

Lebenslauf

Persönliche Daten

Name: Boris Musset
Geburtsdatum: 08.02.1973
Familienstand: verheiratet
Kinder: Sohn geb: 2003
Tochter geb: 2015

Schul- und Hochschulausbildung inkl. (voraussichtlichem) Datum der Promotion und ggf. Habilitation

1993 Abitur Niedersächsisches Internatsgymnasium
Esens
1993-1994 Wehrdienst Emden und Prenzlau
2000 Diplom in Biologie (Physiologie-Zoologie) Uni.
Osnabrück
2005 Dr. rer. nat. (Physiologie) Uni. Marburg
2008 Dr. rer. physiol. (Humanbiologie) Uni. Marburg
2011 **Assistant Professor Rush University Chicago**
(Habitations Äquivalent DFG)
2013 **Gruppenleiter Fz-Jülich ICS-4 Biophysik**
2015 **Univ-Prof. PMU Nürnberg Physiologie**

Wissenschaftliche Tätigkeit seit Abschluss des Studiums

2000-2001 Wiss. Mitarbeiter Physiologie Uni. Osnabrück
2001-2005 Doktorarbeit Zellphysiologie Uni. Marburg
2006 Professor Schmidtman Stipendium an der Rush
University Chicago DeCoursey Labor **20.000 €**
2006-2007 Postdoc Neurodynamics Marburg Germany
2007 Postdoc DeCoursey Laboratory, Chicago, USA
2008 Zweites Professor Schmidtman Stipendium im
DeCoursey Labor **20.000 €**
2010 Iacocca grant **\$ 165.000**
2011 **PI (Principal Investigator)**, Rush University,
Chicago, USA
2013 **Gruppenleiter Fz-Jülich ICS-4**
2015 DFG Förderung 3 Jahre (320000 €)
2015 **Univ-Prof. PMU Nürnberg Physiologie**

Preise und Stipendien

2003 Medizinstiftung Marburg
2005 Stipendium Adolf-Schmidtman-Stiftung (20000 €)
2008 Stipendium Adolf-Schmidtman-Stiftung (20000 €)
2010 Grant Iacocca Foundation (\$165000)
2015 DFG Förderung 3 Jahre (320000 €)

Editorials Comments (Vom Editor kommentierte Veröffentlichungen)

2008 Eder C. A mysterious channel: new insights into proton channel functioning raise new questions
J Physiol. 2008 May 15;586(10):2419-20.
2010 Okamura Y Single or Double? Think Zinc!
J Physiol. 2010 Jun 1;588(Pt 11):1803-4.
2010 Reth M, Dick TP. Voltage control for B cell activation.
Nat Immunol. 2010 Mar;11(3):191-2.

Vorträge

2004 DPG-Tagung Leipzig (Germany)

2004 Department for molecular Biophysics and Physiology Rush medical center
Chicago (USA)
2010 DPG-Tagung Kopenhagen (Denmark)
2010 Seminar Institute for Physiologie in Marburg (Germany)
2012 Seminar Physiologie Tübingen (Germany)
2012 Seminar Physiologie Frankfurt Main (Germany)
2012 Seminar Berlin MDC ECRC (Germany)
2012 Seminar Physiologie Münster (Germany)
2012 Talk Rostov Don Nephrology Congress (Russia)
2012 Finalist Heisenberg-Stipendium DFG Bonn (Germany)
2013 Seminar Forschungszentrum Jülich (Germany)
2013 Seminar Caesar Bonn (Germany)
2014 Seminar RWTH Aachen (Germany)
2014 Seminar Physiologie Würzburg (Germany)
2015 DPG-Tagung Magdeburg (Germany)
2015 Klinikum Nürnberg

Lehre

2001-2006 Praktika

Hören
Sehen
Leistung
Atmung
Nerv
Muskel
Reflexe
Herz-EKG

Seminar mit klinischen Bezügen

2001-2005 Patch-Clamp zweiwöchiger Kurs für Studenten (Herzmuskelzellen/ Kir- und
K2P Kanäle

insgesamt mehr als 392 akademische Stunden

2013 Computer Praktikum Säure Base Haushalt Rush University Chicago
2014 Medizindidaktik --- Strukturieren von Lehrveranstaltungen
2014 Praktika RWTH Aachen
Kreislaufmechanik
2015 Schülerpraktikanten 2 Wochen
2015 Seminar Interdisziplinäre Propädeutik der Organsysteme Herz RWTH Aachen
2015 Medizindidaktik --- Basiskurs Lehre I Teil des LAMA Zertifikates

