

CURRICULUM VITAE

Name: **AMUZESCU P. BOGDAN**

Date and place of birth: November 27, 1965, Bucharest, Romania

Marital status: divorced

Children: one daughter (born on April 4, 1994)

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EDUCATION

- 1972 - 1976 Elementary school no. 80 in Bucharest
1976 - 1980 Secondary school (gymnasium) no. 117 in Bucharest
1980 - 1984 "Nicolae Balcescu" college in Bucharest (former and present St. Sava National College), mathematics-physics class; Diploma
1985 - 1991 Faculty of Medicine of the "Carol Davila" University of Medicine and Pharmacy in Bucharest; Diploma
1999 - 2000 Master in neurobiology, University of Bucharest
2000 - 2003 PhD student, Faculty of Biology, University of Bucharest; thesis title: "Properties of ion channels in biomembranes" Supervisor: Prof. Maria-Luisa Flonta, Co-promoters: Prof. Willy van Driessche, Prof. Gordon Reid
2000 - 2003 Research fellowship, Dept Mol. Cell Biol, Faculty of Medicine, KU Leuven (Prof. Willy van Driessche)
2003 - 2004 Postdoctoral research fellowship, Cardiac Electrophysiology Group, Center for Experimental Surgery & Anaesthesiology, KU Leuven (Prof. K. Mubagwa)

TRAINING

- 1986-1992 Member of the research team of Andrei Dumitru Iacobas, PhD, lecturer, at the Dept. of Biophysics, Faculty of Medicine; attempts to set up an experimental line for patch-clamp in order to correlate the data obtained in macroscopic and microscopic (single-channel) experiments, with substantial help and encouragement from Prof. Peter N.R. Usherwood, Faculty of Zoology, University of Nottingham, U.K.
1990-1992 Studies concerning the serodiagnosis of HIV infection and research methods in immunology (ELISA, immunoblotting, immunofluorescence, PBMCs separation, lymphocyte cultures) in the Laboratory of Retrovirology, "Stefan S. Nicolau" Institute of Virology, under the direction of I.V. Patrascu, MDV, PhD, and in the Dept. of Microbiology, Faculty of Medicine in Craiova, under the direction of Prof. Constantin Voiculescu; contribution to the establishment of a laboratory for HIV serodiagnosis in Craiova; clinical and serological study of HIV infection in children.
1992-1994 Training in hematology and immunology at the Clinic of Hematology (head Prof. Dan Colita, MD), Fundeni Hospital, Bucharest, under the direction of George M. Grigoriu, MD, assistant lecturer; study of clinical and laboratory features and up-to-date literature in autoimmune diseases, bone marrow grafting.
1993 Course of medical informatics
1993 Course of homeopathy
1994-1995 Training in internal medicine-hepatology at the Lind Medical Clinic, Bucharest University Hospital, under the direction of Prof. Dan Olteanu, MD; study of immune mechanisms and immune modulator therapies in liver diseases (prednisone, azathioprine, human recombinant interferon).
1995-1997 English-Romanian translations: Steven Weinberg – Dreams of a Final Theory; Part three: Genetics and human diseases from Harrison's Principles of Internal Medicine, thirteenth edition.
1999-present Member of the electrophysiology research team, Dept. Animal Physiol. & Biophysics, Faculty of Biology, University of Bucharest
2000-2003 Several 3-months training periods at Dept Mol. Cell Biol, Faculty of Medicine, KU Leuven with Prof. Willy van Driessche: fluctuation analysis and impedance analysis in tight epithelia,

- 2001 two-microelectrode voltage clamp recordings in *Xenopus* oocytes expressing $\alpha\beta\gamma$ rENaC
1-month training programme in patch-clamp recordings on neurons in slices at the Physiologisches Institut, Justus Liebig Universität Gießen under the supervision of Prof. Werner Vogel and Prof. Andreas Scholz
- 2003-2004 postdoctoral researcher in the Cardiac Electrophysiology Group, Center for Experimental Surgery & Anaesthesiology, KU Leuven (Prof. K. Mubagwa): electrophysiology (whole-cell patch clamp on ventricular cardiomyocytes) and molecular biology study of a nonspecific cation conductance blocked by divalent cations in cardiomyocytes

