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Personal details:

Name: Oscar Marcelo Lazo Jerez
Email address: lab@oscarlazo.cl
Postal address: Flat 23, Ricardo Lyon 755. Providencia. Santiago de Chile.
Phone numbers: +569 8420 4644 (Chile) and +44 7491 896565 (UK)
Website: http://oscarlazo.cl

LinkedIn: https://www.linkedin.com/in/omlazo/
Research Gate: https://www.researchgate.net/profile/Oscar-Lazo
Web of Science: https://www.webofscience.com/wos/author/record/H-4209-2019
ORCID: https://orcid.org/my-orcid?orcid=0000-0003-4542-482X

Education

2011	**Doctor en Ciencias Biológicas, mención Ciencias Fisiológicas** PhD in Physiology, Pontificia Universidad Católica de Chile Thesis: *"El tráfico del receptor TrkB en la ruta de reciclaje regulada por Rab11, es necesario para la ramificación dendrítica inducida por BDNF en neuronas hipocampales cultivadas en baja densidad"* Supervisor: Prof. Francisca Bronfman (PUC) | Co-supervisor: Prof. Andrés Couve (U de Chile)
2007	**Magister en Ciencias Biológicas** MSc in Biological Sciences, Pontificia Universidad Católica de Chile
2006	**Licenciado en Ciencias Biológicas** Pontificia Universidad Católica de Chile

Positions

Oct 2026- *to date*	**Assistant Professor**. Pontificia Universidad Católica de Chile Faculty of Biological Sciences and Faculty of Medicine. Group leader of The Integrative Neurobiology Lab.
Nov 2024- *to date*	**Research Fellow**. University College London UCL Queen Square Institute of Neurology, Dept. Neuromuscular Diseases UK Dementia Research Institute
Jan 2025- Sep 2026	**Assistant Professor**. Universidad San Sebastián School of Psychology. Faculty of Psychology and Humanities. Neuroscience and cognition academic area coordinator. Principal Investigator The Integrative Neurobiology Lab.
Nov 2023- Oct 2024	**Honorary Senior Research Fellow**. University College London. Senior Postdoctoral position at the UCL Queen Square Institute of Neurology, and UK Dementia Research Institute.
Jan 2019- Oct 2023	**Research Fellow**. University College London. Senior Postdoctoral position at the UCL Queen Square Institute of Neurology, and UK Dementia Research Institute.
Mar 2023- Dec 2024	**Lecturer**. Universidad San Sebastián Faculty of Psychology and Humanities

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Mar 2023- Dec 2024	**Lecturer**. Pontificia Universidad Católica de Chile Programme of education and talent development, PENTA UC.
Mar 2023- Dec 2024	**Adjunct Professor (A1)**. Universidad Internacional SEK Chile Faculty of Health Sciences
Mar 2023- Dec 2024	**Adjunct Full Professor**. UNIACC Faculty of Psychology
Nov 2016- Nov 2019	**Newton International Fellow**. University College London / The Royal Society. Senior postdoctoral position at the UCL Queen Square Institute of Neurology, Sobell Department of Movement Neuroscience and Neuromuscular Diseases.
Mar 2013- Jan 2016	**Adjunct Assistant Professor**. Universidad Andrés Bello. Department of Biological Sciences, School of Psychology and Direction of Teaching Development and Innovation
Jul 2011- Feb 2013	**Postdoctoral Researcher**. Pontificia Universidad Católica de Chile. Faculty of Biological Sciences, Center of Aging and Regeneration (CARE) Chile UC, Millenium Nucleus of Regenerative Biology (MINREB).
Mar 2011- Dec 2015	**Lecturer**. Pontificia Universidad Católica de Chile. Programme of education and talent development, PENTA UC.

Academic products las 5 years

Conferences

2026 **Lazo OM**. "Todas las personas con síndrome de Down van a tener Alzheimer (y lo que vamos a hacer para tratar de evitarlo)". *Neurofest*, Universidad de Santiago de Chile (USACH). Santiago, Chile.

