

CURRICULUM VITAE

PERSONAL DATA

Name David Olivier Naranjo Donoso
National Identity Number: 7.101.555-6
Birth date: 17/10/1957
Gender: Male
Citizenship Chilean

Academic Degrees: Doctor en Ciencias mención Biología, Universidad de Chile, 1991,
Licenciado en Ciencias mención Biología, Universidad de Chile,
1984.

Current position: Profesor Titular, Centro interdisciplinario de Neurociencia e
Instituto de Neurociencia, Universidad de Valparaíso.

Street Address: Pasaje Harrington 287, Playa Ancha, Valparaíso, Chile

Telephone: 5632 250 8024
Fax: 5632 250 8027
Electronic address: david.naranjo@uv.cl
Web Site: www.cnv.cl/www.cinv.cl

ACADEMIC AND PROFESSIONAL EXPERIENCE

Positions and Employment

2002- Profesor Titular, Centro Interdisciplinario de Neurociencia, Universidad de
Valparaíso, Valparaíso.
1997-2002 Investigador Titular A. Instituto de Fisiología Celular, Universidad Nacional
Autónoma de México. Distrito Federal, México
1993-1997 Postdoctoral fellow, Graduate Department of Biochemistry, Brandeis
University, Waltham MA, USA.
1991-1993 Post doctoral fellow, Department of Neurobiology and Behavior, State
University of New York at Stony Brook, Stony Brook, NY, USA.
2012-2013 Visiting Scientist, Vollum Institute, Oregon Health and Science University,
Portland, OR. USA.

University Administration

2006-2009 Member of the Academic Hierarchy committee
2007-2011 Chair. Doctorado en Ciencias mención Neurociencia, U. de Valparaíso.
2009-2011 Chair, Comité de autoevaluación y acreditación de Doctorado en Ciencias
mención Neurociencia

Membership to Scientific Societies

1990 - Present	Sociedad de Biofísicos Latinoamericanos
1994 - Present	Biophysical Society, USA
2003 - Present	Society of General Physiologists, USA
2006 - Present	Sociedad Chilena de Neurociencias.

Grants and Awards

1989 - 1991	C.E.C.S Graduate Fellowship
1990	Biophysical Society travel award for Latin-American Students
1998 - 2002	Member of Sistema Nacional de Investigadores de México, Level I
1997 - 1999	Principal Investigator: DGAPA-UNAM IN200397
1998 - 2001	Principal Investigator: CONACyT 25247N
1999	Foreign visiting professor. Fundación Andes, Chile
2000 - 2001	Principal Investigator DGAPA-UNAM IN217799
2002 - 2006	Co-investigador Fondecyt 1020899
2003 - 2007	Principal Investigator Fondecyt 1030285
2005 - 2007	Co-investigador Anillo de Ciencia y Tecnología #46
2007 - 2008	Head Proyecto MECESUP2 UVA0603
2009 - 2011	Principal Investigator Fondecyt 1090493
2011 -	Co-investigador Millenium Institute “Centro Interdisciplinario de Neurociencia”
2012 - 2014	Principal Investigator Fondecyt 1120819
2012 - 2015	Co-investigador Fondecyt # 1131003
2012 - 2015	Co-investigador Fondecyt # 1130652
2012 - 2015	Co-investigador PIA-Conicyt #ACT1107

Peer and editorial reviews/board

Grant Reviewer panel for Fondecyt and Conicyt (Chile), Conacyt (Mexico), Conicet (Argentina), Colciencias (Colombia), NSF (USA).

Reviewer for *The Biophysical Journal*, *The Journal of General Physiology*, *Journal of Biological Chemistry*, *The Journal of Physiology*.