EMPLOYMENTS

- 1991 - 1992 Stagiary physician in Constanta Departmental Hospital, Laboratory of Nuclear Medicine and Ist Medical Clinic
- 1991 - 1992 Associated assistant in the Department of Biophysics, Biotechnology, Medical Informatics and Biostatistics, Faculty of Medicine, "Ovidius" University of Constanta
- 1992 - 1994 Secondary physician (specialization in clinical hematology) in Fundeni Hospital, Clinic of Hematology
- 1994 - 1995 Secondary physician (specialization in internal medicine) in Bucharest University Hospital, IInd Medical Clinic
- 1995 - 2000 Specialist physician (internal medicine) in Bolintin Hospital
- 2000 - 2002 Assistant Lecturer, Dept. Animal Physiol. & Biophysics, Univ. of Bucharest
- 2002 - 2005 Lecturer, Dept. Animal Physiol. & Biophysics, Univ. of Bucharest
- 2005 - present Associate Professor, Dept. Animal Physiol. & Biophysics, Univ. of Bucharest
- 2014 -present Application Scientist, Cytocentrics Bioscience GmbH, Rostock, Germany

TEACHING

[neurobiophysics](#), [anatomy&physiology](#), [data processing](#), [clinical diagnosis & therapy](#)

RESEARCH GRANTS

Program/Project	Position	Duration
World Bank Grant D-22 "Development of an advanced studies & PhD program in molecular physiology centered on neurobiology & membrane biophysics of excitable and nonexcitable cells" (100000 USD)	researcher	1999 - 2002
World Bank Grant PU-19 "Modernizing and optimizing physiology teaching via equilibrated use of interactive computer-assisted training and electrophysiology techniques"(225000 USD)	researcher	1999 - 2002
World Bank Grant B-50 "Molecular Physiology: Electrophysiology techniques and computer modeling of cellular/molecular interactions" (525000 USD)	researcher	1999 - 2002
Flanders-Romania bilateral agreement BIL96 (180000 EUR)	researcher	2000
Flanders-Romania bilateral agreement BIL00 (74000 EUR)	researcher	2001 - 2003
Volkswagen Foundation research grant: "Generation of spontaneous activity in damaged nerve: novel experimental approaches" (135000 EUR)	researcher	2001 - 2004
NATO grant CLG976246 "Mechanisms of diabetic neuropathic pain in the primary sensory neurone" (20000 USD)	researcher	2000 - 2002
Postdoctoral research grant-Dept. Exp. Surgery&Anaesthesiology, KULeuven, Belgium (15000 EUR)	researcher	2003 - 2004
CERES 1/3/2002 "In vitro study of changes within the intracellular signaling network during energy deprivation stress" (10000 EUR)	researcher	2002 - 2003
VIASAN 199/2003 "Modulation mechanisms of ion channels activated by tissue acidosis in peripheral nerve fibers and blood vessels" (50000 EUR)	researcher	2003 - 2005
CEEX 67/2005 "Health protection by development of new complex instruments (laboratory-on-a-chip)" (28570 EUR)	researcher	2005 - 2008
CNCSIS 1030/2006 "Modulation of ENaC/Deg ion channels by intracellular divalent cations and their roles in neuronal ischemia-putative pharmacological targets in	grant coordinator	2006 - 2007

stroke therapy" (22857 EUR)		
CEEX 3191/2005 "Molecular, cellular, and integrated pain mechanisms-medical applications" (100000 EUR)	researcher	2005 - 2010
PNCDI2 Cooperation Grant 61-010/2007 "Mathematical modeling of the electrical activity of neurons and cardiomyocytes – isolated and in tissue – applied to prediction of arrhythmia and response to antiarrhythmics" (500000 EUR)	researcher	2007 - 2010
PNCDI2 Cooperation Grant 80/2012 "Cellular Therapeutic Approaches for Regenerative Stroke Therapy" (465000 EUR)	Scientific manager	2012-2016
POC EU-funded structural grant P_37_675 "Development of automated patch-clamp technologies for pro-arrhythmogenic risk testing of drug candidates" (~1000000 EUR)	Management team member	2016-2019

