Petronel Tuluc – CV

Assoc. Prof., Priv.-Doz. M.Sc, Ph.D.

Contact

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Personal data

Date of Birth:	January 8, 1977
Place of Birth:	Iași, Romania
Nationality:	Romanian

Education

2018	"Venia docendi" (Habilitation) in Pharmacology.
2004 - 2008	Doctoral studies (PhD) in the laboratory of Dr. Bernhard E. Flucher (University of Innsbruck) studying Voltage Gated Calcium Channels in health and disease.
2001 - 2003	Master of Science in Medical physics – Biophysics at Alexandru I. Cuza University of Iași, Romania.
2002 - 2002	Erasmus scholarship at Institute Européen des Membrane, Montpellier, France studying Plasma Enhanced Chemical Vapour Deposition techniques.
1997 - 2001	Bachlor in Physics/Biophysics at Alexandru I. Cuza University of Iași, Romania.

Academic career history

2018-presently	Associate Professor, Department of Pharmacology and Toxicology, University of Innsbruck.
2012 - 2018	Assistant Professor, Department of Pharmacology and Toxicology, University of Innsbruck.
2010 - 2012	Univ. Assistant (postdoc), Department of Pharmacology and Toxicology, University of Innsbruck.
2008 - 2010	Principal investigator in MUI research grant MFI 2007-417 (Selbstantrag/Fellowship), Medical University Innsbruck.

Main research areas

- Role of Ca_V calcium channels in endocrine cells hormone release. Molecular mechanism of insulin release in health and Diabetes Mellitus.
- Structure and function of Ca_V channels and their voltage sensing mechanism.
- Computer modelling of membrane excitability.
- Skeletal and cardiac muscle excitation-contraction coupling.

Past research funding

2025-2030 (€307.488)	FWF FG35: Multi-system study of pathogenic CACNA1D variants (Co-PI, Speaker N. Ortner)
2023-2027 (€1.441.421)	FWF doc.funds: CavX PhD programm – Calcium channels in excitable cells. (Speaker).
2023-2027 (€191.456)	University of Innbruck Co-Funding for the CavX PhD programm – Calcium channels in excitable cells. (Speaker).
2022-2026 (€408.604)	FWF: Role of $Ca_V1.3$ Ca^{2+} channel in pancreatic β-cell function. (PI).
2019-2022 (€405.026)	FWF: Mechanisms responsible for sex difference in insulin release. (PI).
2018-2022 (€170.670)	FWF doc.funs: CavX PhD programm – Calcium channels in excitable cells. (Co-PI, Speaker G. Obermair)
2014-2016 (€19.804)	Forschungsförderungsmitteln der Nachwuchsförderung 2014 der Universität Innsbruck " Role of $Ca_V1.3$ calcium channel modulation in pancreatic hormones release ". (PI).
2012-2014 (€10.000)	Jubiläumsfonds der Universität Innsbruck " Role of $Ca_V1.3$ calcium channel in pancreatic β-vell survival and insulin release". (PI).
2011-2015 (€399.913)	FWF: "Expression and function of the skeletal muscle calcium channel splice variant $Ca_V1.1$-DE29". (Co-PI with B.E. Flucher).
2008-2010 (€125.923)	Medical University Innsbruck research grant MFI 2007-417, "The role of calcium channel $\alpha_2\delta$-1 subunit in native cardiac myocytes". (PI).
Total = 3.280.348€; Own part = 1.891.680€.	

Peer review activities

Ad hoc referee for: Diabetes, Nature Communications, Channels, Biophysical Journal, European Journal of Neuroscience, European Journal of Physiology, Translational Psychiatry, PLOS one, Scientific Reports, Cell Reports, J. Gen. Physiology, Toxicology in Vitro, Hungarian Scientific Research Fund, Medical Research Fund-UK, Marsden Fund-NZ.

Publications

44 (36 original publications, 8 reviews/book chapters). Citations, h-index.

