LISTA DE LUCRĂRI ŞTIINŢIFICE

BOGDAN AMUZESCU

PUBLICAŢII

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.

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.

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.

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.

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.

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.

11. Pena F., Amuzescu B., Neaga E., Flonta M.-L. (2006): Thermodynamic properties of hyperpolarization-activated current (Ih) in a subgroup of primary sensory neurons, Exp. Brain Res., 173(2):282-290.

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.

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., Eisfeld 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

33. Deftu A.T., Amuzescu B. (2022) Protective Effects of Nanosof® Suspension on Cultured Cells Exposed to H2O2, Biointerface Research in Applied Chemistry, 12(2):2548-2559 https://biointerfaceresearch.com/?page_id=8308, https://doi.org/10.33263/BRIAC122.25482559

34. Thomet U., Amuzescu B., Knott T., Mann S.A., Mubagwa K., Radu B.M. (2021): Assessment of proarrhythmogenic risk for chloroquine and hydroxychloroquine using the CiPA concept, Eur. J. Pharmacol. 913:174632

35. Coman A., Amuzescu B., Nistor G. (2023): Theoretical Assumptions in Conductivity and Dielectric Properties Assessment of Biological Tissues - Errors and Resulting Consequences, IEEEXplore® 2023 13th International Symposium on Advanced Topics in Electrical Engineering (ATEE) (https://ieeexplore.ieee.org/document/10108270)(https://doi.org/10.1109/ATEE58038.2023.10108270)

36. Shaher S.A.A., Galateanu B., Hudita A., Maitham A., Mihailescu D.F., Amuzescu B. (2023): An *in vitro* model of aspartame cytotoxicity via heterologous expression of NMDA receptors, Farmacia 71(3):581-590 https://doi.org/10.31925/farmacia.2023.3.17

37. Shaher S.A.A., Mihailescu D.F., Amuzescu B. (2023): Aspartame safety as a food sweetener and related health hazards, Nutrients 15:3627 (28 p.) https://doi.org/10.3390/nu15163627

38. Iordache F., Petcu (Ionescu) A., Pisoschi A.M., Stanca L., Geicu O.I., Bilteanu L., Curutiu C., Amuzescu B., Serban A.I. (2024): PCR array profiling of miRNA expression involved in the differentiation of amniotic fluid stem cells toward endothelial and smooth muscle progenitor cells, Int. J. Mol. Sci. 25(1):302 (14 p.) https://doi.org/10.3390/ijms25010302

39. Amuzescu B., Corlan A.D., Radu B. (2023): Inhibitory effects of cenobamate on multiple human cardiac ion channels and possible arrhythmogenic consequences, (in preparation for resubmission, preprint available at https://www.researchsquare.com/article/rs-3735338/v1)

40. Mateias A.L., Armasescu F., Amuzescu B., Corlan A.D., Radu B.M. (2024): Inhibitory effects of cenobamate on multiple human cardiac ion channels and possible arrhythmogenic consequences, Biomolecules 14:1582 (19 p.) https://doi.org/10.3390/biom14121582

41. Şulea T.A., Draga S., Mernea M., Corlan A.D., Radu B.M., Petrescu A.-J., Amuzescu B. (2025): Differential inhibition by cenobamate of canonical human Nav1.5 ion channels and several point mutants, Int. J. Mol. Sci. 26:358 (19 p.) https://doi.org/10.3390/ijms26010358

42. Armasescu F., Amuzescu B., Gheorghe R.-O., Ghenghea M., Ristoiu V., Ciurea J., Gruia I. (2025): Fiber-optic-guided near-infrared laser exposure induces depolarization of cultured primary sensory neurons and modifies biophysical properties of human Nav1.5 channels, J Photochem Photobiol B 269:113191 (12 p.) https://doi.org/10.1016/j.jphotobiol.2025.113191

43. Negoiţă A.-I., Amuzescu B., Mihăilescu D.F., Bordea C. (2025): The serotonergic system and its role in thermoregulation, Physiologia 5:37 (32 p.) https://doi.org/10.3390/physiologia5040037

44. Negoiţă A.-I., Amuzescu B., Mihăilescu D.F., Banciu D.D., Banciu A. (2026): Expression of serotonin transporter (SERT) and receptors 5-HTR1A and 5-HTR2A in an animal model of hypothermia, Neurosci Lett 870:138448 https://doi.org/10.1016/j.neulet.2025.138448

45. Iordache F, Dulceanu M, Holban AM, Badaluta AV, Pisoschi AM, Vasile BS, Amuzescu B, Curutiu C (2026): 3D Bioprinting of Blood Vessel Model for Improving Wound Healing, Int J Mol Sci 27(9):4019 https://doi.org/10.3390/ijms27094019

CĂRŢI ŞI CAPITOLE DE CARTE

Amuzescu B, Avram S, Macri B: Lucrări practice de biofizică, Editura Universităţii din Bucureşti, 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

Amuzescu B., Corlan D., Nistor G.: Modelarea matematică a electrofiziologiei cardiace, Editura Universităţii din Bucureşti, 2012, ISBN 978-606-16-0145-5

Amuzescu B.: Modelarea matematică a sistemelor biologice complexe, in Problema minte-creier în neuroştiinţa cogniţiei, G. Vacariu, Stefanov G. (eds.), Editura Universităţii din Bucureşti, 2013, ISBN 978-606-16-0224-7

Amuzescu B., Istrate B., Mubagwa K: Impact of Cellular Mechanisms of Ischemia on CABG Failure, in *Coronary Graft Failure: State-of-the-Art*, Ion C. Tintoiu, Malcolm John Underwood, Stephane Pierre Cook, Hironori Kitabata, Aamer Abbas (eds.), Springer, New York, 2016, pp.351-391 ISBN 978-3-319-26515-5

Amuzescu B., Maniu H.: Molecular and Cellular Biology of the Right Heart, in *Right Heart Pathology. From Mechanism to Management*, Silviu Dumitrescu, Ion C. Tintoiu, Malcolm John Underwood (eds.), Springer Nature, New York, 935p, pp.57-89, ISBN 978-3-319-73764-5, https://doi.org/10.1007/978-3-319-73764-5_3

PATENTE

1. Iacobas A.D., Amuzescu B., Ciontu Cristina: Manufacturing procedure for micropipettes for single-channel recordings in biomembranes - Patent RO-102203/06.10.1988

2. Iacobas A.D., Amuzescu B.: Procedure and device for cleaning patch-clamp micropipettes - Patent RO-108844/04.11.1991

3. Amuzescu B., Radu B.M., Mihailescu D.F., Mann S.: Method for *in vitro* detection of the proarrhythmogenic risk of a drug candidate on human induced pluripotent stem cell-derived cardiomyocytes (hiPSC-CM) - EPO patent application EP18465611/24.10.2018

4. Amuzescu B., Radu B.M., Mihailescu D.F., Mann S.: Method for *in vitro* detection of the proarrhythmogenic risk of a drug candidate on human induced pluripotent stem cell-derived cardiomyocytes (hiPSC-CM) - USPTO patent application US2020/01326601/ filed 10.10.2019, published 30.04.2020

PREZENTĂRI LA CONFERINŢE PUBLICATE ÎN REZUMAT

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., Knuepling 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