PRIZES

1st prize for a scientific communication, Romanian Neuroscience Society, 2005

REVIEWER

Invited reviewer: European Journal of Pharmacology, Central European Journal of Biology (currently Open Life Sciences), Romanian Journal of Biophysics, American Journal of Modern Physics, European Journal of Biophysics, Journal of Physical Chemistry and Biophysics, Journal of Neuroscience Methods

COORDINATION ACTIVITY

2007-present: **Coordinator** of *the Group of Mathematical Modeling of Complex Biological Systems*, part of the Research Center in Neurobiology, Department of Biophysics & Physiology, Faculty of Biology, University of Bucharest (<http://neurobiologie.bio.unibuc.ro>)

2006-2008: **Coordinator** of Grant CNCSIS A 1030/2006 - "Modulation of ENaC/Deg ion channels by intracellular divalent cations and their roles in neuronal ischemia-putative pharmacological targets in stroke therapy"

2004-2012: **Advisory board**, Romanian Society of Neuroscience, Bucharest, Romania

2001-present: Teaching staff & co-organizer of the Master in Neurobiology Programme, launched in 1996 by the initiative of Prof. univ. dr. Maria-Luisa Flonta, a programme where over time several prestigious researchers started their scientific career. This programme is internationally recognized and included within the NENS network (Network of European Neuroscience Schools).

RESEARCH INTERESTS AND EXPERTISE

Areas of expertise:

- Mathematical modeling&analysis of complex biological systems (heart, neuronal networks)
- Membrane biophysics and transport phenomena in biomembranes
- Thermodynamics of biological systems
- Molecular electrophysiology&pharmacology – the patch-clamp technique
- Thermotransduction, nociception and pain
- Molecular pathophysiology and experimental models of various diseases: inflammatory and neuropathic pain, diabetic neuropathy, neuronal and myocardial ischemia, Alzheimer's disease

Professional memberships:

Biophysical Society, Safety Pharmacology Society, American Association for the Advancement of Science, Federation of American Societies for Experimental Biology, Federation of European Neuroscience Societies, Romanian Society of Neuroscience, Romanian Society of Pure and Applied Biophysics

Achievements:

32 original scientific papers, of which 17 in international ISI-quoted journals, and presentations at >80 internal or international scientific meetings. >185 citations, Hirsch index: 10

I took part in successful completion of 8 international research grants and 6 internal (Romanian) research grants (1 as grant coordinator). I also had an important contribution in submission of 3 European grant applications, one as Principal Investigator: FP7-206374-1 (ERC-2007-StG), FP7-268842 (ERC-2010-AdG_20100317), 278982(FP7-HEALTH-2011-two-stage).

