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CURRICULUM VITAE

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Current Position

Full Professor, Neuroscience Institute, Facultad de Ciencias, Universidad de Valparaíso

Associate professor, Centro Interdisciplinario de Neurociencia, Facultad de Ciencias, Universidad de Valparaíso

Visiting Assistant professor, Dept of Neuroscience, Albert Einstein College of Medicine, NY. USA.

Education

2013-2015: Instructor, Dept of Neuroscience, Albert Einstein College of Medicine, NY. USA.

2007-2012: Postdoctoral Research Fellow, Dept of Neuroscience, Albert Einstein College of Medicine, NY. USA.

2007: PhD in Biological Sciences Neuroscience. National Institute of Neurological disorders and Stroke and Universidad de Valparaíso, Valparaíso, Chile. Advisor: Jeffrey S. Diamond, PhD. Feedback Inhibition onto Rod Bipolar Cells.

2002: Master in Biological Sciences Neuroscience. Universidad de Valparaíso, Valparaíso, Chile. Advisor: Adrian G Palacios, PhD. Functional and Morphological analysis of myelin mutant *taiep* rat retina

2000: Bachelor degree in Biological Sciences and Education. Universidad de Playa Ancha Ciencias de la Educacion. Advisor: Adrian G Palacios, PhD. Behavioural and functional study of the visual system of a Chilean rodent *Octodon degus*.

Honor and Awards

2019-2021: SFN's Trainee Professional Development Awards (TDPA) selection committee. Society for Neuroscience, USA.

2017: Invited Speaker at "From the retina to the CNS: Role of neuromodulatory system symposium" Chilean Society for Neuroscience. October, 1-3, Chile

2016-2020: Member of the Academic committee PhD program at Universidad de Valparaíso. Chile.

2015: Young scientists elected as TWAS (The World Academy of Sciences) Affiliated Member.

2015: Invited Speaker at "From Neurons and Networks to behavior conference" Universidad de Chile. November, 28-29. Chile.

2015: Invited Speaker at "Spring Symposium in TRP channels 2015". Universidad de Santiago. September, 28-29. Chile.

2014: Return Home Fellowships from the International Brain Research Organization (IBRO).

2013-2015: NARSAD Young Investigator award.

2013: Invited Speaker at "Cannabinoid Function in the CNS". Waterville Valley, NH. August 4 -9, USA.

2012: Invited Speaker at "Neuroscience Meet Valparaíso". Valparaíso, November 27-28, Chile

2011: Dennis Shields Awards for Outstanding Postdoctoral Research, Albert Einstein College of Medicine.

- 2010-12: Ruth L. Kirschstein National Research Service Postdoctoral Awards (F32), NINDS-NIH.
- 2010-13: Neuroscience Scholars of the Society for Neuroscience.
- 2010: Carl Storm Underrepresented Minority (CSURM) Fellowship
- 2010: Best Poster presentation at the “Synaptic Transmission” Gordon Research Conferences. University of New England, Biddeford, ME. USA. July 14-17.
- 2009: Society for Neuroscience Postdoctoral Travel Award from the New York City Chapter
- 2006: Alcon Laboratories Award to attend “Retinal Neurobiology and Visual Processing” FASEB summer Research Conference. July 14 -17, USA.
- 2006: Invited Speaker at “Retinal Neurobiology and Visual Processing”. FASEB summer Research Conference. Indian Wells, California. July 14 -17, USA.
- 2000: Best undergraduate student. Class 1995. Bachelor in Biological Sciences and Education.
- 1999: Prize for Academic merit with Honor in Biological Sciences. Universidad de Playa Ancha Ciencias de la Educacion, Valparaíso, Chile.

Research Support

ONGOING

- Fondecyt Regular # 1201848, “Neuromodulation by 5-HT at central synapses”. Principal Investigator; Funding Period 15/03/2020 – 15/03/2023
- Fondecyt Regular # 1190833, “Molecular and Functional Evaluation of a Mouse Model of Obsessive-Compulsive Disorder with Increased EAAT3 Expression”. Co- Investigator; Funding Period 15/03/2019 – 15/03/2022

COMPLETED

- Fondecyt Regular # 1151091, “Role of endocannabinoid signaling in retinal synaptic function”. Principal Investigator; Funding Period 15/03/2015 – 15/03/2018
- Fondecyt EQM160154, “Visualización de proteínas sinápticas mediante el uso de un microscopio de dos fotones”. Principal Investigator; Funding Period 18 months Dec 2016/Junio2018
- Millennium Nucleus Biology of Neuropsychiatric Disorders NU-MIND (NC130011). Director; Funding Period 01/01/2015 – 24/04/2017
- Return Home Fellowships from the International Brain Research Organization (IBRO). “Synaptic function in the retina and hippocampus” Funding period 01/15/2015- 01/15/2017
- IBRO’s Latin America Regional Committee (LARC) symposia: “International Symposium Biology of Neuropsychiatric disorders” Funding Period: January 2016-July 2016
- NARSAD young investigator award – “5-HT/TRPV1 interaction in synaptic transmission and Plasticity”. Funding period 01/15/2013- 01/14/2015
- NIH/NINDS F32 NS071821, “Role of TRPV1 channels in synaptic transmission and plasticity in the hippocampus”. Funding Period 07/01/2010 – 06/30/2012

Peer Reviews

- Superior Council of the National Fund for Scientific & Technological Development (FONDECYT), Chile.
- Division Biology and Medicine, Swiss National Science Foundation (Switzerland).
- Fondo para la Investigación Científica y Tecnológica (FONCyT), Argentina.