Betreute akademische Arbeiten

2003-2004 medizinische Doktorarbeit
2005-2006 Diplomarbeit Humanbiologie
2001-2005 drei Grosspraktiken (8-12 Wochen)
2014-2017 Promotion Dr. rer. nat. Universität Düsseldorf am Fz-Jülich

Mitgliedschaften

Biophysical Society ab 2008
Deutsche Physiologische Gesellschaft ab 2004
Society for Leukocyte Biology 2007-2008
Deutsche Gesellschaft für Biophysik ab 2015

Veröffentlichungen

Chaves, G., Derst, C., Franzen, A., Mashimo, Y., Machida, R. & **Musset, B.** (2016) Identification of an
H_v1 Voltage-Gated Proton Channel in Insects, *Febs J.* in press
Cherny, V. V., Morgan, D., **Musset, B.**, Chaves, G., Smith, S. M., and DeCoursey, T. E. (2015)
Tryptophan 207 is crucial to the unique properties of the human voltage-gated proton channel,
hHV1. *J Gen Physiol* **146**, 343-356 *IF*≈4.788

- Dudev T, **Musset B**, Morgan D, Cherny VV, Smith SM, Mazmanian K, DeCoursey TE & Lim C. (2015). Selectivity Mechanism of the Voltage-gated Proton Channel, Hv1. *Sci Rep* **5**, 10320. IF=5.578
- Hondares, E., M. Brown, **B. Musset**, D. Morgan, V. Cherny, C. Taubert, M. Bhamrah, D. Coe, F.-Berg, J. Gribben, M. Dyer, T.E. DeCoursey, and M. Capasso (2014). Enhanced activation of an amino-terminally truncated isoform of voltage-gated proton channel HVCN1 enriched in malignant B cells *Proc Natl Acad Sci U S A*, **111**: 18078-18083. IF=9.809
- Morgan, D., **B. Musset**, K. Kulleperuma, S.M. Smith, S. Rajan, V.V. Cherny, R. Pomes, and T.E. DeCoursey. (2013). Peregrination of the selectivity filter delineates the pore of the human voltage-gated proton channel hH_V1. *J Gen Physiol* **142**(6):625-640. IF=4.57
- Kulleperuma, K., S.M. Smith, D. Morgan, **B. Musset**, J. Holyoake, N. Chakrabarti, V.V. Cherny, T.E. DeCoursey, and R. Pomes. (2013). Construction and validation of a homology model of the human voltage-gated proton channel hH_V1. *J Gen Physiol* **141**(4):445-465. IF=4.57
- Musset, B**, and T.E. Decoursey. (2012). Biophysical properties of the voltage gated proton channel H_V1. *Wiley Interdiscip Rev Membr Transp Signal* **1**(5):605-620.
- Musset B**, Clark RA, Decoursey TE, Petheo GL, Geiszt M, Chen Y, Cornell JE, Eddy CA, Brzyski RG, El Jamali (2012). A. NOX5 in Human Spermatozoa: EXPRESSION, FUNCTION, AND REGULATION. *J Biol Chem*, **287**:9376-9388. IF=4.651
- Musset B**, Cherny VV, DeCoursey TE (2012). Strong glucose dependence of electron current in human monocytes. *Am J Physiol Cell Physiol*, **302**:C286-295. IF=3.71
- Musset B**, Smith SM, Rajan S, Morgan D, Cherny VV, Decoursey TE (2011). Aspartate¹¹² is the selectivity filter of the human voltage-gated proton channel. *Nature*, **480**:273-277. IF=36.3
- Smith SM, Morgan D, **Musset B**, Cherny VV, Place AR, Hastings JW, Decoursey TE (2011). Voltage-gated proton channel in a dinoflagellate. *Proc Natl Acad Sci U S A*, **108**:18162-18167. IF=9.7
- Musset, B.**, Smith, S. M., Rajan, S., Cherny, V. V., Morgan, D., & DeCoursey, T. E. (2010). Oligomerization of the voltage-gated proton channel. *Channels (Austin)*, **4**(4), 260-265. IF=2.103
- Musset, B.**, Smith, S. M., Rajan, S., Cherny, V. V., Sujai, S., Morgan, D., DeCoursey, T. E. (2010). Zinc inhibition of monomeric and dimeric proton channels suggests cooperative gating. *J Physiol*, **588**(Pt 9), 1435-1449. IF=4.83
- Capasso, M., Bhamrah, M. K., Henley, T., Boyd, R. S., Langlais, C., Cain, K., Dinsdale, D., Pulford, K., Khan, M., **Musset, B.**, Cherny, V. V., Morgan, D., Gascoyne, R. D., Vigorito, E., DeCoursey, T. E., MacLennan, I.C., Dyer, M.J. (2010). HVCN1 modulates BCR signal strength via regulation of BCR-dependent generation of reactive oxygen species. *Nat Immunol*, **11**(3), 265-272. IF=25.67
- Musset, B.**, Capasso, M., Cherny, V. V., Morgan, D., Bhamrah, M., Dyer, M. J., De- Coursey, T. E. (2010). Identification of Thr29 as a critical phosphorylation site that activates the human proton channel Hvcn1 in leukocytes. *J Biol Chem*, **285**(8), 5117-5121. IF=5.328
- Morgan, D., Capasso, M., **Musset, B.**, Cherny, V. V., Rios, E., Dyer, M. J., DeCoursey, T. E. (2009). Voltage-gated proton channels maintain pH in human neutrophils during phagocytosis. *Proc Natl Acad Sci U S A*, **106**(42), 18022-18027. IF=10.312
- Musset, B.**, Cherny, V. V., Morgan, D., & DeCoursey, T. E. (2009). The intimate and mysterious relationship between proton channels and NADPH oxidase. *FEBS Lett*, **583**(1), 7-12. IF=3.541
- Musset, B.** (2008) Protonen- und Elektronenströme in humanen Monozyten. *Dissertation, Archiv Universitätsbibliothek Marburg*
- Musset, B.**, Morgan, D., Cherny, V. V., MacGlashan, D. W. J., Thomas, L. L., Rios, E., DeCoursey, T. E. (2008). A pH-stabilizing role of voltage-gated proton channels in IgE-mediated activation of human basophils. *Proc Natl Acad Sci U S A*, **105**(31), 11020-11025. IF=9.38