MAIN SCIENTIFIC RESULTS

- set up of a system for delivery of thermal stimuli to cells during patch-clamp recordings and/or ion imaging experiments, followed by a detailed study of the effects of cooling on capsaicin- or proton-elicited TRPV1 currents in cultured dorsal root ganglia primary sensory neurons
- description and analysis of a biphasic effect of Zn^{2+} on native and heterologously expressed epithelial Na^+ channels (ENaC)
- study of permeation, gating, and regulation properties of a nonselective cation current in ventricular myocytes inhibited by intracellular magnesium and blocked by extracellular divalent and trivalent cations (I_{MIC} – magnesium-inhibited cation current) leading to its identification as TRPM7, and proof of its role in heavy metal ion transport, intracellular Mg^{2+} homeostasis, and activation by exogenous free oxygen radicals
- study of the permeation and gating properties of ASIC1a, analysis of single-channel recordings and validation of an 8-state linear connectivity Markov model for gating, correlation analysis of adjacent events durations, demonstration of an effect of extracellular trypsin on Ca^{2+} permeability and on activation by amitriptyline and FMRF-amide; the activatory effect of low concentrations of amitriptyline (within the therapeutical range) on ASIC1a conductance and gating, evidenced in whole-cell and single-channel experiments, may contribute to the well-known but incompletely understood analgesic effect of tricyclic antidepressants
- set up of detailed electrophysiology models for cardiomyocytes from different cardiac territories starting from a reduced compartmented model of guinea pig ventricular cardiomyocyte (Faber-Rudy 2007) comprising Markov models for the L-type Ca^{2+} channel and ryanodine receptor and Ca^{2+} dynamics between various intracellular compartments (network and junctional sarcoplasmic reticulum, bulk myoplasm, and the “subspace” between t tubules and junctional sarcoplasmic reticulum), to be further used for “in silico” models of human heart electrophysiology and pharmacology
- mathematical study of an early ventricular cardiomyocyte model (Luo-Rudy I 1991) using the tools of dynamic systems analysis and bifurcation theory, for different values of model parameters, and finding configurations of parameters leading to sustained oscillations, important in defining arrhythmogenic mechanisms

PUBLICATIONS

1. Iacobas A.D., Amuzescu B., Ciontu Cristina (1990) : Procedeu de realizare a micropipetelor pentru culegerea curentilor ionici unicanal din biomembrane; Brevet RO-102203. Monitorul Oficial, Bucuresti.
2. Iacobas A.D., Amuzescu B., Ciontu Cristina (1990) : Aspecte energetice si informationale in studiile de bioelectrogeneza. in "Aspecte energetice si informationale in ecosisteme" (ed. Marioara Godeanu), A.O.S. Braila.
3. Iacobas A.D., Amuzescu B., Ciontu Cristina (1990) : Sistem de filtrare, detectie si prelucrare numerica a semnalelor canalelor ionice. in "Cibernetica aplicata", Ed. Acad., Bucuresti.