- Agencia Nacional de Investigación e Innovación de Uruguay (ANII)
- Editorial Committee Revista ReCISAM. Universidad de Tarapaca, Chile.
- Review Editor in Frontiers in Cellular Neuroscience.
- Review Editor for Frontiers in Cellular Neurophysiology.

Peer-Reviewed Publications

1. Fuenzalida M, Chiu CQ., **Chávez A.E.**, (2020). Muscarinic Regulation of Spike Timing Dependent Synaptic Plasticity in the Hippocampus. **Neuroscience Aug 20:S0306-4522(20)30524-8. doi: 10.1016/j.neuroscience.2020.08.015.**
2. Vielma AH, Tapia F., Fuenzalida M, Schmachtenberg O, **Chávez A.E.**, (2020). Cannabinoid signaling selectively modulates GABAergic inhibitory input to OFF bipolar cells in rat retina. **Investigative Ophthalmology & Visual Science IOVS-19-27383**
3. Plaza W, Estay F, Gutierrez C, de la Fuente-Ortega E, **Chávez A.E***, Haeger P*. (2020). NMDA receptor modulation by NOX2 drives synaptic plasticity and spatial memory impairments in rats exposed pre and postnatally to ethanol. ***co-corresponding author in Antioxidants & Redox Signaling, ARS-2019-7787**
4. Escobar AP, Wendland JR, **Chávez A.E.**, and Moya P.R. (2019). The neuronal glutamate transporter EAAT3 in Obsessive-Compulsive Disorder. **Front. Pharmacol. doi: 10.3389/fphar.2019.01362**
5. Delgado-Acevedo C, Estay S, Radke A, Sengupta A, Henríquez-Belmar F, Haro V, Reyes C, Wendland J, Cho A, Kulkarni A, Holmes, **Chávez A.E***, Moya P.R*. (2019). Increase EAAT3 expression in forebrain neurons elicits OCD related behaviors and alters cortico-striatal synaptic function. **Neuropsychopharmacology. 2019 May;44(6):1163-1173. *co-corresponding author**
6. Espinosa N, Alonso A, Espinosa P, Morales C, **Chávez A.E.**, Fuentealba P. (2019). Basal forebrain gating by somatostatin neurons drives prefrontal cortical activity. **Cereb Cortex. 2019 Jan 1;29(1):42-53.**
7. Hashimoto-dani Y., Kaoutsar N., Jensen K., **Chávez A.E.**, Carrera D., Castillo P.E. (2017). LTP at hilar mossy cell-dentate granule cell synapses modulates dentate gyrus output by increasing excitation/inhibition balance. **Neuron 95(4):928-94**
8. Park J.*, **Chávez A.E***, Mineur YS., Morimoto-tomita M., Lutz S., Kim K.S., Picciotto M.R., Castillo P.E., Tomita S. (2016). CaMKII phosphorylation of TRPV1 is a mediator of LTP and Learning and Memory. ***Equal Contribution; Neuron 92(1):75-83.**
9. Tindi J.O., **Chávez A.E.**, Cvejic S., Calvo-Ochoa E., Castillo P.E., Jordan B.A. (2015). ANKS1B gene product AIDA-1 controls hippocampal synaptic transmission by regulating GluN2B subunit localization. **J Neuroscience 35(24):8986-96**
10. Kalinowska M., Chávez A.E, Lutz S., Castillo P.E., Bukauskas F., Francesconi A (2015) Actinin-4 governs dendritic spine dynamics and promotes their remodeling by metabotropic glutamate receptors. **Journal of Biological Chemistry 290(26):15909-20.**
11. **Chávez A.E***, Hernandez VM, Rodenas-Ruano A, Chan CS, Castillo PE* (2014). Compartment-specific modulation of GABAergic synaptic transmission by TRPV1 channels in the dentate gyrus. **J. Neurosci. 10;34(50):16621-9 *Corresponding author**
12. Hou H, **Chávez A.E.**, Wang CC, Yang H, Gu H, Siddoway BA, Hall BJ, Castillo PE, Xia H. (2014). The Rac1 inhibitor NSC23766 suppresses CREB signaling by targeting NMDA receptor function. **J Neurosci. 2014 Oct 15;34(42):14006-12**
13. Rodenas-Ruano A*, **Chávez A.E***, Cossio MJ, Castillo PE, Zukin RS. (2012). REST-dependent epigenetic remodeling promotes the developmental switch in synaptic NMDA receptors.* **Equal contribution. Nature Neuroscience 15(10):1382-1390**
14. Castillo PE., Yount TH, **Chávez A.E.**, Hashimoto-dani Y. (2012). Endocannabinoid signaling and synaptic function. **Neuron, 76(1):70-81**
15. **Chávez A.E.**, Chiu C.Q, Castillo P.E. (2010). TRPV1 activation by endogenous anandamide triggers postsynaptic long-term depression in dentate gyrus. **Nature Neuroscience, 13(12):1511–1518.**
16. **Chávez A.E.**, Grimes WN, Diamond J.S. (2010). Mechanisms underlie non-reciprocal GABAergic feedback transmission onto rod bipolar cells in rat retina. **J. Neuroscience, 30(6):2330-9.**
17. Kaeser PS, Deng L, **Chávez A.E.**, Castillo PE, Südhof TC (2009). ELKS2 α /CAST Deletion Selectively Increase Neurotransmitter Release at Inhibitory synapses. **Neuron, 64 (2):227-239**