2026 **Lazo OM**. "Alzheimer en síndrome de Dow: un enfoque integrativo para estudiar resiliencia neurológica". Pontificia Universidad Católica de Chile, Facultad de Medicina. Santiago, Chile.

2026 **Lazo OM**. "Down the road: interdisciplinary challenges and opportunities for research in Alzheimer's disease in Down syndrome". *Creando el futuro de los adultos con síndrome de Down — Día Mundial del Síndrome de Down*, Universidad San Sebastián. Santiago, Chile.

2026 **Lazo OM**. "Down the road: interdisciplinary challenges and opportunities for research in Alzheimer's disease in Down syndrome". *Brain-talk*, University of Nottingham. Nottingham, UK.

2025 **Lazo OM**. "*Compliance* en los seres vivos: innovación, identidad e integridad". BancoEstado. Santiago, Chile.

2025 **Lazo OM**. "De las células sin membrana al holobionte: algunas ideas sobre la materialidad biológica de la mente". *Trayectorias de la Psicoterapia Constructivista Cognitiva: Desafíos Contemporáneos.* FACSO, Universidad de Chile. Santiago, Chile.

2025 **Lazo OM**. "Down the road: desafíos y oportunidades interdisciplinarias en la investigación de Alzheimer en Síndrome de Down". Interdisciplinary Seminars. Centro de Biología Celular y Biomedicina (CEBICEM), Universidad San Sebastián. Santiago, Chile.

2025 **Lazo OM** and Schiavo G. "Charting the molecular identity of Rab10-positive neuronal organelles using immunoisolation and proteomics: some preliminary findings and BDNF regulation". *Gordon Research Seminar & Gordon Research Conference Neurotrophic Mechanisms in Health and Disease*. Salve Regina University. Newport, RI, United States of America.



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2025 **Lazo OM**. "Flexibilidad del sistema endosomal y resiliencia a la enfermedad de Alzheimer en Síndrome de Down". Biological Science Faculty Seminars. Pontificia Universidad Católica de Chile. Santiago, Chile.

2025 **Lazo OM** and Schiavo G. "Charting the molecular identity of Rab10-positive neuronal organelles using immunoisolation and proteomics: preliminary findings". IUBMB-EMBO Focused Meeting on *Emerging Concepts of the Neuronal Cytoskeleton*. Marbella, Chile.

2024 **Flores T y Lazo OM**. "Monstruosidades, resiliencia y sexualidades". *Jornadas de Filosofía y Humanidades de la Psiquiatría*. Clínica Psiquiátrica Universitaria, Universidad de Chile. Santiago, Chile.

2024 **Lazo OM**. "Alzheimer en Síndrome de Down: de la vulnerabilidad a la resiliencia neurológica". *Tertulias de música, poesía y ciencia*. Centro Cultural de España. Santiago, Chile.

2024 **Lazo OM**. "Integrar para entender: aprendiendo de la diversidad más allá de la justicia". *Neurofest 2024*. Plataforma Cultural Universidad de Chile. Santiago, Chile.

2024 **Lazo OM**. "Los organismos vivos: el equipo de *compliance* más antiguo del mundo". *Más que compliance 2024*. Santiago, Chile.

2024 **Lazo OM**. "Simbiosis y autonomía: algunas ideas sobre la materialidad biológica de la mente". *Biológica-mente*. Facultad de Psicología y Humanidades, Universidad San Sebastián. Santiago, Chile.

2024 **Lazo OM**. "Illusions, heroes and triangles: some ideas to present your research in a way that people remember" at the roundtable "Presenting your Research 101". *Dementia Researcher Salon*. Dementia Researcher Communities App, United Kingdom.

2024 **Lazo OM**. "Resiliencia neurológica: De la flexibilidad endosomal al Síndrome de Down como modelo de Alzheimer". *Seminarios CBA-USACH*. Departamento de Química y Biología, Universidad de Santiago de Chile. Santiago, Chile.