- Musset, B.**, Cherny, V. V., Morgan, D., Okamura, Y., Ramsey, I. S., Clapham, D. E., DeCoursey, T. E. (2008) Detailed comparison of expressed and native voltage-gated proton channel currents. *J Physiol* **586**, 2477-86. IF=4.58
- Ruesch, D., **Musset, B.**, Wulf, H., Schuster, A., & Raines, D. E. (2007). Subunit-dependent modulation of the 5-hydroxytryptamine type 3 receptor open-close equilibrium by n-alcohols. *J Pharmacol Exp Ther*, 321(3), 1069-1074. IF=4.00
- Musset, B.**, Meuth, S. G., Liu, G. X., Derst, C., Wegner, S., Pape, H. C., Budde, T., Preisig-Muller, R., Daut, J. (2006). Effects of divalent cations and spermine on the K⁺ channel TASK-3 and on the outward current in thalamic neurons. *J Physiol*, 572(Pt 3), 639-657. IF=4.41
- Kaufmann, A., **Musset, B.**, Limberg, S. H., Renigunta, V., Sus, R., Dalpke, A. H., Heeg, K.M., Robaye, B., Hanley, P. J. (2005). "Host tissue damage" signal ATP promotes non-directional migration and negatively regulates toll-like receptor signaling in human monocytes. *J Biol Chem*, 280(37), 32459-32467. IF=5.85
- Musset, B.** (2004) ATP induzierte Membranpotenzial-Oszillationen in humanen Makrophagen. *Dissertation, Archiv Universitätsbibliothek Marburg*
- Hanley, P. J., **Musset, B.**, Renigunta, V., Limberg, S. H., Dalpke, A. H., Sus, R., Heeg, K. M., Preisig-Muller, R., Daut, J. (2004). Extracellular ATP induces oscillations of intracellular Ca²⁺ and membrane potential and promotes transcription of IL-6 in macrophages. *Proc Natl Acad Sci U S A*, 101(25), 9479-9484. IF=10.45
- Rajan, S., Preisig-Muller, R., Wischmeyer, E., Nehring, R., Hanley, P. J., Renigunta, V., **Musset, B.**, Schlichthorl, G., Derst, C., Karschin, A., Daut, J. (2002). Interaction with 14-3-3 proteins promotes functional expression of the potassium channels TASK-1 and TASK-3. *J Physiol*, 545(Pt 1), 13-26. IF=4.65