

**Andrés E Chávez, PhD**  
CURRICULUM VITAE

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**Current Position**

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

**Education**

2007: PhD in Biological Sciences Neuroscience. 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**

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 Valparaiso". Valparaiso, 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 and teaching experience**

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

2004-2007: Predoctoral fellow at the National Institute of Neurological Disorders and Stroke. National Institute of Health, Bethesda-Maryland, USA. Jeffrey S. Diamond, PhD.

2005: Northwestern University, Chicago, IL. Pair coupled recording from retinal neuron in rat slice. Advisor : Joshua H. Singer, PhD (November).

2002: Teacher in Biological sciences "Teresita Liseux" Public School. Valparaíso, Chile.

2002: Teacher Assistant Fellow. **General Neuroscience**. Universidad de Valparaíso, Chile.

2001: Max Plank Institute for Brain Research. Frankfurt am Main. Dario Protti, PhD (March). Electrophysiological slices recording of retinal ganglion cells.

2001: Paul fleshing Institute for Brain Research. Dept. Neurophysiology. University of Leipzig. Germany. Andreas Reichenbach, PhD (January to March). Electrophysiological and immunocytochemical detection of the Muller glial cells in the mutant *taiep* rat.

1999-2003: Undergraduate and Master fellow in the department of Physiology, University of Valparaíso and Center of Neuroscience of Valparaíso, Chile.

2000: Teacher by Docents of the V Region-Chile. "Biology didactic for 2<sup>do</sup> years", Universidad Bolivariana, Santiago, Chile.

1999-2002: Teacher Assistant Fellow. **Animal physiology**. Universidad de Playa Ancha, Chile.

1998: Teacher Assistant Fellow. **Zoology**. Universidad de Playa Ancha, Chile.

### **Peer-Reviewed Publications**

1. 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**
2. Castillo PE., Yount TH, **Chávez A.E**, Hashimoto Y. (2012). Endocannabinoid signaling and synaptic function. **Neuron, 76(1):70-81**
3. **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.**
4. **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.**
5. Kaeser PS, Deng L, **Chávez A.E**, Castillo PE, Südhof TC (2009). ELKS2 $\alpha$ /CAST Deletion Selectively Increase Neurotransmitter Release at Inhibitory synapses. **Neuron, 64 (2):227-239**
6. 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.**
7. **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**
8. **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**
9. 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 get the Cover**
10. **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**
11. **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**

12. **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.**

#### **Peer-Reviewed Publications (in preparation or submitted)**

13. **Chávez A.E.\***, Castillo P.E\*. (2013). Serotonergic modulation of long-term potentiation in the dentate gyrus. *mss to be submitted*. \* **Corresponding author**
14. **Chávez A.E.\***, Hernandez V, Chan S, Castillo P.E\*. (2013). Functional expression of TRPV1 channels at inhibitory synapses in the dentate gyrus. *mss submitted*\* **Corresponding author**
15. Hashimoto Y., **Chávez A.E.**, Castillo P.E. (2014). Presynaptic long-term potentiation at mossy cells inputs in the dentate gyrus. *mss in preparation*.
16. Tindi J, **Chávez A.E.**, Castillo P.E. Jordan B. (2014). A potential synaptic role for AIDA-1 in regulates NMDA receptor function and plasticity in the hippocampus. *mss in preparation*.
17. Hou H, **Chávez A.E.**, Wang C, Yang H, Siddoway BA, Hall BJ, Castillo PE, Xia H. (2014). Rac1 inhibitor suppresses CREB signaling by antagonizing NMDA receptor function. *mss Submitted*

#### **Books**

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

#### **Research Support**

##### **ONGOING**

- NARSAD young investigator award – “5-HT/TRPV1 interaction in synaptic transmission and Plasticity”. Funding period 01/15/2013- 01/14/2015

##### **COMPLETED**

- NIH/NINDS F32 NS071821, “Role of TRPV1 channels in synaptic transmission and plasticity in the hippocampus”. Funding Period 07/01/2010 – 06/30/2012

##### ***Ad-hoc reviewer***

Journal of Neuroscience

Plos One

Superior Council of the National Fund for Scientific & Technological Development (FONDECYT), Chile

##### ***Membership***

2004-present: Society for Neuroscience, USA.

2007-2008: Student member of the New York Academic of Science, USA.

##### ***Selected Scientific abstracts***

Hasimoto Y, **Chávez A.E.**, Castillo PE. 2013. Long-term potentiation at hilar mossy cell to dentate granule cell synapses. Neuroscience Meeting, 233.24/H2, San Diego, USA

Tindi JO, **Chávez A.E.**, Cvejic S., Castillo PE., Jordan BA. 2013. A novel role for AIDA-1 in regulating NMDA receptor subunit composition and long-term potentiation. Neuroscience Meeting, 514.01/C30 San Diego, USA

**Chávez A.E.**, Castillo PE. 2012. Mechanisms underlying modulation of excitatory synaptic strength by 5-HT<sub>2</sub> serotonin receptors in the dentate gyrus. Neuroscience Meeting, 538.04/D4 New Orleans, USA

Tindi JO, **Chávez A.E.**, Castillo PE., Jordan BA. 2012. A potential synaptic role for AIDA-1 in the regulation of AMPA receptor trafficking through binding to ubiquitinated AMPA receptors. Neuroscience Meeting, 429.14/B31 New Orleans, USA