Full publication list in PubMed

Most important publications

1 Jacobo-Piqueras, N., Theiner, T., Geisler, S. M. & Tuluc, P. Molecular mechanism responsible for sex differences in electrical activity of mouse pancreatic beta cells. ***JCI Insight*** 9, doi:10.1172/jci.insight.171609 (**2024**) https://www.ncbi.nlm.nih.gov/pubmed/38358819

2 Geisler, S. M., Ottaviani, M. M., Jacobo-Piqueras, N., Theiner, T., Mastrolia, V., Guarina, L., Ebner, K., Obermair, G. J., Carbone, E. & Tuluc, P. Deletion of the alpha(2)delta-1 calcium channel subunit

increases excitability of mouse chromaffin cells. ***J Physiol*** 602, 3793-3814, doi:10.1113/JP285681 (**2024**) https://www.ncbi.nlm.nih.gov/pubmed/39004870

3 Mastrolia, V., Flucher, S. M., Obermair, G. J., Drach, M., Hofer, H., Renstrom, E., Schwartz, A., Striessnig, J., Flucher, B. E. & Tuluc, P. Loss of alpha(2)delta-1 Calcium Channel Subunit Function Increases the Susceptibility for Diabetes. ***Diabetes*** 66, 897-907, doi:10.2337/db16-0336 (**2017**) https://www.ncbi.nlm.nih.gov/pubmed/28115397

4 Tuluc, P., Yarov-Yarovoy, V., Benedetti, B. & Flucher, B. E. Molecular Interactions in the Voltage Sensor Controlling Gating Properties of CaV Calcium Channels. ***Structure*** 24, 261-271, doi:10.1016/j.str.2015.11.011 (**2016**) https://www.ncbi.nlm.nih.gov/pubmed/26749449

5 Azizan, E. A., Poulsen, H., Tuluc, P., Zhou, J., Clausen, M. V., Lieb, A., Maniero, C., Garg, S., Bochukova, E. G., Zhao, W., Shaikh, L. H., Brighton, C. A., Teo, A. E., Davenport, A. P., Dekkers, T., Tops, B., Kusters, B., Ceral, J., Yeo, G. S., Neogi, S. G., McFarlane, I., Rosenfeld, N., Marass, F., Hadfield, J., Margas, W., Chaggar, K., Solar, M., Deinum, J., Dolphin, A. C., Farooqi, I. S., Striessnig, J., Nissen, P. & Brown, M. J. Somatic mutations in ATP1A1 and CACNA1D underlie a common subtype of adrenal hypertension. ***Nat Genet*** 45, 1055-1060, doi:10.1038/ng.2716 (**2013**) https://www.ncbi.nlm.nih.gov/pubmed/23913004

6 Tuluc, P., Molenda, N., Schlick, B., Obermair, G. J., Flucher, B. E. & Jurkat-Rott, K. A CaV1.1 Ca2+ channel splice variant with high conductance and voltage-sensitivity alters EC coupling in developing skeletal muscle. ***Biophys J*** 96, 35-44, doi:10.1016/j.bpj.2008.09.027 (**2009**) https://www.ncbi.nlm.nih.gov/pubmed/19134469

7 Tuluc, P., Kern, G., Obermair, G. J. & Flucher, B. E. Computer modeling of siRNA knockdown effects indicates an essential role of the Ca2+ channel alpha2delta-1 subunit in cardiac excitation-contraction coupling. ***Proc Natl Acad Sci U S A*** 104, 11091-11096, doi:10.1073/pnas.0700577104 (**2007**) https://www.ncbi.nlm.nih.gov/pubmed/17563358

Most important scientific/scholarly research achievements apart from academic publications

1. 2001: Erasmus Scholarsip – Montpellier, France.
2. 2007: Molecular Cell Biology and Oncology doctoral program award fellowship.
3. 2008: Research Fellowship of the Medical University of Innsbruck.
4. 2010: Early investigator award from The American Biophysical Society and the Biophysical Society of China.
5. 2013: International calcium channel symposium, Symposium Speaker (March 24-29, Krabi Thailand).
6. 2018: 3rd European Calcium Channel Conference, Speaker, May 9-12, Alpbach, Austria.
7. 2021: Austrian Neuroscience association meeting, Symposium Speaker, September 28-20, Salzburg, Austria.
8. 2022: 21st International Symposium on Chromaffin cell Biology, Symposium Speaker (7-12 July 2022, Hamburg, Germany).
9. 2022: 4th European Calcium Channel Conference, Session Chair, May 24-28, Alpbach, Austria.
10. 2023: Coordinator of the FWF-funded Ca_V*X* PhD program.
11. 2024: Ion Channels, Smart Materials and Neuroscience Conference, Symposium Speaker (Singapore, February 20-24)
12. 2024: International calcium channel symposium, Symposium Speaker (February 25- March 1, Boracay, Phillipines).
13. 2024: Austrian Biophysical Society Meeting, Symposium Speaker (July 8-10, Salzburg, Austria)