CURRICULUM VITAE

Name:
Tudor LUCHIAN
(ORCID #: 0000-0002-9388-7266
Author ID: 8848508500)

Date and place of birth:
February 26, 1968, Falticeni, Romania

Nationality:
Romanian

Education:
1994-1997 Ph.D. studies at the 'Karl-Franzens' University of Graz (Austria)
1987-1992 Faculty of Physics, 'Alexandru I. Cuza' University Iasi, Romania
(*Bachelor of science* degree in Biophysics)
1982-1986 'Nicu-Gane' High School, Falticeni, Romania

Present academic and leadership position:
Professor (Faculty of Physics, Department of Biophysics & Medical Physics, 'Alexandru I. Cuza' University, Iasi, Romania), Ph. D. adviser in the field of 'Physics'

Leader of *Molecular Biophysics and Medical Physics research group*, 'Alexandru I. Cuza' University, Iasi, Romania (**https://eeris.eu/ERIF-2000-000Q-0703**)

Career:

March 2012-October 2020
Director, Department and Institute of Interdisciplinary Research 'Alexandru I. Cuza' University, Iasi, Romania

July 2006 – October 2006
Invited professor at University of Oxford (UK)

July 2001 – July 2003
Assistant research scientist at Texas A&M University (College Station, Texas, USA). The assigned projects regarded the study of biophysical aspects of molecular interactions taking place into a nanopore, through single-channel electrical recordings. The head of the group was Prof. Hagan Bayley and projects were primarily funded by the Office of Naval Research (ONR - Department of Defense), National Institute of Health (NIH).

September 1999 – June 2001
Assistant Professor at 'Alexandru I. Cuza' University, Faculty of Physics, Dept. of Medical Physics & Biophysics)

August 1998 – September 1999
Research officer at the University of Queensland (Brisbane, Australia). The assigned project was part of a joint-venture between the Department of Physiology & Pharmacology (Prof. David J. Adams) and Centre for Drug Design and Development (Dr. Richard Lewis) and primarily financed by an Australian pharmaceutical

company (AMRAD-Melbourne). The major focus of my project was to implement and develop specific electrophysiological techniques (e.g., 'two-electrode-voltage-clamp' measurements on *Xenopus* oocytes, whole-cell recording on dorsal-root ganglions) for the physiological assessment and pharmacological characterization of new-designed drugs aimed at the relief of chronic pain.

October 1997 – August 1998
Teaching assistant at 'Alexandru I. Cuza' University, Faculty of Physics, Dept. of Medical Physics & Biophysics)

December 1994 - October 1997
Ph. D. student at the 'Karl-Franzens' University (Faculty of Physics, Biophysics) under the main supervision of Dr. Wolfgang Schreibmayer. On the 27th of October 1997, I have defended with the best grade ('*Mit Auszeichnung Bestanden'*), my Ph. D. thesis entitled ***'Gating modulation of a G protein activated, inwardly rectifying potassium channel by a cytosolic applied peptide'***.

September 1994 - November 1994
Visiting scientist at the 'Karl-Franzens' University of Graz, Faculty of Medicine (Graz, Austria) in the laboratory headed by Dr. Wolfgang Schreibmayer (Molecular Physiology Group).

January 1994 - April 1994
I have attended the European ERASMUS Course in Medical Physics and Biomedical Engineering held at the University of Patras (Patras, Greece).

August 1992 - August 1993 and May 1994 - August 1994
Research scientist at the Biological Research Center, Institute of Biophysics (Szeged, Hungary). The research topic covered concerned bacteriorhodopsin's photocycle.

July 1992
Having graduated from the Faculty of Physics (Biophysics), 'Alexandru I. Cuza' University of Iasi (Romania) with the diploma thesis entitled ***'The influence of chronic denervation on the excitability of the striate muscle'***, I was employed as a research assistant at the Faculty of Physics, Department of Biophysics, 'Alexandru I. Cuza' University, Iasi, Romania.