18. Grimes WN, Li W, **Chávez A.E.**, Diamond J.S. (2009). Rapidly inactivating BK channels modulate pre- and post-synaptic signaling at a reciprocal feedback synapse in the retina. **Nature Neuroscience**, **12(5):585-92**.
19. **Chávez A.E.**, Diamond J.S. (2008). Diverse mechanisms underlie glycinergic feedback transmission onto rod bipolar cells in rat retina. **J. Neuroscience** **28 (31): 7919-7928**
20. **Chávez A.E.**, Singer J.H, Diamond J.S. (2006). Fast neurotransmitter release triggered by Ca influx through AMPA-type glutamate receptor. **Nature** **443 (7112): 705-708**
21. Peichl L., **Chávez A.E.**, Mena W., Ocampo A., Bozinovic F, Palacios A.G. (2005). Eye and Vision in the subterranean rodent Cururo (*Spalacopus cyanus*, Octodontidae). **J.Comp Neurol** **486(3): 197-208**. **This article got the Cover**
22. **Chávez A.E.**, Pannicke T., Roncagliolo M., Reichenbach A., Palacios A.G. (2004). Electrophysiological Properties in Retinal Müller Glial Cells from a Myelin Mutant Rat. **Glia**. **45(4): 338-345**
23. **Chávez A.E.**, Bozinovic F, Peichl L., Palacios A.G. (2003). Retinal spectral sensitivity, fur coloration and urine reflectance in the genus Octodon (Rodentia): Implications for Visual ecology. **Investigative Ophthalmology & Visual Science** **44(5): 2290-2296**
24. **Chávez A.E.**, Roncagliolo M., Kurth H, Reichenbach A., Palacios A.G. (2003). The retinal anatomy and function of the myelin mutant *taiep* rat. **Brain Research** **964(1): 144-152**.

Book chapters

25. Zunino S, Quiroz S, **Chávez A**, Rivera R. (1998). Manual de Zoología Deuterostomos (Spanish). Editorial Universidad de Playa Ancha. Chile

Other publications

26. Chávez AE. 2016. ¿Cómo afecta el color al comportamiento?: Una mirada a la visión ultravioleta en mamíferos. An. Mus. Hist. Nat. Valpso. Vol 29: 21-24 ISSN 0716-0178

Thesis directions

Ongoing

Claudia Diberardino, PhD in Neuroscience, Facultad de Ciencias, Universidad de Valparaíso
Sebastián Estay, PhD in Neuroscience, Facultad de Ciencias, Universidad de Valparaíso

Completed

2017 Camila Quiroz, Biochemistry, Pontificia Universidad Católica de Valparaíso, Chile
2017 Eduardo Cena, Bachelor in Sciences, Facultad de Ciencias, Universidad de Valparaíso
2017 Indira Lara, Master in Neuroscience, Facultad de Ciencias, Universidad de Valparaíso
2019 Camila Quiroz, Master in Neuroscience, Facultad de Ciencias, Universidad de Valparaíso
2019 Pedro Espinosa, Master in Neuroscience, Facultad de Ciencias, Universidad de Valparaíso
2019 Sebastián Estay, Master in Neuroscience, Facultad de Ciencias, Universidad de Valparaíso
2019 Alejandro Alcaíno, Medical technology, Facultad de Medicina, Universidad de Valparaíso
2019 Carlos Ancaten, Master in Neuroscience, Facultad de Ciencias, Universidad de Valparaíso

Past- member

Pedro Espinosa (PhD program, University of Genève – Switzerland)
Carla Alvarez-Ferrada (Universidad Viña del Mar, Chile)
Indira Lara (Teacher at Secondary School, Valparaiso, Chile)