4. Reid G., Amuzescu B., Zech E., Flonta M.-L. (2001) : A system for applying rapid warming or cooling stimuli to cells during patch clamp recording or ion imaging. *J. Neurosci. Methods* 111(1):1-8. (24 citations)
5. Babes A., Amuzescu B., Krause U., Scholz A., Flonta M.-L., Reid G. (2002) : Cooling inhibits capsaicin-induced currents in cultured rat dorsal root ganglion neurones. *Neurosci. Lett.* 317(3):131-134. (30 citations)
6. Amuzescu B., Ion S., Popescu D., Movileanu L., Avram S., Macri B., Flonta M.-L. (2002) : Thermal group motion creates stochastic pores in plane phosphatidylcholine bilayers. *Romanian J. Biophys.* 12 (1-2): 37-52.
7. Pena F., Neaga E., Amuzescu B., Nitu A., Flonta M-L (2002) : Amitriptyline has a dual effect on the conductive properties of the epithelial Na channel. *J Pharm. Pharmacol.* 54:1393-1398. (4 citations)
8. Amuzescu B., Segal A., Flonta M-L., Simaels J., Van Driessche, W. (2003) : Zinc is a voltage-dependent blocker of native and heterologously expressed epithelial Na⁺ channels. *Pflügers Arch.* 446: 69-77. (6 citations)
9. Gwanyanya A., Amuzescu B., Zakharov S., Macianskiene R., Sipido K., Bolotina V., Vereecke J., Mubagwa K. (2004) : Magnesium-inhibited, TRPM6/7-like channel in cardiac myocytes: permeation of divalent cations and pH-mediated regulation. *J. Physiol.*, 559(3): 761-776. (37 citations)
10. Neaga E., Amuzescu B., Dinu C., Macri B., Pena F., Flonta M.-L. (2005) : Extracellular trypsin increases ASIC1a selectivity for monovalent versus divalent cations. *J. Neurosci. Methods* 144: 241-248. (8 citations)
11. Pena F., Amuzescu B., Neaga E., Flonta M.-L. (2006): Thermodynamic properties of hyperpolarization-activated current (I_h) in a subgroup of primary sensory neurons, *Exp. Brain Res.*, 173(2):282-290. (1 citation)
12. Marin A., Prica C., Amuzescu B., Neaga E., Flonta M.-L. (2008): ASIC1a activation by amitriptyline and FMRF-amide is removed by serine proteases, *Channels* 2(6):419-428. (2 citations)
13. Popescu D., Popescu A.G., Amuzescu B. (2010): Pulsatory liposomes – a possible biotechnological device for controlled drug delivery. I. The liposome swelling, *Rom. J. Biophys.* 20(1):37-46.
14. Popescu D., Popescu A.G., Amuzescu B., Maries E. (2010): Pulsatory liposomes – a possible biotechnological device for controlled drug delivery. II. The pore appearance, *Rom. J. Biophys.* 20(2):171-181.
15. Popescu A.G., Popescu D., Ion S., Amuzescu B. (2010): Pulsatory liposomes – a possible biotechnological device for controlled drug delivery. III. The liposome relaxation, *Rom. J. Biophys.* 20 20(3):223-234.
16. Bichir C.L., Georgescu A., Amuzescu B., Nistor G., Popescu M., Flonta M.-L., Corlan A.D., Svab I. (2011): Limit cycles by FEM for a one-parameter dynamical system associated to the Luo-Rudy I model, *ROMAI J.* 6(2):27-39.
17. Corlan A.D., Amuzescu B., Milicin I., Iordachescu V., Poenaru E., Corlan I., De Ambroggi L. (2011): Intercellular conductance variability influences early repolarization potentials in a myocardial tissue model with stochastic architecture, *Advanced Topics in Electrical Engineering (IEEE Proceedings, ISSN 2068-7966):*1-4.
http://ieeexplore.ieee.org/xpl/freeabs_all.jsp?arnumber=5952183

