Keefe MG, Jung EA, Robbins A, Baudin PV, Ly VT, Hawthorne N, Yong D, Sanso SE, Rezaee N, Sevetson J, Seiler ST, Currie R, Pollen AA, Hengen KB, Nowakowski TJ, **Mostajo-Radji MA**, Salama SR, Teodorescu M, Haussler D. (2022). IoT cloud laboratory: Internet of Things architecture for cellular biology. *Internet of Things*: 100618.

Schmitz MT, Sandoval K, Chen CP, **Mostajo-Radji MA**, Nowakowski TJ, Ye CJ, Paredes MF, Pollen AA. (2022). The Birth, Distribution and Evolution of Inhibitory Neurons in the Primate Cerebrum. *Nature* 603: 871–877.

Andrews MG*, Mukhtar T*, Eze UC, Simoneau C, Ross J, Parikshak N, Wang S, Zhou L, Koontz M, Velmeshev D, Siebert CV, Gemenes KM, Tabata T, Perez Y, Wang L, **Mostajo-Radji MA**, de Majo M, Donohue KC, Shin D, Jahan S, Pollen AA, Nowakowski TJ, Ullian E, Kumar GR, Winkler EA, Crouch E, Ott M, Kriegstein AR. (2022) Tropism of SARS-CoV-2 for Developing Human Cortical Astrocytes. *Proceedings of the National Academy of Sciences* 119 (30): e2122236119

Baudin PV*, Ly VT*, Pansodtee P, Jung EA, Currie R, Hoffman R, Willsey HR, Pollen AA, Nowakowski TJ, Haussler D, Mostajo-Radji MA, Salama SR, & Teodorescu M. (2021). Low cost cloud based remote microscopy for biological sciences. *Internet of Things*: 100454.

Voitiuk K*, Geng J*, Keefe MG, Parks DF, Sanso SE, Hawthorne N, Freeman DB, Currie R, **Mostajo-Radji MA**, Pollen AA, Nowakowski TJ, Salama SR, Teodorescu M, Haussler D. (2021). Light-weight electrophysiology hardware and software platform for cloud-based neural recording experiments. *Journal of Neural Engineering* 18: 066004.

Ly VT*, Baudin PV*, Pansodtee P, Jung EA, Voitiuk K, Rosen YM, Willsey HR, Mantalas GL, Seiler ST, Selberg JA, Cordero SA, Ross JM, Rolandi M, Pollen AA, Nowakowski TJ, Haussler D, **Mostajo-Radji MA**, Salama SR, Teodorescu M. (2021). Picroscope: low-cost system for simultaneous longitudinal biological imaging. *Communications Biology* 4: 1261.

Mostajo-Radji MA, Schmitz M, Torres-Montoya S, Pollen AA. (2020). Reverse engineering human brain evolution using organoid models. *Brain Research* 1729: 146582.

Bhaduri A*, Di Lullo E*, Jung D, Müller S, Crouch EE, Espinoza CS, Ozawa T, Alvarado B, Spatazza J, Cadwell CR, Wilkins G, Velmeshev D, Liu SJ, Malatesta M, Andrews MG, **Mostajo-Radji MA**, Huang EJ, Lim DA, Diaz A, Raleigh DR, Kriegstein AR. (2020). Outer Radial Glia-like Cells are Invasive Tumor Propagating Cells in Glioblastoma. *Cell Stem Cell* 26 (1): 48-63.

Cadwell C*, Bhaduri A*, **Mostajo-Radji MA**, Keef MG, Nowakowski TJ. (2019). Development and Arealization of the Cerebral Cortex. *Neuron* 103(6):980-1004.

Adam Y, Kim JJ, Lou S, Zhao Y, Xie ME, Brinks D, Wu H, **Mostajo-Radji MA**, Kheifets S, Parot V, Chettih S, Williams KJ, Gmeiner B, Farhi SL, Madisen L, Buchanan EK, Kinsella I, Zhou D, Paninski L, Harvey CD, Zeng H, Arlotta P, Campbell RE, Cohen AE. (2019). Voltage imaging and optogenetics reveal behaviour-dependent changes in hippocampal dynamics. *Nature* 569 (7756): 413-417.

