Personal details

Name:	Xaver KÖNIG	Acad. Degree:	PhD
Current position:	Associate Professor		
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Publications:	Google Scholar - Xaver Koenig		

Education

2007 - 2012 **Ph.D.,** Medical University of Vienna, Austria
1998 - 2006 **M.S., Physics,** Technical University of Vienna, Austria

Academic positions

2021 - … **Associate Professor**, MUW, Austria
2018 - 2021 **Assistant Professor,** MUW, Austria
2017 - 2018 P**ostdoctoral Research Fellow,** MUW, Austria
2015 - 2017 **Postdoctoral Research Fellow,** Queensland University, **Brisbane, Australia**
2012 - 2015 **Postdoctoral Research Fellow,** MUW, Austria

Career breaks

2019 paternity leave, 1st child, 8 months
2024 paternity leave, 2nd child, 2 months

Research interests

- Skeletal and cardiac muscle physiology in the context of muscular dystrophies
- Pharmacology of ion channels, in particular cardiac ion channels
- Calcium handling in skeletal muscle
- Store-operated Calcium entry in skeletal muscle
- Metabolic changes in heart failure

Mentoring and supervision experience

- **Teaching**

2015 - 2017 **University of Queensland**, curriculum BIOM2011, practical courses in physiology
2013 - … **Medical University of Vienna**, curriculum N202: human medicine
– block 2, Lecture: Muscle physiology
– block 4, Lecture: Functional systems and biological regulation
Seminar and Practical course: Neurophysiology
– block 18, Practical course: skin and sensory organs
– block 19, Practical course: brain and nervous system
2020 - … – block 11, Seminar: Cardiac pharmacology
– thesis seminar: Applied experimental pharmacology

- **PhD and master student supervision and committee functions**

Nicholas Hächl, master student, MUW
Stefanie Gewessler, master student, MUW
Benjamin Hackl, PhD student, MUW
Elena Lilliu, PhD student, MUW
Ibrahim Aykac, PhD committee, MUW
Johannes Pfabe, PhD committee, MUW
Loann Laubry, PhD committee, University of Geneva

- **Education and training**

2022 – 2023 Leadership curriculum, MUW

Academic publications (10 most important)

1. Choi RH, Koenig X, Launikonis BS. Dantrolene requires Mg^{2+} to arrest malignant hyperthermia. *Proceedings of the National Academy of Sciences*. 2017;114(18):4811-4815. doi:10.1073/pnas.1619835114

2. Koenig X, Choi RH, Schicker K, Singh DP, Hilber K, Launikonis BS. Mechanistic insights into store-operated Ca^{2+} entry during excitation-contraction coupling in skeletal muscle. *Biochimica et Biophysica Acta - Molecular Cell Research*. 2019;1866(7). doi:10.1016/j.bbamcr.2019.02.014

3. Koenig X, Choi RH, Launikonis BS. Store-operated Ca2+ entry is activated by every action potential in skeletal muscle. *Communications Biology*. 2018;1(1). doi:10.1038/s42003-018-0033-7

4. Koenig X, Rubi L, Obermair GJ, et al. Enhanced currents through L-type calcium channels in cardiomyocytes disturb the electrophysiology of the dystrophic heart. *American journal of physiology Heart and circulatory physiology*. 2014;306(4):H564-73. doi:10.1152/ajpheart.00441.2013

5. Mille M, Koenig X, Zebedin E, et al. Sodium current properties of primary skeletal myocytes and cardiomyocytes derived from different mouse strains. *Pflugers Arch - Eur J Physiol*. 2009;457(5):1023-1033. doi:10.1007/s00424-008-0570-x

6. Mills RJ, Titmarsh DM, Koenig X, et al. Functional screening in human cardiac organoids reveals a metabolic mechanism for cardiomyocyte cell cycle arrest. *Proceedings of the National Academy of Sciences of the United States of America*. 2017;114(40):E8372-E8381. doi:10.1073/pnas.1707316114

7. Rubi L, Todt H, Kubista H, Koenig X, Hilber K. Calcium current properties in dystrophin-deficient ventricular cardiomyocytes from aged mdx mice. *Physiological Reports*. 2018;6(1). doi:10.14814/phy2.13567

8. Rubi L, Gawali VS, Kubista H, Todt H, Hilber K, Koenig X. Proper Voltage-Dependent Ion Channel Function in Dysferlin-Deficient Cardiomyocytes. *Cellular Physiology and Biochemistry*. 2015;36(3):1049-1058. doi:10.1159/000430278

9. Rubi L, Koenig X, Kubista H, Todt H, Hilber K. Decreased inward rectifier potassium current IK1 in dystrophin-deficient ventricular cardiomyocytes. *Channels*. 2017;11(2):101-108. doi:10.1080/19336950.2016.1228498

10. Szabó PL, Ebner J, Koenig X, et al. Cardiovascular phenotype of the DMDmdx rat - A suitable animal model for Duchenne muscular dystrophy. *DMM Disease Models and Mechanisms*. 2021;14(2):0-3. doi:10.1242/DMM.047704

Additional research achievements

- **Third party funding**

2018 - 2020 *„Defining the Role of Store-operated Calcium Entry in Dystrophic Skeletal Muscle“,* Österreichische Muskelforschung, **17.320 EUR**

2019 - 2024 *„Store-operated Calcium Entry in Skeletal Muscle“,* Fonds zur Förderung der wissenschaftlichen Forschung (FWF), **330.000 EUR**

2020 - 2024 *“Metabolic therapy of heart failure: which role for B vitamins”*, Era-Net CVD Joint Transnational Call 2019, **260.000 EUR**

2022 - 2024 ÖAW, DOC fellowship to Elena Lilliu, **78.000 EUR**

- **Invited talks and awards**

2016 Nomination for „österreichischer Staatspreis Patent“ (category „Spezialpreis Hedy-Lamarr“), *“Pyridine und Pyrimidine als cardiogene Wirkstoffe“*

2018 15th International meeting of the European Calcium Society, Hamburg, Germany; *“Store-operated Calcium entry is activated during excitation-contraction coupling in skeletal muscle”* Roland Pochet poster award,

2019 Invited seminar talk, University of Innsbruck, Innsbruck, Austria; “*Store-operated Calcium entry in skeletal muscle”*

2021 Invited talk, Austrian Neuroscience meeting, Salzburg, Austria*; “Ion channel defects in the dystrophic heart”*

2021 Invited seminar talk, Karl Landsteiner University, Krems, Austria; “*On the Physiological Role of Store-Operated Calcium Entry in Skeletal Muscle”*

- **Review activities**

Journal of Molecular and Cellular Cardiology, Neuropharmacology, British Journal of Pharmacology, Journal of psychoactive drugs, Scientific Reports, Biophysical Journal, Biochemical Pharmacology, American Journal of Physiology, PLoS One. **International funding agencies**: MRC; ANR; Hungarian Academy of Sciences; Search for excellence University G. d’Annunzio of Chieti-Pescara, Italy

- **Invention notifications and patents**

1. *“Composition for the treatment of cystic fibrosis”* PCT: WO2011015630
2. *“Substituted pyridines and pyrimidines for the production of cardiac myocyte-like cells”,* PCT: WO2011079343.
3. *„Triazin-Derivate als Differenzierungsbeschleuniger“,* AT 511441

- **Memberships**

Österreichische Pharmakologische Gesellschaft (APHAR), Österreichische Biophysikalische Gesellschaft (OeBG), Australian Physiological Society (AuPS), European Calcium Society (ECS), American Association for the advancement of Science (AAAS)