

CURRICULUM VITAE  
PATRICIA PEREZ-CORNEJO

---

## TITLE

**Profesor-Investigador, level VI**, School of Medicine, Autonomous University of San Luis Potosi (UASLP), San Luis Potosi, SLP Mexico.

## PERSONAL INFORMATION

Birthday	July 17, 1965
Birthplace	Cd. Victoria, Tamaulipas, México
Citizenship	Mexican
Marital status	Married, two children.

**Office address**

Facultad de Medicina  
Universidad Autonoma de San Luis Potosi  
Av. Venustiano Carranza # 2405, Los Filtros  
San Luis Potosí, SLP 78210, México  
Tel: (01152) 444 826 23 00 ext. 6657  
Email: gperez@uaslp.mx

## EDUCATION

<b><u>Postdoctoral training</u></b> University of Rochester School of Medicine and Dentistry Department of Biochemistry Rochester, NY, USA Advisor: Dr. Philip Knauf	2000 - 2002
<b><u>Ph.D. Physiology</u></b> University of Rochester School of Medicine and Dentistry Department of Physiology Rochester, NY, USA Advisor: Dr. Ted Begenisich	1990 - 1996
<b><u>BSc Chemistry</u></b> Universidad Michoacana de San Nicolás de Hidalgo Escuela de Químico Farmacobiología Morelia, Mich. México	1982 - 1987

## MEMBERSHIPS

Biophysical Society (USA), 1997 - 2015.  
Sociedad de Biofísicos Latinoamericanos, from 1985 - 1998  
Mexican Biochemistry Society (Mexico), from 2016 - present.  
American Physiological Society, from 2021 – present.

## AWARDS

Mexican National System of Researchers, Level Candidate. From 1997 – 2000.  
Mexican National System of Researchers, Level I. From 2000 - 2016.  
Mexican National System of Researchers, Level II. From 2017 – 2020  
Mexican National System of Researchers, Level I. From 2021-2023.  
Perfil Deseable PROMEP, 1999-2020 y 2021-2023.

## PROFESSIONAL EXPERIENCE

**Research – Professor**

School of Medicine, Universidad Autónoma de San Luis Potosí (UASLP)  
1996 – 2001 Department of Biochemistry  
2002 – present Department of Physiology and Biophysics

**Research Assistant Professor of Dentistry**

Center for Oral Biology, University of Rochester, Rochester, NY, USA  
September 2001 to December 2002.

**Adjunct Assistant Professor of Dentistry**

Center for Oral Biology, University of Rochester, Rochester, NY, USA  
December 2002 to November 2006

**Visiting Professor of Cell Biology**

School of Medicine, Emory University, Atlanta, GA, USA  
July 2010 – July 2011

**Visiting Scholar at the Department Physiology and Pathology of Ion Transport**

(Prof. Dr. Dr. Thomas J. Jentsch)  
Leibniz Institute of Molecular Pharmacology (FMP), Campus Berlin-Buch, Berlin, Germany  
August 2017 – July 2018

## SCIENTIFIC INTEREST

1. Modulation of ion channels
2. Biophysics of chloride channels
3. Purinergic receptors and immunity

## TRAINEES

Summer program Ivonne Amaya Larios, July 2007.

Summer program	Ulises Berumen González, July 2007.
Summer program	Mariela Benítez Valenzuela, July 2014.
Summer program	Alejandro J. Chávez Lárraga, July 2015.
Summer program	Eduardo Martínez Medina, June 2022.
Summer program	Iván Alejandro Torres Montelongo, June 2022.
Summer program	Isabel Hernández Moreno, June 2022
Summer program	María Teresa Guadalupe Chávez López, June 2022.
BS program	Monica Eugenia Reina, April 2005.
BS program	Ulises Berumen González, Sept 2008.
BS program	Valeria Aguilar Carmona, Oct 2009.
BS program	Skarleth Cardenas Romero, August 2014.
BS program	Cesar Martínez Lira, in progress.
Master program	María Margarita Silva Loredo, June 2016.
Master program	Elizabeth Reynaga Hernández, Sept 1999.
Master program	Guadalupe Martel Gallegos, July 2007.
Master program	Maribel Hervert García, July 2007.
Ph.D. program	Griselda Casas Pruneda, May 2009.
Ph.D. program	Gabriela Perez-Flores, Feb 2015.