Pollen AA*, Bhaduri A*, Andrews MG, Nowakowski TJ, Meyerson O, **Mostajo-Radji MA**, Di Lullo E, Alvarado B, Bedolli M, Dougherty ML, Fiddes I, Kronenberg Z, Shuga J, Leyrat AA, West JA, Bershteyn M, Lowe CB, Pavlovic B, Salama S, Haussler D, Eichler E, Kriegstein AR. (2019). Establishing Cerebral Organoids as Models of Human-Specific Brain Evolution. *Cell* 176 (4): 743-756.

Mostajo-Radji MA^, Pollen AA^ (2018). Physiological Models of Human Brain Development and Disease. *Neuron* 100 (5): 1025-1027.

Mostajo-Radji MA, Pollen AA. (2018). Postmitotic Fate Refinement in the Subplate. *Cell Stem Cell* 23 (1): 7-9.

Nowakowski TJ*, Bhaduri A*, Pollen AA*, Alvarado B, **Mostajo-Radji MA**, Haussler M, Sandoval-Espinoza C, Liu SJ, Velmeshev D, Ounadjela JR, Di Lullo E, Shuga J, Wang D, Lim DA, West JA, Leyrat AA, Kent WJ, Kriegstein AR. (2017). Spatiotemporal gene expression trajectories reveal developmental hierarchies of the human cortex. *Science* 358: 1318-1323

Ye Z*, **Mostajo-Radji MA***, Brown J, Rouaux C, Tomassy GS, Hensch T, Arlotta P. (2015). Instructing perisomatic inhibition by direct lineage reprogramming of neocortical projection neurons. *Neuron* 88 (3): 475-483.

Ferreira LMR*, **Mostajo-Radji MA***^ (2013). How induced pluripotent stem cells are redefining personalized medicine. *Gene* 520 (1): 1-6.

Mostajo-Radji MA*^, Ferreira LMR*. (2012). Changing cell identity to create true personalized medicine. *Gaceta Medica Boliviana* 35 (2): 76-79. (Article in Spanish).

Loy RE, Lueck JD, **Mostajo-Radji MA**, Dirksen RT. (2012). Allele-specific gene silencing in 2 mouse models of skeletal muscle disease. *PLOS ONE* 7 (11): e49757.

ARTICLES IN SCIENCE DIPLOMACY AND SCIENTIFIC ADVICE TO GOVERNMENTS

^Corresponding authorship

Mostajo-Radji MA^ (2023). A Latin American perspective on neurodiplomacy. *Frontiers in Medical Technology* 4: 1005043.

Mostajo-Radji MA^ (2022). The emergence of neurodiplomacy. *iScience* 25 (6): 104370.

Mostajo-Radji MA^ (2021). Pseudoscience in the times of crisis: How and why chlorine dioxide consumption became popular in Latin America during the COVID-19 pandemic. *Frontiers in Political Science* 3:621370.

Awandare G^, André E^, Corrales-Aguilar E^, Chen CJ^, **Mostajo-Radji MA**^, Jancoriene L^, Nemer M. (2020). Science advisers around the world on 2020. *Nature* 588 (7839): 586-588.

Barber K, **Mostajo-Radji MA**^ (2020). Youth Networks' Advances Toward the Sustainable Development Goals During the COVID-19 Pandemic. *Frontiers in Sociology*. 5:589539.

Breevoort A, Carosso GA, **Mostajo-Radji MA**[^]. (2020). High-altitude populations need special considerations for COVID-19. *Nature Communications* 11 (1): 3280.

Ferreira LMR, **Mostajo-Radji MA**[^]. (2020). Plasma-based COVID-19 treatments in low-and middle-income nations pose a high risk of an HIV epidemic. *NPJ Vaccines* 5 (1): 58.

Acosta M, Szlamka Z, **Mostajo-Radji MA**. (2020). Transnational youth networks: an evolving form of public diplomacy to accelerate the Sustainable Development Goals. *SocArXiv*: 8247s.