Member of the following societies:
1993 - Romanian Biophysical Society (vice-president, 2005)
1995 - American Biophysical Society

Courses taught:
- General Biophysics
- Modelling of Biological Processes
- Cellular Excitability. Measurements and Modelling Techniques (for Master students)
- Bioelectricity. Theoretical and Clinical Applications (for Master students)
- Neuropharmaceuticals and Neurotransmitters (for Master students)
- Transport Phenomena in Biophysics (for Ph.D. students

Publications:

Selected papers published in peer-reviewed journals

1. Alina Asandei, Loredana Mereuta, Irina Schiopu, Yoonkyung Park, **Tudor Luchian**, Teaching an old dog new tricks: A lipid membrane-based electric immunosensor for real-time probing of the spike S1 protein subunit from SARS-CoV-2, *Proteomics*, 2021, https://doi.org/10.1002/pmic.202100047
2. **Tudor Luchian**, Loredana Mereuta, Yoonkyung Park, Alina Asandei, Irina Schiopu, Single-molecule, hybridization-based strategies for short nucleic acids detection and recognition with nanopores, *Proteomics*, 2021, https://doi.org/10.1002/pmic.202100046
3. Isabela S. Dragomir, Alina Asandei, Irina Schiopu, Ioana C. Bucataru, Loredana Mereuta, **Tudor Luchian**, The Nanopore-Tweezing-Based, Targeted Detection of Nucleobases on Short Functionalized Peptide Nucleic Acid Sequences, *Polymers*, 2021, 13(8), 1210; https://doi.org/10.3390/polym13081210
4. Alina Asandei, Loredana Mereuta, Irina Schiopu, Jonggwan Park, Chang Ho Seo, Yoonkyung Park, **Tudor Luchian**, Non-Receptor-Mediated Lipid Membrane Permeabilization by the SARS-CoV-2 Spike Protein S1 Subunit, *ACS Applied Materials & Interfaces*, 2020, 12, 50, 55649–55658
5. Loredana Mereuta, Alina Asandei, Isabela S. Dragomir, Ioana C. Bucataru, Jonggwan Park, Chang Ho Seo, Yoonkyung Park, **Tudor Luchian**, Sequence-Specific Detection of Single-Stranded DNA with a Gold Nanoparticle-Protein Nanopore Approach, *Scientific Reports* 10, 11323 (2020). https://doi.org/10.1038/s41598-020-68258-x
6. Isabela S. Dragomir, Ioana C. Bucataru, Irina Schiopu, **Tudor Luchian**, Unzipping mechanism of free- and polyarginine-conjugated DNA-PNA duplexes, preconfined inside the α-hemolysin nanopore, *Analytical Chemistry*, 2020, in press, DOI: https://doi.org/10.1021/acs.analchem.0c00976
7. Su Jin Ko, Eunji Park, Alina Asandei, Jee-Young Choi, Seung-Chul Lee, Chang Ho Seo, **Tudor Luchian**, Yoonkyung Park, Bee venom-derived antimicrobial peptide melectin has broad-spectrum potency, cell selectivity, and salt-resistant properties, *Scientific Reports (Springer Nature)*, volume 10, Article number: 10145 (2020)
8. Alina Asandei, Giovanni Di Muccio, Irina Schiopu, Loredana Mereuta, Isabela S. Dragomir, Mauro Chinappi, **Tudor Luchian**, Nanopore-Based Protein Sequencing Using Biopores: Current Achievements and Open Challenges, *Small Methods*, 2020, 1900595, DOI: 10.1002/smtd.201900595
9. Jong-kook Lee, Loredana Mereuta, **Tudor Luchian**, Yoonkyung Park, Antimicrobial Peptide HPA3NT3-A2 Effectively Inhibits Biofilm Formation in Mice Infected with Drug-Resistant Bacteria, *Biomaterials Science*, 2019, 7(12), pp. 5068-5083
10. Ju Young Kwon, Min Kyung Kim, Loredana Mereuta, Chang Ho Seo, **Tudor Luchian** and Yoonkyung Park, Mechanism of action of antimicrobial peptide P5 truncations against Pseudomonas aeruginosa and Staphylococcus aureus, *AMB Express*, 2019, 9:122, https://doi.org/10.1186/s13568-019-0843-0
11. Loredana Mereuta, Alina Asandei, Irina Schiopu, Yoonkyung Park, **Tudor Luchian**, Nanopore-Assisted, Sequence-Specific Detection and Single-Molecule Hybridization Analysis of Short, Single-Stranded DNAs, *Analytical Chemistry*, 2019, 91, 13, 8630-8637
12. Alina Asandei, Loredana Mereuta, Jonggwan Park, Chang Ho Seo, Yoonkyung Park, **Tudor Luchian**, Non-Functionalized PNAs as Beacons for Nucleic Acids Detection in a Nanopore System, *ACS Sensors*, 2019, 4, 6, 1502-1507
13. **Tudor Luchian**, Yoonkyung Park, Alina Asandei, Irina Schiopu, Loredana Mereuta, Aurelia Apetrei, Nanoscale Probing of Informational Polymers with Nanopores. Applications to Amyloidogenic Fragments, Peptides and DNA-PNA Hybrids, *Accounts of Chemical Research*, 2019, 52 (1), pp 267–276
14. Kang HK, Seo CH, **Luchian T**, Park Y., Pse-T2, an antimicrobial peptide with High-Level, Broad-Spectrum Antimicrobial Potency and Skin Biocompatibility against Multidrug-resistant Pseudomonas aeruginosa infection, *Antimicrobial Agents and Chemotherapy*, 2018 Oct 15. pii: AAC.01493-18. doi: 10.1128/AAC.01493-18.