2024 Martínez-Alarcón N., Céspedes D., Flores T. and **Lazo OM**. "Intuición y difracción para una biología en movimiento: reflexiones sobre las prácticas de investigación y métodos de exploración de los sistemas biológicos". *Biblioteca Archivo y Museo Masónico, Gran Logia de Chile*. Santiago, Chile.

2023 **Lazo OM** . "La Paradoja de los Neuroderechos: bioética social y neurotecnologías". *Día de la Innovación Legal (DIL) 2023*. Santiago, Chile.

2023 **Lazo OM** and Schiavo G. "Rab10 and endosomal plasticity: Neuronal mechanisms behind neurological resilience". *XXXV Annual Meeting of the Chilean Society for Cell Biology*. Puerto Varas, Chile.

2023 Martínez-Alarcón N., Céspedes D., Flores T. and **Lazo OM**. "Fixing the cell? Intuition and diffraction for a biology in motion". Plenary Lecture. *XXXV Annual Meeting of the Chilean Society for Cell Biology*. Puerto Varas, Chile.

2023 **Lazo OM**. "Taking the barriers Down: Studying neurological resilience from neurons to human populations". *Meeting CSCN & BrainLat*. Universidad Adolfo Ibañez, BrainLat Institute. Santiago, Chile.

2023 **Lazo OM** and Schiavo G. "Rab10-dependent flexibility of TrkB sorting for retrograde axonal transport as a source of neurological resilience to neurodegeneration". *Gordon Research Seminar & Gordon Research Conference Neurotrophic Mechanisms in Health and Disease*. Salve Regina University. Newport, RI, United States of America.

2023 **Lazo OM**. "Closing the gap between cells and patients in Alzheimer's disease: signalling endosomes, neurological resilience and Down Syndrome". *Centro Ciencia & Vida Seminar Series, Fundación Ciencia y Vida* and *Universidad San Sebastián*. Santiago, Chile.

2023 **Lazo OM**. "De la resiliencia neurológica a los nuevos blancos terapéuticos: haciendo foco en la flexibilidad del sistema endosomal". *Instituto de Ciencias Biomédicas, Universidad Andrés Bello*. Santiago, Chile.

2023 **Lazo OM** and Schiavo G. "Flexibility of the sorting of signalling endosomes to axonal transport: a (not that) novel therapeutic target". IUBMB-EMBO Focused Meeting on *Emerging Concepts of the Neuronal Cytoskeleton*. Santa Cruz, Chile.

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2022 **Lazo OM** and Schiavo G. "Anterograde delivery of Rab10-organelles regulates the sorting of internalised TrkB to retrograde axonal transport: A flexibility factor". *Neuroscience 2022*. Society for Neuroscience. San Diego, CA, United States of America.

2022 **Lazo OM** and Schiavo G. "Flexibility of the sorting of signalling endosomes to axonal transport: a (not that) novel therapeutic target". *UK Dementia Research Institute Connectome 2022*. Brighton, United Kingdom.

2022 **Lazo OM** and Schiavo G. "Anterograde delivery of Rab10-organelles regulates the sorting of internalised TrkB for retrograde axonal transport". *FENS Forum*. Federation of European Neuroscience Societies. Paris, France.

2022 **Lazo OM**. "Flexibility of the endosomal system as a novel therapeutic target in dementia". *UCL Queen Square Institute of Neurology Seminar Series*. London, United Kingdom.

2021 **Lazo OM** and Schiavo G. "Anterograde delivery of Rab10-organelles regulates the sorting of internalised TrkB for retrograde axonal transport". 2021 *Colloquium series in Cell Biology: Young investigators*. Sociedad de Biología Celular de Chile, Chile.

2021 **Lazo OM**. "La paradoja de los Neuroderechos". *XXXVIII Congreso Sociedad de Psiquiatría y Neurología Infantil (SOPNIA).* Santiago, Chile.

2021 **Lazo OM**. "Controlando la señalización neurotrófica en tiempo y lugar: Rab10 como un nuevo blanco terapéutico en demencia*". Instituto de Neurociencias Castilla y León Seminar Series*, Universidad de Salamanca. Salamanca, Spain.