Carosso GA, Ferreira LMR, **Mostajo-Radji MA**[^]. (2019) Scientists as Non-State Actors of Public Diplomacy *Nature Human Behaviour*. 3: 1129-1130.

Carosso GA, Ferreira LMR, **Mostajo-Radji MA**[^]. (2019). Developing Brains, Developing Nations: Can Scientists be Effective Non-State Diplomats. *Frontiers in Education* 4:95.

Mostajo D, Inochea V, **Mostajo-Radji MA**, Fuchtnner C, Menacho M. The Bolivian experience in attending sexual violence (2012). *International Journal of Gynecology & Obstetrics* 119: S225.

ARTICLES IN STEM EDUCATION [^]Corresponding authorship

Vera-Choqquecotta S, Belmekki BYE, Alouini M-S, Teodorescu M, Haussler D, **Mostajo-Radji MA**[^]. (2025). Reducing education inequalities through cloud-enabled live-cell biotechnology. *Trends in Biotechnology* 43 (1): 43-60.

Sano T*, Sampad MJN*, Gonzalez Ferrer J, Hernandez S, Vera-Choqueccota S, Vargas PA, Urcuyo R, Duran NM, Teodorescu M, Haussler D, Schmidt H[^], **Mostajo-Radji MA**[^]. (2024) . Internet-enabled lab-on-a-chip technology for education. *Scientific Reports* 14: 14364.

Elliott MAT*, Schweiger HE*, Robbins A*, Vera-Choqueccota S, Ehrlich, Hernandez S, Voitiuk K, Geng J, Rosen YM, Salama SR, Teodorescu M, Wagner NO, Haussler H, **Mostajo-Radji MA**[^]. (2023). Internet-connected cortical organoids for project-based stem cell and neuroscience education. *eNeuro* 10 (12): ENEURO.0308-23.2023.

Baudin PV, Sacksteder RE, Worthington AK, Voitiuk K, Ly VT, Hoffman RN, Elliott MAT, Parks DF, Ward R, Torres-Montoya S, Amend F, Duran NM, Vargas PA, Martinez G, Ramirez SR, Alvarado-Arnez LE, Ehrlich D, Rosen YM, Breevoort A, Schouten T, Kurniawan S, Haussler D, Teodorescu M, **Mostajo-Radji MA**[^]. (2022). Cloud-controlled microscopy enables remote project-based biology education in underserved Latinx communities. *Heliyon*: e11596.

Ferreira LMR, Carosso GA, Duran NM, Bohorquez-Massud SV, Vaca-Diez GV, Rivera-Betancourt LI, Rodriguez Y, Ordonez DG, Duran NM, Alatraste-Gonzalez DK, Vacaflones A, Bohorquez S, Auza LG, Schuetz C, Alvarez-Arnez LE, Alexander-Savino CV, Cuellar OG, **Mostajo-Radji MA**[^]. (2019). Effective Participatory Science Education in a Diverse Latin American Population. *Palgrave Communications* 5 (1): 63.

MAJOR AWARDS

Google Cloud Research Innovator; 2023

Diversity, Equity, and Inclusion Action Award; UCSC Genomics Institute; 2023

Global Young Academy; Elected Member 2021-2026

Latin Maya award to showcase influential Latinxs in the US (Networking for the Arts foundation); 2019
25 Drivers of a New Economy (New Economy Magazine); 2018
Honorary Doctorate (Universidad Autonoma del Beni); 2017
Latino 30 under 30 (El Mundo Boston); 2017
Excelsior Award: Science and Technology; 2016 and 2012
Franz Tamayo Medal –Senate of the Plurinational State of Bolivia; 2015
Person of the Year – El Deber Newspaper - Bolivia; 2015
Certificate for Excellence and Distinction in Teaching – Harvard University; 2013
John Wiley Jones Award for Outstanding Students in Science; 2011
Rochester Institute of Technology Distinguished Research Scholar; 2011

PATENTS

Gonzalez-Ferrer J, Lehrer J, **Mostajo-Radji MA**. Neuronal Classification from Electrophysiological Recordings Based on Multimodal Deep Learning. US. Provisional Patent No 63/762,271. Application submitted February 24, 2025.