15. Alina Asandei, Isabela S. Dragomir, Giovanni Di Muccio, Mauro Chinappi, Yoonkyung Park, **Tudor Luchian**, Single-Molecule Dynamics and Discrimination between Hydrophilic and Hydrophobic Amino Acids in Peptides, through Controllable, Stepwise Translocation across Nanopores, *Polymers*, 2018, 10, 885; doi:10.3390/polym10080885
16. Andrei Ciuca, Alina Asandei, Irina Schiopu, Aurelia Apetrei, Loredana Mereuta, Chang Ho Seo, Yoonkyung Park, **Tudor Luchian**, Single Molecule, Real-Time Dissecting of Peptide Nucleic Acids-DNA Duplexes with a Protein Nanopore Tweezer, *Analytical Chemistry*, 2018, 90 (12), pp 7682–7690
17. Eugene Cho, Jong-kook Lee, Eunji Park, Chang Ho Seo, **Tudor Luchian** and Yoonkyung Park**,** Antitumor activity of HPA3P through RIPK3-dependent regulated necrotic cell death in colon cancer**,** *Oncotarget***,** 2018
18. Su Jin Ko, Min Kyung Kim, Jeong Kyu Bang, Chang Ho Seo, **Tudor Luchian** & Yoonkyung Park, Macropis fulvipes Venom component Macropin Exerts its Antibacterial and Anti-Biofilm Properties by Damaging the Plasma Membranes of Drug Resistant Bacteria, *Scientific Reports* 7, Article number: 16580, 2017, doi:10.1038/s41598-017-16784-6
19. Alina Asandei, Aldo E. Rossini, Mauro Chinappi, Yoonkyung Park, **Tudor Luchian**, Protein Nanopore-Based Discrimination Between Selected Neutral Amino Acids from Polypeptides, *Langmuir*, 2017, DOI: 10.1021/acs.langmuir.7b03163
20. Hyo Mi Han, Sujin Ko, Min-Ju Cheong, Jeong Kyu Bang, Chang Ho Seo, **Tudor Luchian**, Yoonkyung Park, Myxinidin2 and myxinidin3 suppress inflammatory responses through STAT3 and MAPKs to promote wound healing, *Oncotarget*, 2017, https://doi.org/10.18632/oncotarget.20908, Vol 8, No 50, 87582-87597
21. Alina Asandei, Irina Schiopu, Corina Ciobanasu, Yoonkyung Park, **Tudor Luchian**, If Squeezed, a Camel Passes Through the Eye of a Needle. Voltage-Mediated Stretching of Dendrimers Facilitates Passage Through a Nanopore, *Journal of Membrane Biology*, accepted, https://doi.org/10.1007/s00232-017-9999-1, 2017
22. Alina Asandei , Andrei Ciuca, Aurelia Apetrei , Irina Schiopu, Loreana Mereuta, Chang Ho Seo, Yoonkyung Park, **Tudor Luchian**, Nanoscale Investigation of Generation 1 PAMAM Dendrimers Interaction with a Protein Nanopore**.** *Scientific Reports* 7, Article number: 6167 (2017), doi:10.1038/s41598-017-06435-1
23. Aurelia Apetrei, Andrei Ciuca, Jong-kook Lee, Chang Ho Seo,Yoonkyung Park, **Tudor Luchian**, A Protein Nanopore-Based Approach for Bacteria Sensing, *Nanoscale Research Letters*, 2016, 11:501, DOI: 10.1186/s11671-016-1715-z
24. Alina Asandei, Irina Schiopu, Mauro Chinappi, Chang Ho Seo, Yoonkyung Park, **Tudor Luchian**, Electroosmotic Trap Against the Electrophoretic Force Near a Protein Nanopore Reveals Peptide Dynamics During Capture and Translocation, *ACS Applied Materials & Interfaces*, 2016, *8* (20), pp 13166–13179
25. Jong-kook Lee, **Tudor Luchian,** Yoonkyung Park, Effect of Regular Exercise on Inflammation Induced by Drug-resistant Staphylococcus aureus 3089 in ICR mice, *Scientific Reports (Nature Publishing Group)*, **5**, 16364; DOI: 10.1038/srep16364 (2015)
26. Jong-kook Lee, Chang Ho Seo, **Tudor Luchian**, Yoonkyung Park, The antimicrobial peptide CMA3 derived from the CA-MA hybrid peptide: antibacterial and anti-inflammatory activities with low cytotoxicity and mechanism of action in Escherichia coli, *Antimicrobial Agents and Chemotherapy* Accepted manuscript posted online 9 November 2015, DOI:10.1128/AAC.01998-15
27. Alina Asandei, Mauro Chinappi, Hee-Kyoung Kang, Chang Ho Seo , Loredana Mereuta, Yoonkyung Park, **Tudor Luchian**, Acidity-Mediated, Electrostatic Tuning of Asymmetrically Charged Peptides Interactions with Protein Nanopores**,** *ACS Applied Materials & Interfaces*, 2015, *7* (30), pp 16706–16714
28. Mauro Chinappi, Tudor Luchian, Fabio Cecconi, *Nanopore tweezers: voltage controlled trapping and releasing of analytes*, *Physical Review E* 2015, 92, 032714
29. Alina Asandei, Mauro Chinappi, Jong-kook Lee, Chang Ho Seo, Loredana Mereuta, Yoonkyung Park, **Tudor Luchian**, Placement of oppositely charged aminoacids at a polypeptide termini determines the voltage-controlled braking of polymer transport through nanometer-scale pores, *Scientific Reports (Nature Publishing Group)* **5**, 10419; DOI: 10.1038/srep10419 (2015)