Editorial Board: 2010- *Frontiers in Physiology*

THESES ADVISORSHIPS

Undergraduate

2007	Cristian Moscoso. Bioquímico U. Católica de Valparaíso.
2007	Katherine Stack. Bioquímico U. Católica de Valparaíso.
2008	Ariela Vergara. Ingeniería en Bioinformática. Universidad de Talca.
2011	Luisa Montoya Lara. Licenciatura en Ciencias con mención Química, U. de Valparaíso

Masters Degree

2001	Consuelo Hernández. Maestría en Biofísica, Universidad de Colima, México
------	--

- 2002 Reinaldo Castillo. Magíster en Ciencias mención Neurociencias, U de Valparaíso (co-advisor)
- 2002 Delany Torres. Magíster en Ciencias mención Neurociencias, U de Valparaíso (co-advisor).
- 2012 Gaspar Herrera, Magíster en Ciencias mención Neurociencias, U de Valparaíso

Doctoral Degree.

- 2005-2008 Francisco Palma. Doctorado en Ciencias mención Neurociencias, U de Valparaíso (co-advisor)
- 2004-2008 Silvina Gayol. Doctorado en Biología Celular, Molecular y Neurociencia, Universidad de Chile (Advisor)
- 2005-2009 Vivian González. Doctorado en Ciencias mención Neurociencias, U de Valparaíso (Advisor)
- 2011-2015 Ignacio Díaz-Franulic. Doctorado en Ciencias mención Neurociencias, U de Valparaíso (Advisor)

Postdoctoral Advisor

- 1998-1999 Esperanza García.
- 2008-2009 Silvina Gayol
- 2009-2010 Vivian González-Perez
- 2015- Hans Moldenhauer

ISI PUBLICATIONS

1. Latorre, R., P. Labarca, y D. Naranjo. 1992. Surface charge effects on ion conduction in ion channels. *Methods in Enzymology*. 207:471-501.
2. Naranjo, D., y R. Latorre. 1993. Ion conduction in substates of the batrachotoxin-modified Na⁺ channel from toad skeletal muscle. *Biophysical Journal*. 64:1038-1050.
3. Naranjo, D., y P. Brehm. 1993. Modal shifts in acetylcholine receptor channel gating confer subunit-dependent desensitization. *Science*. 260:1811-1814
4. Naranjo, D., R. Latorre, D. Cherbavaz, P. McGill, y M. Schumaker. 1994. A simple model for surface charge on ion channel proteins. *Biophysical Journal*. 66:59-70.
5. Naranjo D., C. Plant, K. Dunlap y P. Brehm. 1994. Two subcellular mechanisms underlie calcium-dependent facilitation of bioluminescence. *Neuron*. 3:1293-1301.
6. Naranjo, D. y C. Miller. 1996. A strongly interacting pair of residues on the contact surface of charybdotoxin and a Shaker K⁺ channel. *Neuron*. 16:123-130
7. Armisen, R., J. Sierralta, P. Vélez, D. Naranjo, y B.A. Suárez-Isla D. 1996. Modal gating in neuronal and skeletal muscle ryanodine-sensitive Ca²⁺ release channels. *American Journal of Physiology*. 271C:144-153.
8. Scanlon M., Naranjo D., Thomas L., Alewood P., Lewis R. y Craik D. 1997. Solution structure and proposed binding mechanism of a novel potassium channel toxin κ -conotoxin PVIIA. *Structure*. 5:1585-1597.