Lehrer J, Jonsson V, **Mostajo-Radji MA**. [Scalable and interpretable machine learning for single-cell annotation](#). U.S. Provisional Patent No 63/383,388. Publication Date: May 9, 2024.

Mostajo-Radji MA, Schweiger HE. [Methods Of Producing And Using Avian Embryonic Stem Cells And Avian Telencephalic Organoids](#). U.S. Provisional Patent No 63/392,046. Publication Date: January 25, 2024.

Mostajo-Radji MA, Pollen AA. [Methods for generating parvalbumin-positive interneurons](#). U.S. Provisional Patent No. 63/210,742. Publication Date: January 15, 2023.

SELECT SCIENTIFIC PRESENTATIONS

Reducing education inequalities through cloud-enabled live cell biotechnology. *International Conference of Young Scientists*. Hyderabad, India. June 2025.

Cloud-Enabled Live-Cell Biotechnology: Expanding Access to Experimental Science. *University of California San Francisco QBI Seminar Series*. San Francisco, CA. March 2025.

Programming and Reprogramming Neuronal Identity. *Carnegie Mellon University CompBio*. Pittsburgh, PA, February 2025.

Unraveling neuronal fate plasticity and brain evolution using organoids. *Carnegie Mellon University Qatar CompBio Seminar*. Doha, Qatar. January 2025.

Cloud-connected brain organoids for project based education. *IEEE International Conference on Signal Processing, Information, Communication and Systems 2024*. Dhaka, Bangladesh. October 2024. (Virtual)

SIMS: A deep-learning label transfer tool for single-cell RNA sequencing analysis. *Boston Children's Hospital Data Science Seminar Series*. Boston, MA. September 2024.

Unraveling neuronal identities and evolution. *Association for Computer Machinery*. Santa Cruz, CA. May 2024.

Programming the brain. *RIT Croatia Speakers Series*. Dubrovnik, Croatia. April 2024.

A scalable approach to enable project-based learning in underserved communities throughout the world. *9th Arab American Frontiers Symposium (Invited by the US National Academy of Sciences)*. Doha, Qatar. October 2023.

Multimodal neuronal data: the next frontier in big data in biology. *National Institutes of Health Centers of Excellence in Genomics Sciences*. New York City, NY. October 2023.

Brain organoids as models of neuronal circuit establishment. *Universidad de Costa Rica Speakers Series*. San Jose, Costa Rica. September 2023.

Brain organoids as models of neuronal fate plasticity and evolution. *University of Rhode Island Graduate Colloquium*. Kingston, RI. January 2023.

Remote project-based experimental STEM education enabled through the Internet of Things. *5th African Conference on Research in Chemistry Education*. Cairo, Egypt. December 2022.

Fate plasticity of interneuron specification. *Society for Neuroscience Annual Meeting*. San Diego, CA. November 2022.

Cloud-controlled microscopy enables remote project-based biology education in Latinx communities. *National Institutes of Health Centers of Excellence in Genomics Sciences*. Durham, NC. October 2022.

Cloud-controlled microscopy enables remote project-based biology education in underserved communities. *US Africa Frontiers Symposium (Invited by the US National Academy of Sciences)*. Nairobi, Kenya. October 2022.

Studying fate plasticity using brain organoids. *California Institute for Regenerative Medicine (CIRM) Bridges Meeting*. San Diego, CA. July 2022.

Fate plasticity in the cerebral cortex. *1st Central Asia Genomics Symposium*. Tashkent, Uzbekistan. December 2021.

Fate plasticity of interneuron specification. *Society for Neuroscience Annual Meeting*. Chicago, IL. November 2021. (Virtual).

Biology education in public diplomacy. *2021 Tsukuba Conference*. Tsukuba, Japan. September 2021.

Science diplomacy and its impact in Latin American Biotechnology. *Guatemalan Biotechnology Congress*. Guatemala City, Guatemala, November 2020.

Education and Global Community forum 2019. *LeCiel Foundation Symposium*. Barcelona, Spain, November 2019.