#### BOOK CHAPTERS

- 1) Arreola J and Perez-Cornejo P. 2007. Functional properties of Ca<sup>2+</sup>-dependent Cl<sup>-</sup> channels and bestrophins: do they correlate? Chapter in: Chloride Movements Across Cellular Membranes, Ed. Michael Pusch. *Volume 38 of Advances in Molecular and Cell Biology*. (ISSN 1569-2558)
- 2) Arreola J, Reyes JP, Rosales-Saavedra T and Perez-Cornejo P. 2010. Chloride channels activated by intracellular ligands. Chapter in: Ion Channels from Structure to Function. Edited by Dr. James Kew and Ceri Davies. Oxford University Press. ISBN-10: 0199296758; ISBN-13: 9780199296750.
- 3) Arreola J, López-Romero AE, Pérez-Cornejo P, and Rodríguez-Menchaca AA. 2022. Phosphatidylinositol 4,5-bisphosphate and cholesterol regulators of the calcium-activated chloride channels TMEM16A and TMEM16B. Chapter in: Cholesterol and PI(4,5)P<sub>2</sub> in vital biological functions: from coexistence to crosstalk. Edited by Dr. Avia Rosenhouse-Dantsker, Springer Nature (ISSN 0065-2598 (print) and 2214-8019 (web)).

#### PEER REVIEW PUBLICATIONS

- 1) Arreola, J., R.T. Dirksen, P. Perez-Cornejo, K.M. Piech and S.S. Sheu. 1994. Autonomic modulation of action potential and tension in guinea pig papillary muscles. *European Journal of Pharmacology*. 271:309-317.
- 2) Perez-Cornejo, P. and T. Begenisich. 1994. The multi-ion nature of the pore in Shaker K<sup>+</sup> channels. *Biophysical Journal*. 66:1929-1938.
- 3) Perez-Cornejo, P., P. Stampe and T. Begenisich. 1998. Proton probing of the Charybdotoxin binding site of Shaker K<sup>+</sup> channels. *Journal of General Physiology*. 111:441-450.
- 4) Stampe, P., J. Arreola, P. Perez-Cornejo and T. Begenisich. 1998. Non-independent K<sup>+</sup> movement through the pore in IRK1 potassium channels. *Journal of General Physiology*. 112(4):475-484.

- 5) Perez-Cornejo, P. 1999. H<sup>+</sup> ion modulation of C-type inactivation of Shaker K<sup>+</sup> channels. *Pflugers Archives-European Journal of Physiology*. 437(6):865-870.
- 6) Perez-Cornejo, P, Arreola J, Law F-Y, Schultz JB and Knauf PA. 2004. Volume-sensitive chloride channels do not mediate activation-induced chloride efflux in human neutrophils. *J Immunology*. 172(11):6988-6993.
- 7) Perez-Cornejo, P and Arreola J. 2004. Regulation of Ca<sup>2+</sup>-activated chloride channels by cAMP and CFTR in parotid acinar cells. *Biochemical and Biophysical Research Communications*. 316(3):612-617.
- 8) Perez-Cornejo P, de Santiago JA and Arreola J. 2004. Permeant anions control gating of calcium-dependent chloride channels. *Journal of Membrane Biology*. 198(3):125-133.
- 9) Reyes JP, Hernández-Carballo CY, Perez-Cornejo P, Meza U, Espinosa-Tanguma R and Arreola J. 2004. Novel outwardly rectifying anion conductance in *Xenopus* oocytes. *Pflugers Archives – European Journal of Physiology*. 449: 271-277.
- 10) Nakamoto T, Srivastava A, Romanenko V, Ovitt CE, Perez-Cornejo P, Arreola J, Begenisich T and Melvin JE. 2007. Functional and Molecular Characterization of the Human Salivary Gland Fluid Secretion Mechanism. *American Journal of Physiology- Regulatory, Integrative and Comparative Physiology*. 292(6):R2380-90.
- 11) Reyes JP, Perez-Cornejo P, Hernández-Carballo CY, Srivastava A, Romanenko V, Gonzalez-Begne M, Melvin JE and Arreola J. 2008. Na<sup>+</sup> Modulates Anion Permeation and Block of P2X7 Receptors from Mouse Parotid Glands. *Journal of Membrane Biology*. 223(2):73-85.
- 12) Reyes JP, Hernández-Carballo CY, Pérez-Flores G, Pérez-Cornejo P and Arreola J. 2009. Lack of coupling between membrane stretching and Pannexin-1 hemichannels. *Biochem. Biophys. Res. Commun.* 380 (1):50-53.
- 13) Casas-Pruneda G, Reyes JP, Pérez-Flores G, Pérez-Cornejo P and Arreola J. 2009. Functional interactions between P2X4 and P2X7 receptors from mouse salivary epithelia. *J Physiol (London)*. 587:2887-2901.
- 14) Martel-Gallegos G, Rosales-Saavedra MT, Reyes JP, Casas-Pruneda G, Toro-Castillo C, Pérez-Cornejo P and Arreola J. 2010. Human neutrophils do not express purinergic P2X7 receptors. *Purinergic Signal. Sep*;6(3):297-306. Epub 2010 Feb 24. doi 10.1007/S11302-010-9178-7.
- 15) Hernandez-Carballo CY, De Santiago-Castillo JA, Rosales-Saavedra T, Perez-Cornejo P and Arreola J. 2010. Control of volume-sensitive chloride channel inactivation by the coupled action of intracellular chloride and extracellular protons. *Pflugers Archiv-Eur J Physiol*. 460(3):633-44. Epub 2010 May 9. DOI 10.1007/s00424-010-0842-0.
- 16) De Santiago-Castillo JA, Covarrubias M, Sánchez-Rodríguez JE, Perez-Cornejo P and Arreola J. 2010. Simulating complex ion channel kinetics with IonChannelLab. *Channels (Austin)*. Sep-Oct;4(5):422-8. Epub 2010 Sep 1.
- 17) Xiao Q, Yu K, Pérez-Cornejo P, Cui Y, Arreola J, Hartzell HC. 2011. Voltage- and calcium-dependent gating of TMEM16A/Ano1 chloride channels are physically coupled by the first intracellular loop. *Proc Natl Acad Sci U S A*. 2011 May 24;108(21):8891-6. Epub 2011 May 9.