9. García, E., Scanlon M. y Naranjo D. 1999. A marine snail toxin shares with scorpion toxins a convergent mechanism of blockade on the pore of voltage-gated K channels. *The Journal of General Physiology*. 114:141-157.
10. Saldaña C., D. Naranjo, R. Coria, A. Peña y L.Vaca. 2002. Splitting the two pore domains from TOK1 results in two cationic channels with novel functional properties. *Journal of Biological Chemistry*. 277:4797-7805.
11. Naranjo D. 2002. Inhibition of Single Shaker K Channels by κ -Conotoxin-PVIIA. *Biophysical Journal*. 82:3003-3011.
12. Oliva, C., V. González and D. Naranjo. 2005. Slow inactivation in voltage gated potassium channels is insensitive to the binding of pore occluding peptide toxins. *Biophysical Journal*. 89:1009-1019.
13. Ardiles AO, González-Jamett AM, Maripillán J, Naranjo D, Caviedes P, Cárdenas AM. 2007. Calcium channel subtypes differentially regulate fusion pore stability and expansion. *J Neurochemistry*. 103:1574-1581.
14. Opazo, M. C., Gianini, A., Pancetti, F., Azkcona, G., Alarcon, L., Lizana, R., Noches, V., Gonzalez, P. A., Marassi, M. P., Mora, S., Rosenthal, D., Eugenin, E., Naranjo, D., Bueno, S. M., Kalergis, A. M., & Riedel, C. A. 2008. Maternal hypothyroxinemia impairs spatial learning and synaptic nature and function in the offspring. *Endocrinology* 149, 5097-5106.
15. Gonzalez-Gutierrez, G., Miranda-Laferte, E., Naranjo, D., Hidalgo, P., & Neely, A. 2008. Mutations of nonconserved residues within the calcium channel alpha1-interaction domain inhibit beta-subunit potentiation. *The Journal of General Physiology* 132, 383-395.
16. Gonzalez-Perez, V., Neely, A., Tapia, C., Gonzalez-Gutierrez, G., Contreras, G., Orio, P., Lagos, V., Rojas, G., Estevez, T., Stack, K., & Naranjo, D. 2008. Slow inactivation in Shaker K channels is delayed by intracellular tetraethylammonium *The Journal of General Physiology* 132, 633-650.
17. González-Pérez V., Stack, K., Boric, K. & Naranjo, D. 2010. Reduced voltage sensitivity in a K⁺-channel voltage sensor by electric field remodeling. *Proc Natl Acad Sci U S A*. 107:5178-5183
18. González C, Baez-Nieto D, Valencia I, Oyarzún I, Rojas P, Naranjo D, Latorre R. 2012. K⁺ channels: Function-Structural Overview. *Comprehensive Physiology*. 2:2087-2149.
19. Moscoso C. , A. Vergara-Jaque, V. Márquez-Miranda, R. V. Sepúlveda, I. Valencia, I. Díaz-Franulic, F. González-Nilo and D. Naranjo. 2012. K⁺ conduction and Mg²⁺ blockade in an unusually high conductance Kv channel single point mutant. *Biophysical Journal*. 103:1198-1207.
20. Cortés C, Eugenin E, Aliaga E, Carreño LJ, Bueno SM, Gonzalez PA, Gayol S, Naranjo D, Noches V, Marassi MP, Rosenthal D, Jadue C, Ibarra P, Keitel C, Wohllk N, Court F, Kalergis AM, Riedel CA. 2012. Hypothyroidism in the adult rat causes incremental changes in brain-derived neurotrophic factor, neuronal and

astrocyte apoptosis, gliosis, and deterioration of postsynaptic density. *Thyroid*. 22:951-963.

21. Naranjo D, Wen H, Brehm P. 2015. Zebrafish CaV2.1 calcium channels are tailored for fast synchronous neuromuscular transmission. *Biophysical Journal*. 108:578-584.
22. Díaz-Franulic, I., R. Sepúlveda, N. Navarro-Quezada, F. González-Nilo and D. Naranjo. 2015. Pore dimensions and the role of occupancy in unitary conductance of Shaker K-channels. *The Journal of General Physiology*. In Press.
23. Moldenhauer, H., Díaz-Franulic, I., González-Nilo F., Naranjo, D., 2015. Effective pore size and radius of capture for K⁺ ions in K-channels. *Biophysical Journal*. Submitted.

Book Chapters

Naranjo, D. 1997. Assembly of Shaker K-channels from random mixture of subunits carrying different mutations. In: *From ion-channels to cell-to-cell conversation*. (Eds. R. Latorre and J.C. Saez). Plenum Press, NY, 1997. pp.35-46.

Naranjo D. 2004. Peptide toxins as conformational probes for K-channels. In: *Pumps, Transporters and Ion Channels: Studies on their Structure, Function, and Cell Biology*. (Eds. F. Sepúlveda y F. Bezanilla). Kluwer Academic/Plenum Press, New York. Pp. 103-112.