Programming and reprogramming neuronal identity. *Allbiotech: Forum for emerging Latin American leaders in Biotechnology*. San Jose, Costa Rica, November 2019.

Programming and reprogramming the brain. *CEIBS Annual Conference*. Granada, Spain, March 2019.

The brain in metamorphosis. *Allbiotech: Forum for emerging Latin American leaders in Biotechnology*. Guanajuato, Mexico, November 2018.

Education and Global Community forum 2018. *LeCiel Foundation Symposium*. Barcelona, Spain, November 2018.

Programming and reprogramming the neocortex. *SymEs Science and Technology Forum*. Granada, Spain, August 2018.

It is time to redefine science outreach in the developing world. *Ministry of Science and Technology Summit*. Bangkok, Thailand. August 2018

Brain organoids to model neurodevelopmental disease. *Bolivian Society of Gynecology and Obstetrics*. Santa Cruz de la Sierra, Bolivia. September 2018.

Science education as a tool of public diplomacy. *Passport DC*. Washington DC. May 2018.

How special is the human brain? Connected: Building bridges in the scientific community. *SymBo: Science and Technology Forum*. Santa Cruz de la Sierra, Bolivia. January 2018

Instructing perisomatic inhibition by direct lineage reprogramming of neocortical projection neurons. *Cortical Development Meeting*. Chania, Greece. May 2017

Rethinking the brain. *TEDx UMSA*. La Paz, Bolivia. May 2017

It is time to reinvent education. *TEDx Don Bosco*. Santa Cruz, Bolivia. February 2017.

Rethinking the brain. *Science and Technology Symposium*. Santa Cruz, Bolivia. January 2017

Changing the brain's mind: Program and reprogramming the cortex. *Clubes de Ciencia Symposium*. Medellin, Colombia. May 2016.

Instructing perisomatic inhibition by direct lineage reprogramming of neocortical projection neurons. *Society for Neuroscience Annual Meeting*. Chicago, Illinois. November 2015.

TEACHING EXPERIENCE

Lead Instructor

Programming and reprogramming the brain – Universidad de Costa Rica, San Jose, Costa Rica – 2023. Academic Hours: 9. This course was an introduction to brain organoids and the use of cloud technologies in neuroscience research.

Pushing the boundaries of brain plasticity – Universidad de Granada; Granada, Spain – 2018. Academic Hours: 40. This course was an introduction to brain plasticity and repair through different techniques: *in vivo* reprogramming of neurons, neuronal transplantation and high-throughput network mapping.

Changing the brain's mind: Principles of brain manipulation – Universidad Catolica Boliviana San Pablo; Santa Cruz, Bolivia – January 2017. Academic Hours: 40. This course was an introduction to neuroscience and principles of brain control. Emphasis was given to neuronal reprogramming and the generation of brain organoids to model neurological disorders. In the lab, students performed neurosurgical procedures on insects.

From Stem Cells to Organism... and back – Universidad Eafit; Medellin, Colombia – June 2016. Academic Hours: 40. This course was an introduction to the principles behind regeneration and reprogramming of cell identity. It was designed for 20 high school students and contains both theoretical and lab components.

From Molecules to disease – Universidad Catolica Boliviana San Pablo; Santa Cruz, Bolivia – January 2016. Academic Hours: 40. This course was an introduction to the molecular mechanisms behind the development of genetic disorders. Students were exposed to molecular techniques and the principles of cell identity. It was designed for 50 medical students and contained both theoretical and lab components.

Humanity Under Attack! – Universidad Modelo; Merida, Mexico – August 2015. Academic Hours: 40. This course was an introduction to Molecular Biology and Genetics within the context of Microbiology and Infectious Diseases. It was designed for 20 high school and college students, and contains both theoretical and lab components.

Current Advances in Personalized Medicine – Universidad San Francisco Xavier; Sucre, Bolivia – July 2015. Academic Hours: 8. This was a lecture-based course designed for medical students and professionals. In this course, students were exposed to the recent advances in personalized medicine, with particular emphasis to stem cell technologies and genome engineering.