2020 **Lazo OM** and Schiavo G. "Rab10 as a novel regulator of the sorting of TrkB receptors to retrograde axonal transport". *UK Membrane Trafficking Meeting 2020*. London, United Kingdom.

2020 **Lazo OM**. "Rab10 como blanco terapéutico en demencia: controlando la señalización neurotrófica en tiempo y lugar". *CIB Webinar Series*, Universidad Mayor. Santiago, Chile.

2020 **Lazo OM**. and Schiavo, G. "Rab10 as a novel regulator of the sorting of TrkB receptors to retrograde axonal transport". *NGF Webinar Series 2020*.

Peer-reviewed Scientific papers

2026 Blackburn E, Birsa N, Lopes AT, Fisher EMC, **Lazo OM** and Schiavo G. "Impaired BDNF-TrkB trafficking and signalling in Down syndrome basal forebrain neurons". *Cell Death and Disease*. doi: doi.org/10.1038/s41419-026-08464-z

2024 Moya-Alvarado G, Valero-Peña X, Aguirre-Soto A, Bustos FJ, **Lazo OM** and Bronfman FC. "PLC-γ-Ca2+ pathway regulates axonal TrkB endocytosis and is required for long-distance propagation of BDNF signaling". *Frontiers in Molecular Neuroscience*. doi: 10.3389/fnmol.2024.1009404.

2023 **Lazo OM** and Schiavo G. "Rab10 regulates the sorting of internalised TrkB to retrograde axonal transport". *eLife*. **12**:e81532. doi: 10.7554/eLife.81532.

2023 Panzi C, Surana S, De La-Rocque S, Moretto E, **Lazo OM** and Schiavo G. "Botulinum neurotoxin A modulates the axonal release of pathological tau in hippocampal neurons". *Toxicon*. doi: 10.1016/j.toxicon.2023.107110.

2022 Conde C, Bates EA, García C and **Lazo OM**. "Editorial: Neuronal cytoskeleton and GTPases in health and disease". *Frontiers in Cellular and Developmental Biology*. doi: 10.3389/fcell.2022.1025527.

2020 González AG, **Lazo OM**, Bronfman FC. "The Rab5-Rab11 endosomal pathway is required for BDNF-induced CREB transcriptional regulation in hippocampal neurons". *The Journal of Neuroscience*. doi: 10.1523/JNEUROSCI.2063-19.2020.

2020 Surana S, Villarroel-Campos D, **Lazo OM**, Moretto E, Tosolini AP, Rhymes ER, Richter S, Sleigh JN, Schiavo G. "The evolution of the axonal transport toolkit". *Traffic*. doi: 10.1111/tra.12710.

Other publications

2021 **Lazo OM**. "Randy Schekman: Conocer es la esencia del ser humano" [Spanish], interview to Prof. Randy Schekman en "70 Mensajes para el Futuro", Edited by Roblero Cum, ME. and Rojas Escobar, H. *Ediciones Mensaje*. ISBN: 978-956-8662-29-5

2017 **Lazo OM**. "Innovación metodológica en educación técnico-profesional: una propuesta neuro-educativa" [Spanish]. *Guías de Reflexión Pedagógica*. Federación Internacional Fe y Alegría. Available via Zenodo. *doi: 10.5281/zenodo.1479915*.

Editorial roles

2023- *to date* **Review Editor.** Frontiers in Molecular Neuroscience (Plasticity and Development).

2021-2022 **Guest Associate Editor**. Frontiers in Cell and Development Biology (Membrane Traffic).

2017- *to date* **Peer Reviewer**. Including eLife, Science, FEBS Letters, PNAS, Scientific Reports, Journal of Neuroscience Research, Life Science Alliance, eNeuro, Neurobiology of Disease, Small, Frontiers in Cell and Development Biology, Frontiers in Molecular Neuroscience, Molecular Biology of the Cell, y STAR Protocols.