30. Irina Schiopu, Sorana Iftemi, **Tudor Luchian,** Nanopore Investigation of the Stereoselective Interactions between Cu2+ and D,L-Histidine Amino Acids Engineered into an Amyloidic Fragment Analogue**,** *Langmuir***,** 2015**,** 31(1), pp. 387-396
31. Loredana Mereuta, Alina Asandei, Chang Ho Seo, Yoonkyung Park, **Tudor Luchian**, Quantitative Understanding of pH- and Salt-Mediated Conformational Folding of Histidine-Containing, β-Hairpin-like Peptides, Through Single-Molecule Probing with Protein Nanopores, *ACS Applied Materials & Interfaces*, 2014, *6* (15), pp 13242–13256
32. Sorana Iftemi, Marta De Zotti, Fernando Formaggio, Claudio Toniolo, Lorenzo Stella, **Tudor Luchian**, Electrophysiology investigation of trichogin GA IV activity in planar lipid membranes reveals ion channels of well-defined size**,** *Chemistry & Biodiversity*, 2014 Jul;11(7):1069-77. DOI: 10.1002/cbdv.201300334.
33. Alina Asandei, Sorana Iftemi, Loredana Mereuta, Irina Schiopu, **Tudor Luchian**, Probing of various physiologically relevant metals - amyloid-β peptide interactions with a lipid membrane-immobilized protein nanopore, *Journal of Membrane Biology*, 2014, Jun;247(6):523-30. DOI: 10.1007/s00232-014-9662-z
34. Loredana Mereuta, Mahua Roy, Alina Asandei, Jong Kook Lee, Yoonkyung Park,Ioan Andricioaei, **Tudor Luchian**, Slowing down single-molecule trafficking through a protein nanopore reveals intermediates for peptide translocation, *Scientific Reports (Nature Publishing Group)*, 2014, Jan 27;4:3885. DOI: 10.1038/srep03885.
35. Alina Asandei, Irina Schiopu, Sorana Iftemi, Loredana Mereuta, **Tudor Luchian**, Investigation of Cu^{2+} binding to human and rat amyloid fragments Aβ (1-16) with a protein nanopore, *Langmuir*, 2013, 29 (50) , pp. 15634-1564
36. Loredana Mereuta, Irina Schiopu, Alina Asandei, Yoonkyung Park, Kyung-Soo Hahm, **Tudor Luchian**, Protein nanopore-based, single-molecule exploration of copper binding to an antimicrobial-derived, histidine-containing chimera peptide, *Langmuir*, 2012, **DOI:** 10.1021/la303782d
37. Elisa Campos, Alina Asandei, Colin Edward McVey, Joao C. Dias, A. Sofia F. Oliveira, Claudio Manuel Soares, **Tudor Luchian**, Yann Astier, The Role of Lys147 in the Interaction between MPSA-Gold Nanoparticles and the α-Hemolysin Nanopore, *Langmuir*, 2012, **DOI:** 10.1021/la302613g
38. Irina Schiopu, Loredana Mereuta, Aurelia Apetrei, Yoonkyung Park, Kyung-Soo Hahm, **Tudor Luchian**, The role of thryptophan spatial arrangement for antimicrobial-derived, membrane-active peptides adsorption and activity, *Molecular BioSystems*, 2012, DOI:10.1039/c2mb25221j