Other teaching experience

Scientific Principles of Life – University of California Santa Cruz; Guest Lecturer
Bioethics in the 21st Century – University of California Santa Cruz; Guest Lecturer
Mathematics of the Mind – University of California Santa Cruz; Associate Instructor
Global and Community Health Foundations – University of California Santa Cruz; Guest Lecturer
Junior Seminar – Bates College; Guest Lecturer
Human Developmental and Regenerative Biology – Harvard University: Teaching Fellow
Genetic Engineering – Rochester Institute of Technology: Teaching Assistant
Introduction to Biology – Rochester Institute of Technology: Teaching Assistant
Cell Biology – Rochester Institute of Technology: Teaching Assistant
National Youth Science Academy: Natural Sciences Coordinator and Student Mentor

SCIENCE OUTREACH AND OTHER SERVICES TO THE COMMUNITY

Harvard Stem Cell Institute Internship Program: Member of the Admissions Committee 2014-2022.

UCSF Development Office: Designed and executed science outreach workshops using invertebrate models (insects) and remote control of neurons using the Internet of Things.

Bolivian National Academy of Sciences: Member of the Research Advisory Council since 2017.

Bolivian Chamber of Industry and Commerce: Member of the Innovation Advisory Council since 2017

UCSC Genomics Institute: Lead the design and execution of web-based outreach workshops for underrepresented high school and college students using remote Biology and microscopy experimentation and Internet of Things (IoT) since 2020.

Scientific Advisory Committee to the President of Bolivia: Head of the committee in 2020.

California Institute for Regenerative Medicine: External Data Advisor since 2022.

National Academies of Science, Engineering and Medicine of the United States: Committee Member “Engaging Scientists in Shared Responsible Innovation in Neuroscience in Southeast Asia”, 2023.

Neuronal Cell Fate Study Section – National Institute of Mental Health: Reviewer, 2023.

National Science Foundation: Reviewer for the Biocomputing through EnGINeering Organoid Intelligence panel, 2024.

Chan Zuckerberg Initiative: Advisor to open science program, 2024.

Berkeley City College: Member of the Scientific Advisory Board of the Biotechnology Program since 2024.

Reviewer for the following journals: Nature Communications, Cell Genomics, Cell Systems, Patterns, Cell Reports Methods, iScience, Scientific Reports, Neurobiology of Disease, BMC Biology, Genome Medicine, Computational and Structural Biotechnology, Heliyon, Frontiers in Public Health, Frontiers in Political Science, Frontiers in Molecular Medicine.

MENTORSHIP

I have mentored/co-mentored the following trainees:

Postdocs: Maryam Moarefian (UCSC); Baha E.Y. Belmekki (KAUST).

PhD students: Hunter Schweiger (UCSC); Sebastian Torres-Montoya (UCSC); Sebastian Hernandez (UCSC); Samira Vera-Choqueccota (UCSC); Jesus Gonzalez-Ferrer (UCSC); Nico Hawthorne (UCSC); Maxim Kuznetsov (UCSC).

Master students: Sara Medor (UCSC); Julian Lehrer (UCSC); Arnar Breevoort (Univ. of Amsterdam).

Undergraduate students: Eric Choy (UCSC); Tallulah Schouten (UCSC); Christina Nguyen (UCSC); Frederika Sullivan (UCSC); Isabel Cline (UCSC); Vladimir Luna (UCSC); Nathan Yang (UCSC); Zoe Zabetian (UCSC); Mert Dogrucu (Çanakkale Onsekiz Mart University); Maria Cobo (Autonomous University of Barcelona); Bruno Alvarez (Autonomous University of Barcelona).

Community college students: Francisco Reyes (Berkeley City College); Hannah Hansen (Cabrillo College).

High school students: Anael Roig-Gicquel; Zaina Alnahlawi; Humam Al Shami.

OTHER SKILLS AND CERTIFICATIONS

Languages: English (Fluent), Spanish (Native), American Sign Language (Intermediate)

Courses: Mentoring Graduate Students, Post Docs & Early Career Faculty (National Research Mentoring Network)