Fellowships and Research Grants

2024-2027 **UK Medical Research Council (MRC) Grant.** "Exploiting intrinsic neurological resilience controlled by Rab10 as a therapeutic target for Alzheimer's Disease in Down Syndrome".

2019-2023 **UK Medical Research Council (MRC) Grant.** "Rescuing neurotrophic signalling through Rab10: a novel therapeutic target for Alzheimer's disease".

2016-2018 **The Royal Society Newton International Fellowship**. "Neurotrophins and the balance between retrograde signalling and autophagic flux in the axon".

2016-2018 **Becas Chile Postdoctorado en el Extranjero.** "Regulation of neurotrophin receptor retrograde transport and signalling by Rab10".

2009 **Beca de Asistencia a Congresos y Cursos Cortos en el Extranjero**
Neuroscience 2009, San Diego, CA, EE.UU. CONICYT, Chile

2008-2009 **Beca CONICYT de Apoyo a la Realización de la Tesis Doctoral.** "Internalización y tráfico post-endocítico de TrkB como determinantes en la respuesta funcional a BDNF en neuronas".

2008 **Beca de Asistencia a Congresos y Cursos Cortos en el Extranjero.**
GRC Neurotrophic Factors 2008, Newport, RI, EE.UU. CONICYT, Chile

2007-2010 **Beca de Instructor Becario**. Vicerrectoría Académica de Investigación y Doctorado, Pontificia Universidad Católica de Chile.

2006 **Beca de Ayudante Becario**. Vicerrectoría Académica de Investigación y Doctorado, Pontificia Universidad Católica de Chile.

Collaboration and Society Outreach last 5 years

Consultancy and technology transfer

2024 **Stefanella Costa / Diego Portales University**. Neurobiology insights in attachment theory, editorial support, academic strategy.

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2024	**Daniel Fernández / Memética**. Translation, edition and review of academic works in the area of theoretical biology, neuroscience, managemente and artificial intelligence.
2023- *to date*	**Revista Mensaje**. Member of the Board.
2023- *to date*	**Consejo Nacional de Ciencia, Tecnología, Conocimiento e Innovación para del Desarrollo**. Member of the committee "Revolución Biológica" at the anticipation panel "Chile Crea Futuro" (2023). Participant of the Research Roundtable for the update of the National Strategy of Science, Technology, Knowledge and Innovation (2025)
2015- *to date*	**EOL Research / Amor por la marca**. Neuroscientific applications for market segmentation, business intelligence and development of a novel UX/CX analysis platform. Scientific content production and edition for clients and social media. Corporate talks.

Coordination roles

2020- *to date*	**NGF Webinar series**. Head of the Organising Committee.
2019- *2024*	**Early Career Researchers Committee, UCL Queen Square Institute of Neurology**. Member of the organising committee for the IoN Seminar Series and other early career researchers community events.
2016- *2026*	**Instituto Igualdad**. Coordinator of the Programme of Science, Technology, Knowledge and Innovation. Organisation of seminars, preparation of political programmes for presidential campaigns, policy papers for members of the parliament. Representative at discussion tables between political parties and the Ministry of Science.

Workshops, events and media

2025	**Dementia Researcher Salon Debates**. Should be genetic testing for dementia be routine? Debate hosted by Adam Smith at the Dementia Researcher platform, to discuss about whether genetic tests for dementia should be available for everyone over 40.
2024	**Música para el Cerebro**. Monthly scientific interviews + concerts with neuroscientists live at "La Casa en el Aire".
2024	**Social Media**. Neuroscience content for social media at @cerebropublico on Instagram.
2013-2023	**Radio Horizonte and others**. Science columnist at the radio show "Cocaví".