- 18) Perez-Cornejo P, Gokhale A, Duran C, Cui Y, Xiao Q, Hartzell HC and Faundez V. 2012. Anoctamin 1 (Tmem16A) Ca<sup>2+</sup>-activated chloride channel stoichiometrically interacts with an ezrin–radixin–moesin network. *Proc Natl Acad Sci U S A*. Jun 26;109 (26):10376-10381.
- 19) Gokhale A, Perez-Cornejo P, Duran C, Hartzell H. Criss and Faundez V. 2012. A comprehensive strategy to identify stoichiometric membrane protein interactomes. *Cellular Logistics*. Oct/Nov/Dec; 2(4):1-8.
- 20) Martel-Gallegos G, Casas-Pruneda G, Ortega-Ortega F, Sánchez-Armass S, Olivares-Reyes A, Diebold B, Pérez-Cornejo P and Arreola J. 2013. Oxidative Stress induced by P2X7 Receptor Stimulation in Murine Macrophages is mediated by c-Src/Pyk2 and ERK1/2. *Biochim Biophys Acta*. 2013 Oct;1830(10):4650-9. doi: 10.1016/j.bbagen.2013.05.023. Epub 2013 May 24.
- 21) Juárez-Cepeda J, Orta-Zavalza E, Cañas-Villamar I, Arreola-Gómez J, Pérez-Cornejo GP, Hernández-Carballo CY, Gutiérrez-Escobedo G, Castaño I, De Las Peñas A. 2015. The EPA2 adhesin encoding gene is responsive to oxidative stress in the opportunistic fungal pathogen *Candida glabrata*. *Curr Genet*. Nov;61(4):529-44. doi: 10.1007/s00294-015-0473-2.
- 22) Pérez-Flores G, Lévesque SA, Pacheco J, Vaca L, Lacroix S, Pérez-Cornejo P, Arreola J. 2015. The P2X7/P2X4 interaction shapes the purinergic response in murine macrophages. *Biochem Biophys Res Commun*. Nov 20;467(3):484-90. doi: 10.1016/j.bbrc.2015.10.025.
- 23) Cruz-Rangel S., De Jesús-Pérez JJ, Contreras-Vite JA, Pérez-Cornejo P, Hartzell HC, Arreola J. 2015. Gating modes of calcium-activated chloride channels TMEM16A and TMEM16B. *J Physiol*. Dec 15; 593(24):5283-98. DOI: 10.1113/JP271256.
- 24) Contreras-Vite JA, Cruz-Rangel S, De Jesús-Pérez JJ, Figueroa IA, Rodríguez-Menchaca AA, Pérez-Cornejo P, Hartzell HC, Arreola J. 2016. Revealing the activation pathway for TMEM16A chloride channels from macroscopic currents and kinetic models. *Pflugers Arch*. Jul;468(7):1241-57. doi: 10.1007/s00424-016-1830-9.
- 25) Pérez-Flores G, Hernández-Silva C, Gutiérrez-Escobedo G, De Las Peñas A, Castaño I, Arreola J, Pérez-Cornejo P. 2016. P2X7 from j774 murine macrophages acts as a scavenger receptor for bacteria but not yeast. *Biochem Biophys Res Commun*. Dec 2;481(1-2):19-24. doi: 10.1016/j.bbrc.2016.11.027.
- 26) Cruz-Rangel S, De Jesús-Pérez JJ, Aréchiga-Figueroa IA, Rodríguez-Menchaca AA, Pérez-Cornejo P, Hartzell HC, Arreola J. 2017. Extracellular protons enable activation of the calcium-dependent chloride channel TMEM16A. *J Physiol*. Mar 1;595(5):1515-1531. doi: 10.1113/JP273111.
- 27) De Jesús-Pérez, J. J., Cruz-Rangel, S., Espino-Saldaña, A. E., Martínez-Torres, A., Qu, Z., Hartzell, H. C., Corral-Fernandez, N. E., Perez-Cornejo, P. & Arreola, J. 2018. Phosphatidylinositol 4, 5-bisphosphate, cholesterol, and fatty acids modulate the calcium-activated chloride channel tmem16a (ano1). *Biochimica et Biophysica Acta (BBA)-Molecular and Cell Biology of Lipids*, 1863(3), 299-312.
- 28) Segura-Covarrubias, G., Arechiga-Figueroa, I.A., De Jesus-Perez, J.J. Sanchez-Solano, A., Perez-Cornejo, P. and Arreola, J. 2020. Voltage-dependent protonation of the calcium pocket enable activation of the calcium-activated chloride channel Anoctamin-1 (TMEM16A). *Scientific Reports*, 10(1):6644. DOI: 10.1038/S41598-020-62860-9.
- 29) Sanchez-Solano, A., Corral, N., Segura-Covarrubias, G., Guzman-Hernandez, M.L., Arechiga-Figueroa, I.A., Cruz-Rangel, S., Perez-Cornejo, P. and Arreola, J. 2020. Regulation of the Ca-