18. Chioncel V., Paun D., Amuzescu B., Sinescu C. (2012): Evolution features of hypertensive patients with primary aldosteronism – prospective study, *J. Med. Life* 5(3): 354-359.
19. Kusko M., Craciunoiu F., Amuzescu B., Halitzchi F., Selescu T., Radoi A., Popescu M., Simion M., Bragaru A., Ignat T. (2012): Design, fabrication and characterization of a low-impedance 3D electrode array system for neuro-electrophysiology, *Sensors (Basel)* 12(12):16571-16590.
20. Amuzescu B., Georgescu A., Nistor G., Popescu M., Svab I., Flonta M.-L., Corlan A. (2012): Stability and sustained oscillations in a ventricular cardiomyocyte model, *Interdisciplinary Sciences: Computational Life Sciences* 4(1):1-18.
21. Amuzescu B., Scheel O., Knott T. (2014): Novel automated patch-clamp assays on stem cell-derived cardiomyocytes: will they standardize in vitro pharmacology and arrhythmia research? *J. Phys. Chem. Biophys.* 4(4):153. <http://dx.doi.org/10.4172/2161-0398.1000153>
22. Chevalier M., Amuzescu B., Gawali V., Todt H., Knott T., Scheel O., Abriel H. (2014): Late cardiac sodium current can be assessed using automated patch-clamp, *F1000Research* <http://f1000research.com/articles/3-245/v1>
23. Scheel O., Frech S., Amuzescu B., Einfeld J., Lin K.-H., Knott T. (2014): Action potential characterization of human induced pluripotent stem cell-derived cardiomyocytes using automated patch-clamp technology, *Assay Drug Dev. Technol.* 12(8):457-69.
24. Halitzchi F., Jianu L., Amuzescu B. (2015): Electrophysiology and pharmacology study of a human neuroblastoma cell line, *Rom. Rep. Phys.* 67(2):439-451
25. Iordache F., Constantinescu A., Andrei E., Amuzescu B., Halitzchi F., Savu L., Maniu H. (2016): Electrophysiology, immunophenotype, and gene expression characterization of senescent and cryopreserved human amniotic fluid stem cells, *J. Physiol. Sci.* 66:463-476 <http://link.springer.com/article/10.1007/s12576-016-0441-8/fulltext.html>
26. Filippi A., Caruntu C., Gheorghe R.O., Deftu A., Amuzescu B., Ristoiu V. (2016): Catecholamines reduce TRPV1 desensitization in cultured dorsal root ganglia neurons, *J. Physiol. Pharmacol.* 67(6):843-850
27. Amuzescu B., Cocina G., S. Florica (2016): Miniature electrode array and system for experimental surface EEG recordings, *Rom. J. Biophys.* 26(2):69-82 http://www.rjb.ro/articles/445/RJB2-2016_a1.pdf
28. Amuzescu B., Airini R., Ghica L., Epureanu F.B., Deftu A.F., Cucu D.M., Ristoiu V.P., Mihailescu D.F., Radu B.M. (2017): Novel approaches to proarrhythmogenic risk testing using automated patch-clamp platforms, *Rom. J. Biophys.* 27(1):13-22 http://www.rjb.ro/articles/449/Amuzescu-2_SH.pdf
29. Mann S.A., Heide J., Knott T., Airini R., Epureanu F.B., Deftu A.-F., Deftu A.-T., Radu B.M., Amuzescu B. (2019): Recording of multiple ion current components and action potentials in human induced pluripotent stem cell-derived cardiomyocytes via automated patch-clamp, *J. Pharmacol. Toxicol. Meth.* 100:106599
30. Airini R., Iordache F., Alexandru D., Savu L., Epureanu F.B., Mihailescu D., Amuzescu B., Maniu, H. (2019): Senescence-induced immunophenotype, gene expression and electrophysiology changes in human amniocytes, *J. Cell. Mol. Med.* 23(11):7233-7245
31. Iacobas S., Amuzescu B., Iacobas D.A. (2021): Transcriptomic uniqueness and commonality of the ion channels and transporters in the four heart chambers, *Sci. Rep.* 11(1):2743
32. Amuzescu B., Airini R., Epureanu F.B., Mann S.A., Knott T., Radu B.M. (2021): Evolution of mathematical models of cardiomyocyte electrophysiology, *Math. Biosci.* 334:108567

