



**Chiayu Chiu**  
*Curriculum Vitae*

Centro Interdisciplinario de Neurociencia de Valparaíso (CINV)  
Universidad de Valparaíso  
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**Education**

1997-2005 Ph.D. – Neuroscience, University of Rochester, Rochester NY  
1992-1996 B.S. – Neuroscience, New York University, New York NY

**Honors and Awards**

- FONDECYT-Regular (Nº 1171840, 2017-2021)  
“*Glutamatergic regulation of distinct GABAergic synapses and its impact on neuronal function in the cortex*”
- National Institute of Mental Health grant (1K01MH097961-01A, 2013-2016)  
“*Inhibitory regulation of dendritic calcium signals in the prefrontal cortex*”
- Epilepsy Foundation Postdoctoral Fellowship (2011)
- National Institute of Neurological Disorders and Stroke Postdoctoral Trainee (5T32NS007439-09, 2005-2008)  
“*Mechanisms of Intercellular Communication*”
- National Institute of Mental Health Predoctoral Trainee (5T32MH019942-07, 2003-2004)  
“*Research Training in Learning, Development and Biology*”
- National Institute of Mental Health Predoctoral Trainee (5T32MH019963-05, 1999-2000)  
“*Training in Neuroscience*”
- Founder’s Day Award, New York University (6/1996)
- United Federation of Teachers Scholarship Award (1992-1996)

**Invited Seminar Lectures**

- SCN Symposium on *Neuromodulation in Retina and CNS*, CHILE (10/2017)
- Neuroscience Seminar at Max Planck Florida Institute for Neuroscience, USA (2/2017)
- NUMIND International Symposium “*Biology of Neuropsychiatric disorder*”, CHILE (4/2016)
- Neuroscience Seminar at Albert Einstein College of Medicine, USA (6/2015)
- Gordon Research Conference on Synaptic Transmission, USA (8/2014)
- Cold Spring Harbor meeting on Neural Circuits, USA (4/2014)
- Gordon Research Seminar on Inhibition, SWITZERLAND (6/2013)
- Yale Microscopy Workshop, USA (6/2012)

**Organized** the 2018 CINV-Max Planck Symposium “*Understanding brain function: from synapses to circuits*”

**Professional Positions**

2017- Associate Professor, Instituto de Neurociencia  
Universidad de Valparaíso, Valparaíso CHILE

2016- CINV-Max Planck Tandem Research Group Leader  
CINV, Universidad de Valparaíso, Valparaíso, CHILE

2010-2016 Research Associate/Associate Research Scientist  
Dept. of Neurobiology, Yale University, New Haven CT, USA

2005-2010 Research Fellow  
Dept. of Neuroscience, Albert Einstein College of Med., Bronx NY, USA

**Teaching Experience**

Fall 2018 Lecturer, Sensory Physiology, Doctorate Program, Instituto de Neurociencia  
Universidad de Valparaíso, Valparaíso CHILE

Fall 2018 Lecturer, Synaptic Neurotransmission, Doctorate Program, Instituto de Neurociencia  
Universidad de Valparaíso, Valparaíso CHILE

2017-2018 Lecturer, Microscopy in the 20<sup>th</sup> Century, Magister Program, Instituto de Neurociencia  
Universidad de Valparaíso, Valparaíso CHILE

Spring 2014 Instructor, Human Neuroanatomy Lab for medical and graduate students  
Yale School of Medicine, New Haven CT, USA

Fall 2005 Teaching Assistant, Molecular Cellular Neuroscience for graduate students



Fall 1998 Albert Einstein College of Med., Bronx NY, USA  
Teaching Assistant, Introduction to Neurobiology for undergraduate students  
University of Rochester, Rochester NY, USA

## Publications

### Original research papers:

Chiu C, Weliky M. Spontaneous activity in developing ferret visual cortex in vivo. **J. Neurosci.** 21, 8906-8914, 2001.

Chiu C, Weliky M. Relationship of correlated spontaneous activity to functional ocular dominance columns in the developing visual cortex. **Neuron** 35, 1123-1134, 2002.