activated chloride channel Anoctamin-1 (TMEM16A) by Ca<sup>2+</sup>-induced interaction with FKBP12 and Calcineurin. *Cell Calcium*, 89:102211. DOI: 10.1016/J.CECA.2020.102211. Epub 2020 May 8.

- 30) Perez-Cornejo, P., Corral-Fernandez, N.E., Guzman-Hernandez, M.L. and Gopalan, C. 2021. Nutrition Education on Obesity and Diabetes to Medical Students. *Advances in Physiology Education*, 45(2), 217-223. <https://doi.org/10.1152/advan.00193.2020>
- 31) Leon-Aparicio, D., Sanchez-Solano, A., Arreola, J., Perez-Cornejo, P. 2022. Oleic acid blocks the calcium-activated chloride channel TMEM16A/ANO1. *Biochim Biophys Acta Mol Cell Biol Lipids*, 1867(5):159134. doi: 10.1016/j.bbalip.2022.159134.

#### NON-PEER REVIEWED PUBLICATIONS

1. Perez-Cornejo P. 2005. Haciendo investigación básica en la Facultad de Medicina: una historia personal. *Boletín Informativo de la Facultad de Medicina-UASLP*. Volumen 48 (4): 127-131. ISSN 0188-9680.
2. Reyes JP, Espinosa-Tanguma R, Basurto MA, Meza U, Pérez-Cornejo P, Arreola J and Rubio R. 2006. Role of endothelial integrins in flow transduction: A review and a novel experimental approach. *Episteme* No. 8-9 Año 2, Octubre-Diciembre. (ISSN 1665-9317).
3. Perez-Cornejo P. 2013. Aprendizaje activo en Fisiología. *Boletín Informativo de la Facultad de Medicina-UASLP*. Volumen 56 (3): 172-174. ISSN 0188-9680.
4. Patricia Pérez-Cornejo. 2016. A researcher discovers teaching. *Science* 08 Apr 2016: Vol. 352, Issue 6282, pp. 262. DOI: 10.1126/science.352.6282.262
5. Pérez Cornejo P, Barajas Espinosa A, Méndez Maldonado A. 2016. Medicina y Fisiología: un vínculo permanente en la UASLP. *Universitarios Potosinos*. Año 13 (204): 28-33. ISSN-1870-1698.

#### TEACHING

- 1) Biochemistry. School of Medicine, UASLP. 1997-1999.
- 2) Human Physiology. School of Medicine, UASLP. 2003-presente.
- 3) Cell Biology. School of Medicine, UASLP. 1997.
- 4) Biophysics. Institute of Physics, UASLP. 1997 and 2003.
- 5) Introduction to Cell Biology, UASLP. 2021-2022.