**Chávez A.E.**, Castillo PE. 2011. Input-specific modulation of excitatory synaptic transmission by 5-HT<sub>2</sub> serotonin receptors in the dentate gyrus. Neuroscience Meeting, 141.12/E5 Washington DC, USA

Rodenas-Ruano A., **Chávez A.E.**, Cossio M., Castillo PE., Zukin RS. 2010. The gene silencing factor REST regulates the decline of NR2B in the developmental switch of NMDA receptor subunit

composition at hippocampal synapses. Neuroscience Meeting, San Diego, California. USA

**Chávez A.E.**, Chiu C, Castillo PE. 2010. Postsynaptic modulation of excitatory transmission via TRPV1 channels at a CNS synapse. Synaptic Transmission” Gordon Research Conferences. University of New England, Biddeford, ME. USA. July 14-17.

**Chávez A.E.**, Chiu C, Castillo PE. 2009. Postsynaptic modulation of excitatory transmission via TRPV1 channels at a CNS synapse. Neuroscience Meeting, 302.11 / Room S102 (Nanosymposium), Chicago, IL. USA

**Chávez A.E.**, Chiu C, Castillo PE. 2008. Input-specific modulation of excitatory and inhibitory synaptic transmission by TRPV1 channels in the dentate gyrus. Neuroscience Meeting, 626.16/C22. Washington DC. USA

Palacios-Muñoz A., **Chávez A.E.**, Palacios AG. 2008. Activación de los receptores de cannabinoides (CB1) modulan las propiedades temporales de las señales visuales escóticas en retina de mamíferos. *Biological Research* R52

**Chávez A.E.**, Diamond JS. 2008. Mechanisms underlie non-reciprocal GABAergic feedback transmission onto rod bipolar cells in rat retina. Retinal Neurobiology and Visual Processing. FASEB summer Research Conference. Snowmass, Colorado, USA

Grimes W, **Chávez A.E.**, Diamond JS. 2008. BK channels constrain Ca signal in A17 amacrine cells of rat retina. Retinal Neurobiology and Visual Processing. FASEB summer Research Conference. Snowmass, Colorado, USA

**Chávez A.E.**, Palacios-Muñoz A, Diamond JS. 2007. Cannabinoid receptor modulated GABAergic feedback inhibition in rat. Neuroscience Meeting, 359.14/K6. San Diego, California. USA

**Chávez A.E.**, Diamond JS. 2006. A comparison between glycinergic and GABAergic non-reciprocal feedback inhibition of rod bipolar cells in rat retina. Neuroscience Meeting, 533.13/G4. Atlanta, Georgia. USA

**Chávez A.E.**, Diamond JS. 2005. Calcium influx through postsynaptic AMPA receptors elicits GABA release at a reciprocal synapse of rat retina. Neuroscience Meeting. Washington DC. USA

Peichl L., **Chávez A.E.**, Palacios A. 2004. Too good eyes for living below ground? Photoreceptor properties in subterranean rodents. XVI ICER Satellite Meeting on the Eye & Brain and Myopia: 4 - 7 September, Fraser Island, Australia.

Peichl L., **Chávez A.E.**, Palacios A.G. 2004. Retinal photoreceptor arrangements in South American rodents (Octodontidae: *Octodon degus*, *lunatus* and *bridgesis*). King's College London, December 17-20 The Physiological Society. Oral Presentation **C114-58P**.

Singer J.H., **Chávez A.E.**, Diamond J., 2003. Physiological evidence for peri- and extra- synaptically GABA<sub>C</sub> receptor. Neuroscience Meeting. New Orleans. USA

Astete R., **Chávez A.E.**, Velez P., Aliaga E. 2003. Endogenous neuroprotective response to light-induced degeneration in the retina: Expression of FGF-2. Neurotoxicity Society & Neurotoxicity Joint Meeting: Mechanisms for Neurodegenerative Disorders. La Serena 25-27. Chile.

**Chávez A.**, Roncagliolo M., Kurth H, Reichenbach A., Palacios A.G. 2001. Characterization of the visual system in the myelin mutant *taiep* rat. Müller Cell Meeting. 150 years of Müller cell Research Since 1851. August 30-September 2. Leipzig, Germany.

**Chávez A.**, Roncagliolo, M., Kuhrt, H., Reichenbach, A., and Palacios G.A. 2001. Functional and morphological study of the retina in the myelin mutant *taiep*. *Biological Research* **34 (3-4)**. **R42**

**Chávez A.**, Fuenzalida M., Roncagliolo M., Bozinovic F., Palacios A.G. 2000. Circadian rhythm and coloration in the *degu* (*Octodon degus*, Rodentia, Octodontidae). *Journal of Physiology-London*, **523: 71P-72P Suppl.**

**Chávez A.**, Bozinovic F., Palacios A.G. 2000. Spectral and absolute sensitivity in *Octodon degus* and *Octodon lunatus*: An electrophysiological study. *Biological research* **33(3-4)**. **pp. 83.**

**Chávez A.**, Roncagliolo M., Palacios A.G. 2000 Spectral and absolute sensitivity electroretinographic measurements in the myelin mutant *taiep* rat. Symposia Internacional "Cellular and Molecular aspects of the birth, life and death of the nervous system" Pucón-Chile.