Chiu C, Weliky M. Multi-electrode recording from the developing visual pathway of awake behaving ferrets. **J. Neurosci. Methods** 136, 55-61, 2004.

Fiser J, Chiu C, Weliky M. Small modulation of ongoing cortical dynamics by sensory input during natural vision. **Nature** 431, 573-578, 2004.

Chiu CQ, Castillo PE. Input-specific plasticity at excitatory synapses mediated by endocannabinoids in the dentate gyrus. **Neuropharmacology** 54, 68-78, 2008.

Kaesler PS, Kwon HB, Chiu CQ, Deng L, Castillo PE, Südhof TC. RIM1alpha and RIM1beta are synthesized from distinct promoters of the RIM1 gene to mediate differential but overlapping synaptic functions. **J. Neurosci.** 28, 13435-13447, 2008.

Chiu CQ, Puente N, Grandes P, Castillo PE. Dopaminergic modulation of endocannabinoid-mediated plasticity at GABAergic synapses in the prefrontal cortex. **J. Neurosci.** 30, 7236-7248, 2010.

Chávez AE, Chiu CQ, Castillo PE. TRPV1 activation by endogenous anandamide triggers postsynaptic long-term depression in dentate gyrus. **Nature Neurosci.** 13, 1511-1518, 2010.

Tsetsenis T, Younts TJ, Chiu CQ, Kaesler PS, Castillo PE, Südhof TC. Rab3B protein is required for long-term depression of hippocampal inhibitory synapses and for normal reversal learning. **PNAS** 108, 14300-14305, 2011.

Chiu CQ\*, Lur G\*, Morse TM, Carnevale NT, Ellis-Davies GC, Higley MJ. Compartmentalization of GABAergic inhibition by dendritic spines. **Science** 340, 759-762, 2013. \*equal contribution

Olson JP, Kwon HB, Takasaki KT, Chiu CQ, Higley MJ, Sabatini BL, Ellis-Davies GC. Optically selective two-photon uncaging of glutamate at 900nm. **J. Am. Chem. Soc.** 135, 5954-5957, 2013.

Amatrudo J, Olson JP, Lur G, Chiu CQ, Higley MJ, Ellis-Davies GC. Wavelength-selective one- and two-photon uncaging of GABA. **ACS Chem. Neurosci.** 5, 64-70, 2014.

Chiu CQ, Martenson JS, Yamazaki M, Natsume R, Sakimura K, Tomita S, Tavalin SJ, Higley MJ. Input-specific NMDAR-dependent potentiation of dendritic GABAergic inhibition. **Neuron** 97, 368-377, 2018.

### Reviews:

Chiu C, Weliky M. Synaptic modification by vision. Perspectives in **Science** 300, 1890-1891, 2003.

Castillo PE, Chiu CQ, Carroll RC. Long-term plasticity at inhibitory synapses. **Current Opinion in Neurobiology** 21, 328-338, 2011.

Chiu CQ, Barberis A, Higley MJ. Preserving the balance: diverse forms of long-term GABAergic synaptic plasticity. **Nature Reviews Neuroscience** ISSN 1471-0048 (online), 2019.

### Book Chapters:

Chiu C, Weliky M. The role of neural activity in the development of orientation selectivity. In: *The Visual Neurosciences*. L. Chalupa, J. Werner (eds.), MIT Press, Cambridge, MA, pp. 117-125, 2003.

Chiu CQ, Castillo PE. Endocannabinoid-mediated long-term depression at inhibitory synapses. In: *Inhibitory Synaptic Plasticity*. MA Woodin, A. Maffei (eds.), Springer Science+Business Media, Inc., New York, NY, pp. 149-166, 2010.

**Peer Reviewer for:** Manuscript submission in *Frontiers Molecular Neuroscience*  
Research grant proposals for Agence Nationale de la Recherche (ANR) in France

**Guest Editor for:** *Fundamentals of 21<sup>st</sup> Century Neuroscience* Topic in *Frontiers Journals*