Teaching experience last 5 years

Undergraduate

2026	***Introducción a las Metodologías de Investigación*** (PSIC XXXX), ~90 students per cohort Lecturer — Universidad San Sebastián. Faculty of Psychology and Humanities
2026	***Proyecto de Investigación*** (PSIC XXXX), ~20 students per cohort Supervisor — Universidad San Sebastián. Faculty of Psychology and Humanities
2025 - 2026	***Neurociencia*** (PSIC BA01), ~100 students per cohort Lecturer — Universidad San Sebastián. Faculty of Psychology and Humanities
2024 - 2026	***Fundamentos Biológicos del Comportamiento*** (PSIC AA01), ~130 students per cohort Lecturer and coordinator— Universidad San Sebastián. Faculty of Psychology and Humanities.
2024	***Taller de Escritura Académica*** (PSIC BA04), ~20 students per cohort Lecturer — Universidad San Sebastián. Faculty of Psychology and Humanities.

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2024 ***Neuropsicología*** (PSIC B001), ~100 students per cohort
Lecturer — Universidad San Sebastián. Faculty of Psychology and Humanities.

2023-2024 ***Biología Celular y Genética*** (OBSD18102), ~45 students per cohort
Farmacología (OBSD18401), ~45 students per cohort
Lecturer — Universidad Internacional SEK. Faculty of Health Sciences.

2022 ***How the brain works and what can go wrong*** (ISSU0065), ~30 students
Lecturer — University College London. ISSU, UCL International Summer School.

Postgraduate

2026 ***Psicofisiología de las Emociones Humanas*** – Programa de Doctorado en Psicología y Salud Mental, Universidad San Sebastián.

2025 ***Simbiosis: Nunca fuimos individuos*** – Transdisciplinary workshop in arts and cell biology around the legacy of Lynn Margulis — Fundación Ciencia & Vida / Universidad San Sebastián.
Research Development Programme.

2022 ***Principles of Open Science*** – Workshop for Master and PhD students
Invited Instructor — University College London, UCL Queen Square Institute of Neurology.
Research Development Programme.

2021 ***Scientific posters 101*** – Workshop for Master and PhD students
Invited Instructor — University College London, UCL Queen Square Institute of Neurology.
Research Development Programme.

Individual supervision

2025- *to date* **Direct Supervisor.** André Teixeira Lopes, Postdoctoral researcher at University College London. UK MRC Project on Alzheimer's Disease in Down Syndrome.

2025- *to date* **Primary Supervisor.** Paula Aránguiz, PhD Programme on Psychology and Mental Health at Universidad San Sebastián. *"Indicadores fisiológicos y estrategias de regulación emocional: Un estudio en niños pre-escolares con y sin TEA en el contexto chileno"*

2021-2022 **Secondary Supervisor.** Emily Blackburn, Wolfson-Eisai doctoral student at University College London. *"Trafficking and neurotrophic signalling in Dp1tyb-derived basal forebrain neurons"*

2020-2021 **Rotation Supervisor.** Emily Blackburn, Wolfson-Eisai doctoral student at University College London. *"Neurotrophic signalling in basal forebrain and hippocampal neurons"*

2020-2022 **Permanent Thesis Committee Member.** Chiara Panzi. PhD scholar of the Alzheimer Society at University College London. *"Modulation of the spread of pathological tau in vitro and in vivo"*

2020 **Rotation Supervisor.** Rachel Coneys, Wolfson-Eisai doctoral student at University College London. *"Potential of Rab10 to rescue neurotrophic signalling deficits in a neuronal model of Alzheimer's disease".*

2019-2020 **Rotation Supervisor.** Amy Hicks, Wolfson-Eisai doctoral student at University College London. *"The impact of Rab10 manipulation on neurotrophic signalling and trafficking in cellular models of Alzheimer's disease"*

Children

2023-2024 ***Laboratorio de Cerebros*** – 16-17 years old, ~25 students
Cerebro Social: neurociencias para la sociedad – 12-13 years old, ~20 students
Inteligencias biológicas | Inteligencias artificiales – 12-13 years old, ~25 students
Transformar con Ciencias – 12-13 years old, ~20 students
Cerebros a Control Remoto – 11 years old, ~20 students

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Lecturer — Pontificia Universidad Católica de Chile,
Academy of Talents Rolando Chuaqui
Programme of Education and Talent Development PENTA UC