

ALFREDO VILLARROEL Professional experience

Citizenship
Chilean

Languages
English, Thai, German,
Spanish, and Vietnamese

Address
Faculty of Medicine,
Srinakharinwirot University
Sukumvit 23, Klongtoey
Bangkok 10110, Thailand

e-mail
alfredo at g.swu.ac.th

Blog
vidyadana.blogspot.com
(in Thai)

- 2009-date Instructor, Department of preventive and social medicine, Faculty of Medicine, Srinakharinwirot University, Thailand
- 2005–2008 Instructor, Department of Physiology, Faculty of Science, Mahidol University, Thailand.
- 2004 Gastwissenschaft (Visiting Scientist), Physiologisches Institut 1, University of Freiburg, Freiburg i. Br., Germany
- 1996–2004 Assistant professor, Department of Physiology and Biophysics, Dalhousie University School of Medicine, Halifax, NS, Canada.
- 1990–1996 Associated researcher (Wissenschaftlicher Mitarbeiter) Max-Planck Institut für medizinische Forschung, Heidelberg, Germany. Supervisor. Dr. B Sakmann
- 1989 Apr–Dec Postdoctoral fellow. UCLA, California, USA. Supervisor Dr. G. Eisenman

Education

- 1979–1984 Biology. Faculty of Sciences, University of Chile, Santiago, Chile. Degree: "Licenciado en ciencias con mención en biología" (**B.S.** Biology).
- 1984 Student at the short course "International school of ionic channels" CECS, Santiago, Chile.
- 1985 Student at the short course "Physical properties of biological membranes", CECS, Santiago, Chile.
- 1985–1986 Physiology. Faculty of Sciences, University of Chile, Santiago, Chile. Degree: "Magister en biología con mención en fisiología" (**M.S.** Physiology). Approved "*con distinción unánime*," the highest mark.
- 1987–1989 Physiology. Department of Physiology, UCLA School of Medicine. Degree: **Ph.D** in Physiology

Current teaching responsibilities

Tutoring problem-base learning (PBL) for years 2-3 medical students in the areas of Immunology, blood, kidney, and reproduction

Theaching lectures in medical English and medical research

Other presentations

1. Writing for international journals. Faculty of Physical Education, Srinakharinwirot University.
23 April 2018
2. Writing in dentistry for international journals. Faculty of dentistry, Srinakharinwirot University.
10 March 2016
15 March 2017
3. เทคนิคการใช้ภาษาอังกฤษและหลักไวยากรณ์สำหรับการเขียนวารสารวิจัย (Techniques to use English and foundation of grammar to write research articles). 29 May 2015, Classic Cameo hotel, Ayuthaya.
4. Writing for academic journals: Language techniques and how to write a successful article for an international journal. Strategic wisdom and research institute, Srinakharinwirot University.
9 June 2014
20 February 2015
8 January 2016
10 June 2016
7 February 2017
8 December 2017
5. How to prepare a manuscript for an editor. Faculty of medicine, Srinakharinwirot University.
25 October 2012.
6. How to write an abstract for a psychology journal. Faculty of education, Srinakharinwirot University. 28 July 2012.
7. Presentation for the Community of Practice group: ลับคมภาษาเพื่อแกะสลักงาน, (Sharpening language to sharpen the work) Mahidol University, 14 September 2007.

List of Publications

Research Articles

1. Kleepala C, Luangphiphat W, Alfredo **Villarroel A**, Kitporntheranunt M, Wattanavaekin K, Piyajarawong T. 2018. Effect of magnesium on glomerular filtration rate and recovery of hypertension in women with severe preeclampsia. *Nephron* 138:35–41
2. Srisurapanon S, Sukwit S, Chuenchitra T, **Villarroel A**, Horthongkham N, Sutthent R. 2012. Regulatory T cells and Foxp3 levels in naïve and Highly Active Antiretroviral Therapy given HIV-1 infected patients. *Biomedicine* 31(3): 296 –301
3. Chuengsamarn S, Rattanamongkoulgul S, **Villarroel A**. 2011. Association between metabolic syndrome and risk of cardiovascular disease, using different criteria and stratified by sex. *Int J Diab Mell* 2: 78–82.
4. Kongsuphol P, Mukda P, Nopparat C, **Villarroel A**, Govitrapong, P. 2009. Melatonin attenuates methamphetamine-induced deactivation of the mammalian target of rapamycin (mTOR) signaling to induce autophagy in SK-N-SH cells. *Journal of Pineal Research* 46(2): 199–206.
5. Li A, Ma HL, **Villarroel A**. 2008. Acetylcholine Receptor γ -subunits mRNA isoforms expressed in denervated rat muscle. *Molecular Neurobiology* 37: 164–170.
6. Koenen M, Peter C, **Villarroel A**, Witzemann V, Sakmann B. 2005. Acetylcholine receptor channel subtype directs the innervation pattern of skeletal muscle. *EMBO reports* 6(6): 570–576.
7. **Villarroel A**. 2001. Sex differences in the acetylcholine receptor kinetics of postnatal and denervated rat muscle. *J. Physiol.* 532 (10): 175–180.
8. **Villarroel A**. 1999. Alternative splicing generates multiple mRNA forms of the acetylcholine receptor γ -subunit in rat muscle. *FEBS Lett.* 443 (3): 381–384.
9. Witzemann V, Schwarz H, Koenen M, Berberich C, **Villarroel A**, Wernig A, Brenner HR, Sakmann, B. 1996. Acetylcholine receptor γ -subunit deletion causes muscle weakness and atrophy in juvenile and adult mice. *PNAS* 93: 13286–13291.
10. Weiland S, Witzemann V, **Villarroel A**, Propping P, Steinlein O. 1996. An amino acid in second transmembrane segment of a neuronal nicotinic receptor causes partial epilepsy by altering its desensitization kinetics. *FEBS Lett.* 398: 91–96.
11. **Villarroel A**, Sakmann B. 1996. Calcium permeability increase of end-plate channels in rat muscle during postnatal development *J. Physiol.* 496 (2): 331–338.
12. Burnashev N, **Villarroel A**, Sakmann B. 1996. Dimensions and ion selectivity of recombinant AMPA and Kainate receptors channels and their dependence on Q/R site residues. *J. Physiol.* 496(1): 165–173.