INVITED LECTURES / CHAIRMANSHIP

Effects of different transitional elements (groupVIIIb-IIb) and of certain lanthanides on the apical Na⁺ channels of A6 cells. BIL 96 symposium, KU Leuven, 2000.

Extracellular trypsin improves Na⁺ selectivity of ASIC1a, presentation at Sensing Physiology : a Symposium on Biosensors and Cell Physiology, Limburgs Universitair Centrum, Diepenbeek, December 5, 2003.

Magnesium-inhibited, TRPM6/M7 like channels in cardiomyocytes: divalent cation permeation and pH-mediated regulation. Neuroscience 2005 International Symposium Timisoara-München, Timisoara, 14-15 October, 2005.

Magnesium-inhibited TRPM6/M7 like channels in cardiomyocytes. 2nd International Conference of the Romanian Neuroscience Society, Bucharest, 1-3 September, 2006.

Co-chair (with Dr. Thomas Dierk, Heidelberg Univ.), Platform session BC: Cardiac electrophysiology, 53rd Biophysical Society Annual Meeting, Boston, March 4, 2009.

Myocardial TRPM7 channels: biophysical properties and involvement in cardiac diseases. 3rd International Conference on Clinical & Experimental Cardiology, Chicago, April 15-17, 2013

Diaryldiamidines Interaction with ASIC1a as a Basis for Novel Pharmacological Targets in Neuronal Ischemia, Drug Discovery for Ion Channels XIV - Satellite Meeting to 58th Biophysical Society Meeting, San Francisco, CA, 14 Feb 2014

A New CiPA-compliant Cardiac Safety Pharmacology Automated Patch-Clamp Assay, Ncardia Applications Workshop 2018, Cologne, November 7-9 2018, abstract p. 13

PRESENTATIONS AT CONFERENCES PUBLISHED IN ABSTRACT

1. Babes A., Amuzescu B., Krause U., Scholz A., Flonta M.-L., Reid G. (2001) : Cooling inhibits capsaicin- and proton-induced currents in cultured rat dorsal root ganglion neurones. *J. Physiol.* 533P:57P-58P. (1 citation)
2. Babes A., Amuzescu B., Krause U., Scholz A., Flonta M.-L., Reid G. (2001) : Capsaicin-induced currents in cultured rat dorsal root ganglion neurones are inhibited by cooling. *Pflügers Arch.* 441:R159.
3. Babes A., Amuzescu B., Flonta M.-L., Reid G. (2001) : Temperature sensitivity of capsaicin-induced activity in VR1-like channels from rat dorsal root ganglion neurones. *J. Physiol.* 536P, S257.
4. Amuzescu B., Babes A., Krause U., Scholz A., Flonta M.-L., Reid G. : Cooling reduces open probability of VR1-related channels in rat primary sensory neurons. (poster) 31th Society for Neuroscience Meeting, San Diego, California, 10-15 November, 2001 (<http://sfn.scholarone.com/itin2001>).
5. Van Driessche W., Segal A., Flonta M.-L., Amuzescu B. : Zinc is a voltage-dependent blocker of native and heterologously expressed epithelial Na⁺ channels. (poster) 47th Biophysical Society Meeting, San Antonio, Texas, 1-5 March, 2003 (abstract in *Biophysical Journal*, 84(2S):530A Abstract: 2590-Pos) (<http://www.biophysics.org/abstractsearch/Default.asp>).
6. Gwanyanya A., Amuzescu B., Vereecke J., Mubagwa K. : TRPM6/7-like cardiac ion channels: divalent cation permeation and regulation by pH. (poster) Spring Meeting 2004 of the Belgian Society for Fundamental and Clinical Physiology and Pharmacology, Gent, 8 May, 2004. *Pflügers Archiv – European Journal of Physiology* 448(6):R7
7. Gwanyanya A., Amuzescu B., Vereecke J., Mubagwa K. : Magnesium-inhibited cation channel in cardiac myocytes: intracellular ATP-dependent activation and G protein-mediated modulation (poster) Autumn Meeting 2004 of the Belgian Society for Fundamental and Clinical Physiology and Pharmacology, Leuven, 20 November, 2004. *Pflügers Archiv – European Journal of Physiology*, 449(6):R10
8. Gwanyanya A., Amuzescu B., Vereecke J., Mubagwa K. : Mg²⁺-Inhibited Cation Channel in Cardiac Myocytes: Dependence of Activation on Intracellular ATP and Modulation by Guanine Nucleotide Analogues (poster) 49th Biophysical Society Meeting, Long Beach, California, 12-16 February, 2005 (abstract in *Biophysical Journal*, searchable online suppl., 579-Pos)
9. Corlan A.D., Amuzescu B.P., Milicin I., Nistor G., Popescu M.N., Georgescu A., Vlad M.O. (2009): Feasibility of estimating maximum ion conductance parameters from the shape of the action potential. A simulation study, *Biophys. J.* 96(3):664a.
10. Popescu M.N., Nistor G., Georgescu A., Corlan A.D., Amuzescu B.P., Barbu C.I., Flonta M.-L. (2009): Stability and oscillations in a ventricular cardiomyocyte model studied using the tools of dynamic systems analysis and bifurcation theory, *Biophys. J.* 96(3):664a.
11. Corlan A.D., Amuzescu B., Milicin I., De Ambroggi L. (2009): Electrocardiographic patterns of early repolarization attributable to increased transient outward current in the subepicardial region. A simulation study, *Eur. Heart J.* 30(1):491.
12. Amuzescu B.P., Bichir C.L., Georgescu A., Nistor G., Popescu M.N., Svab I., Corlan A.D., Flonta M.L. (2011): Stability and self-sustained oscillations in a ventricular cardiomyocyte model, *Biophys. J.* 100(3):437a.
13. Chirculescu A.R.M., Amuzescu B., Morris J.F. (2011): Immunocytochemical examination of voltage-gated potassium channel expression in the pituitary folliculo-stellate cell line TtT/GF, *J. Anat.* 218(5): 587.
14. Chirculescu A.R.M., Amuzescu B., Morris J.F. (2014): Pituitary folliculo-stellate cells: highly specialised or non-differentiated cells? *Annals of Anatomy* 196S1

