

MILLENNIUM INSTITUTE OF BIOMEDICAL NEUROSCIENCE BNI

Impact Area: Health
Speciality: Nervous system

The Millennium Institute of Biomedical Neuroscience, BNI, brings together around 200 people; among them students, basic neuroscientists, clinicians, and mathematicians, who form a critical mass around state-of-the-art infrastructure to carry out first-class research in neuroscience, and contribute to technology and education.

They explore the brain's structure and its function, from the whole organism to the cell, and investigate the molecular mechanism of neurological and psychiatric diseases through complementary research lines, multiple genetic models, applied mathematics, proximity to the clinic and cutting-edge technology. Furthermore, the international networks of scientific collaboration consolidated with the Northern Hemisphere and Latin America, and the organization of scientific courses and meetings, make BNI a unique institute in Chile and a leader in neuroscience in the region.

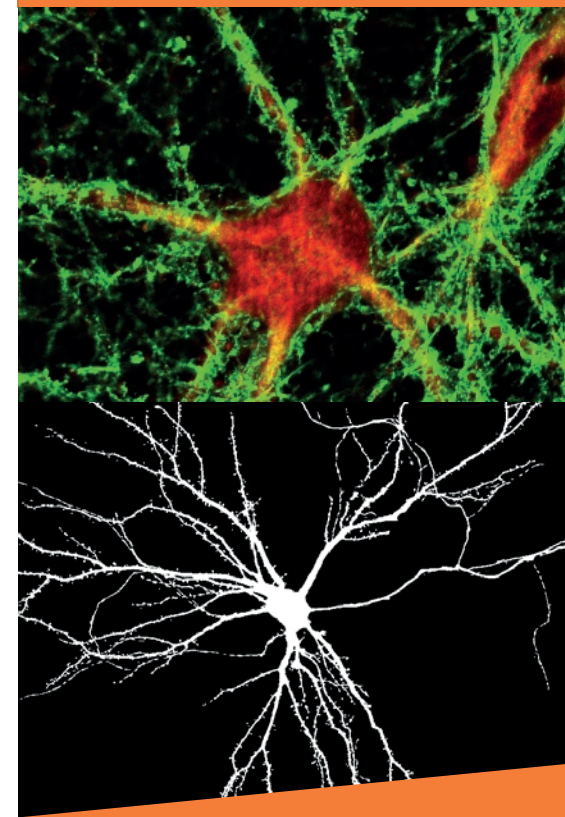
In a transdisciplinary environment, a new researcher's generation, clinicians, and leading professionals in the neuroscience area are trained and organized. The results of their research are published in prestigious international journals and are transferred to society through the new technological discovery approaches applied to diagnosis, therapy, and brain-machine interface, to improve people's quality of life.

They generate an applied science projects portfolio, solid strategic financing alliances with public and private institutions, professional management of innovation and technology transfer. In addition, they bring neuroscience to specialized communities and the public, promoting the value of science as a transforming agent.

Research lines:

- Subcellular functional dynamics.
- Identity and cell morphology.
- Supra-cellular and circuit development.
- Plasticity and behaviour.
- System neuroscience.
- Clinical research.
- Applied mathematics and biomedical informatics.
- Neuropathology.

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>> SCIENTIFIC PRODUCTIVITY:

ISI: **196**
Patents: **4**
Intellectual property records: **5**

*Data updated by Millennium
Centers to March 2021





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>> CONTACT INFORMATION:

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>> OUTREACH ACTIVITIES:

- The Loligo education platform (www.loligo.cl) contains various tools to bring neuroscience closer to the community and promote scientific culture. The platform consists of interactive comics, games to learn about Neuroscience, documentaries and educational audio-visual capsules. It also incorporates an Alliance between the BNI and Bio interactive of the Howard Hughes Medical Institute (HHMI), which has short films, animations, interactive material and work guides translated into Spanish and adapted to the national curriculum to improve the teaching skills of Chilean teachers, through in person workshops.
- The BNI also develops an intense agenda for the scientific dissemination and technological knowledge to citizens and has an active presence on social media (Facebook: Dendros BNI community - Twitter: institutoBNI- Instagram: neuroBNI).
- Dendros, online comic (2016): ninth chapter of the ten-page interactive online comic that will be available at www.loligo.cl/dendros.
- Brain Dome, a trip through Chile (2016): two exhibitions of the "Brain Dome" in the country regions.

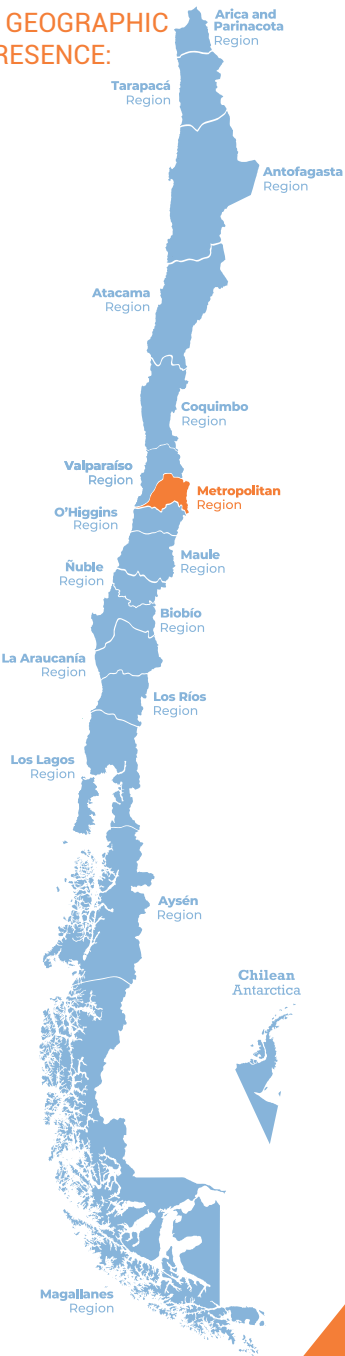
>> RESEARCHERS:

Associate researchers:
Steffen Härtel Gründler; Miguel Concha Nordemann; Pedro; Maldonado Arbogast; Jimena Sierralta Jara.

Assistant researchers:
José Luis Valdés Guerrero; Pablo Gaspar Ramos; María Soledad Matus Montero; Patricio Olguín Aguilera; Andrea Paula Lima; René Vidal Gómez; Rómulo Fuentes Flores; José Manuel Matamala Capponi; Mauricio Cerda Villablanca.

Senior researchers:
Hernán Silva Ibarra; María Cecilia Hidalgo Tapia.

>> GEOGRAPHIC PRESENCE:



>> MAIN ACHIEVEMENTS:

- 196 ISI publications 2011-2015 and average impact factor 7.52 in 2014, comparable to the international excellence centers.
- 38 doctoral students, 18 masters and 20 undergraduate graduates among 2011-2015.
- Potential therapy patent to treat Alzheimer's disease after proving the effectiveness of increasing the XBP1 protein in the brain.
- Establishment of unique capabilities in optical microscopy (confocal, spinning-disc, light sheet, PALM super resolution, tissue-scanner).
- International networks establishment in advanced microscopy and neuroscience in Latin America (NeuroSur).