13. Herlitze S, **Villarroel A**, Witzemann V, Koennen M, Sakmann B. 1996. Structural determinants of channel conductance in fetal and adult rat muscle acetylcholine receptors. *J. Physiol.* 492 (2): 775–787.
14. DiFranco M, **Villarroel A**, Ponte-Sucre A, Quiñones M, Drujan D, Dagger F. 1995. Incorporation of ion channels from plasma membrane of *Leishmania mexicana* into planar bilayers. *Acta científica Venezolana* 46: 206–207.
15. **Villarroel A**. 1995. The pore of the NMDA receptor. *Thai J. Physiol.* 8(1): 1–11.
16. **Villarroel A**, Burnashev N, Sakmann B. 1995. Dimensions of the narrow portion of a recombinant NMDA receptor channel. *Biophys. J.* 68: 866–875.
17. Uetz P, Abdelatty F, **Villarroel A**, Rappold G, Weiss B, Koenen M. 1994. Organization of the murine 5-HT₃ Receptor genes and assignment to human chromosome 11. *FEBS Lett.* 339: 302–306.
18. **Villarroel A**, Herlitze S, Witzemann V, Koenen M, Sakmann B. 1992. Asymmetry of the rat acetylcholine receptor subunit in the narrow region of the pore. *Proc. R. Soc. Lond. B* 249: 317–324.
19. **Villarroel A**, Sakmann B. 1992. Threonine in the selectivity filter of the acetylcholine receptor channel. *Biophys. J.* 66: 209–221
20. **Villarroel A**, Herlitze S, Koennen M, Sakmann B. 1991. Location of a threonine residue in the α -subunit M2 transmembrane segment that determines the ion flow through the acetylcholine receptor channel. *Proc. R. Soc. Lond. B* 243: 69–74.
21. **Villarroel A**, Alvarez O, Oberhauser A, Latorre R. 1988. Probing a Ca²⁺ activated K⁺ channel with quaternary ammonium ions. *Pflügers Arch.* 413: 118–126.
22. Alvarez O, **Villarroel A**. 1986. Graphic representation in microcomputers. An example of interface building. *Archivos de Medicina y Biología Experimentales* 19: 329–345 (in Spanish).

Book Chapters

1. Villarroel A. 1998. Ion conduction through the acetylcholine receptor channel. In “The acetylcholine receptor.” Barrantes, F. (Ed.). Springer Verlag, Heidelberg.
2. Alvarez O, Villarroel A, Eisenman G. 1992. A General procedure to calculate Ion currents from energy profiles and energy profiles from ion currents in a multi-barrier multi-site multi-occupancy channel model. In “Ion Channels,” B. Rudy and L. E. Iverson (Eds.). A

volume of "Methods in Enzymology", J. N. Abelson and M. I. Simon, (Editors-in-chief), Orlando. vol 207, pp. 816–854.

3. Eisenman G, Villarroel A, Montal M, Alvarez O. 1990. Energy profile for ion permeation in pentameric protein channels: From viruses to receptor channels. In "Progress in cell research," Vol. 1 J. M. Ritchie , P. J. Magistretti and L Bolis (Eds.) Elsevier Science Publishers B. V. (Biomedical Division). pp. 195–211
4. Eisenman G, Villarroel A. 1989. Ion selectivity of pentameric protein channels: Backbone carbonyl ligands as cation binding ligands and side chain hydroxyl as "ambidextrous" ligands for cations or anions in viral capsids. In "Monovalent cations in biological systems," C.A. Pasternak, ed., CRC Press Publishers, Boca Raton, Florida. pp. 1–29

Theses

- 1986 **MS** thesis: A Characterization of the access pathways of the calcium activated potassium channel from skeletal muscle. (in Spanish) Supervisor: Prof. O. Alvarez and Prof. R. Latorre. Department of Biology, University of Chile. Santiago, Chile. 120 pp.
- 1989 **PhD** thesis: Mechanism of ion permeation of the large calcium activated potassium channel. Supervisor: Prof. G. Eisenman. Department of Physiology, UCLA. California, USA. 133 pp.

Recent abstracts (total 25)

1. Werawong, C., and Villarroel, A., 2015. Active performance in pre-clinical year improves learning achievement. AAME conference, 26943.
2. Villarroel, A. and Wattanasirichaigoon, S. 2009. Asian perspective towards a humanistic health care. AAME conference, 3707.