15. Amuzescu B., Knott T., Scheel O., Mihailescu D., Mernea M. (2014): Diminazene interaction with ASIC1a channels, *Biophys. J.* 106(2):550a
16. Scheel O., Frech S., Amuzescu B.P., Eisfeld J., Lin K.-H., Knott T. (2015): Automated Patch-Clamp Pharmacology Assays using Human Induced Pluripotent Stem Cell-Derived Cardiomyocytes, *Biophys. J.* 108(2):585a
17. Lassen D., Frech S., Amuzescu B., Scheel O., Knott T. (2015): Cytocentering patch clamp recordings of iPSC-derived cardiomyocytes and of HEK cells expressing cardiac ion channels at physiological temperature, *J. Pharmacol. Toxicol. Meth.* 75:165-166
18. Scheel O., Frech S., Amuzescu B., Crumb W., Roberts M., Knott T. (2015): Biophysical and pharmacological characterization of the CiPA ion channel panel and iPSC cardiomyocytes using automated patch-clamp, *J. Pharmacol. Toxicol. Meth.* 81:347
19. Mann S., Heide J., Radu B.M., Amuzescu B., Knott T. (2018): Measuring multiple ion current components in human induced pluripotent stem cell-derived cardiomyocytes via automated patch-clamp, *J. Pharmacol. Toxicol. Meth.* 93:112-113
20. Mann S., Heide J., Airini R., Epureanu F., Deftu A., Deftu A.T., Radu B.M., Knott T., Amuzescu B. (2019): Development of a new CiPA-compliant MOA in vitro assay on stem cell-derived cardiomyocytes including automated data analysis and model parameter optimization, *J. Pharmacol. Toxicol. Meth.* 99:20
21. Amuzescu B.P., Knott T., Mann S., Kneuepling J., Airini R., Epureanu F., Radu B.M. (2020): Using onset-of-block kinetic analysis of hERG1 current with a Markov model to improve in silico proarrhythmogenic risk prediction, *Biophys. J.* 118(3)(Suppl.1):265A

OTHER PUBLICATIONS

Amuzescu B, Avram S, Macri B: *Lucrări practice de biofizică*, Editura Universității din București, 2005, ISBN 973575980-2

Weinberg S.: *Dreams of a Final Theory* (Rom. transl.), Humanitas, Bucharest, 2008.

Amuzescu B., Mubagwa K.: *Cardiac Ion Channels and Transporters*, in *From Vascular Cell Biology to Cardiovascular Medicine*, A. Georgescu, F. Antohe (eds.), Research Signpost, Kerala, 2011, pp.51-98, ISBN 978-81-7895-503-2

Amuzescu B., Istrate B., Musat S.: *Channelopathies and Heart Disease*, in *Cardiac Arrhythmias: from Basic Mechanisms to State-of-the-art Management*, Kibos A.S. et al. (eds.), Springer, London, 2013, pp.95-129, ISBN 978-1-4471-5315-3

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Amuzescu B.: *Modelarea matematică a sistemelor biologice complexe*, in *Problema minte-creier în neuroștiința cogniției*, G. Vacariu, Stefanov G. (eds.), Editura Universității din București, 2013, ISBN 978-606-16-0224-7

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6.04.2021

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