39. Alina Asandei, Loredana Mereuta, **Tudor Luchian**, The Kinetics of Ampicillin Complexation by γ-Cyclodextrins. A Single Molecule Approach, *The Journal of Physical Chemistry B*, 2011, 115 (33), 10173–10181
40. Loredana Mereuta, Alina Asandei, **Tudor Luchian**, Meet me on the other side: trans-bilayer modulation of a model voltage-gated ion channel activity by membrane electrostatics asymmetry, *PLoS One*, 2011, 6(9): e25276. doi:10.1371/journal.pone.0025276
41. Alina Asandei, Aurelia Apetrei, **Tudor Luchian**, Uni-molecular detection and quantification of selected β-lactam antibiotics with a hybrid α-haemolysin protein pore, *Journal of Molecular Recognition*, 2011, 24 (2), 199-207
42. Anisoara Nevoie, Mihaela Pascariu, D. Jitaru, I. Ivanov, D. Constantinescu, Eugen Carasevici, **Tudor Luchian**, Investigation of apoptosis in normal and leukemic cells induced by X-ray irradiation, *Digest Journal of Nanomaterials and Biostructures*, 2011, 6(1), 259-264
43. Alina Asandei, Aurelia Apetrei, Yoonkyung Park, Kyung-Soo Hahm, **Tudor Luchian,** Investigation of Single-Molecule Kinetics Mediated by Weak Hydrogen-Bonds Within a Biological Nanopore, *Langmuir*, 2011, 27 (1), 19-24
44. Aurelia Apetrei, Alina Asandei, Yoonkyung Park, Kyung-Soo Hahm, Mathias Winterhalter, **Tudor Luchian**, Unimolecular study of the interaction between the outer membrane protein OmpF from E. coli and an analogue of the HP(2–20) antimicrobial peptide, *Journal of Bioenergetics and Biomembranes*, 2010, 42(2), pp. 173-180
45. Aurelia Apetrei, Loredana Mereuta, **Tudor Luchian**, The RH 421 styryl dye induced, pore model-dependent modulation of antimicrobial peptides activity in reconstituted planar membranes, *Biochimica et Biophysica Acta – General Subjects*, 2009, 1790 (8), 809-816

46. Loredana Mereuta, **Tudor Luchian**, Yoonkyung Park, Kyung-Soo Hahm,The modulatory role played by lipids unsaturation upon the membrane interaction and translocation of an analogue (HPA3) of the HP(2–20) antimicrobial peptide, *Journal of Bioenergetics and Biomembranes*, 2009, 41, 79-84
47. Roxana Chiriac, **Tudor Luchian,** Single-molecule investigation of the influence played by lipid rafts on ion transport and dynamic features of the pore-forming alamethicin oligomer, *Journal of Membrane Biology*, 2008, 224, 45-54
48. Tudor Luchian, Dipole potential-induced modulation of the interactions between reconstituted lipid membranes and certain pore-forming peptides, *Revue Roumaine de Chimie*, 2009, 54 (6), pp. 455-463
49. Hagan Bayley, **Tudor Luchian**, Seong-Ho Shin, Mackay Steffensen, Single–Molecule Covalent Chemistry in a Protein. In *Single Molecules and Nanotechnology*; Rigler, R., Vogel, H., Eds.; Springer- Verlag: Berlin, Heidelberg, 2008; pp 251−277.
50. Alina Asandei, **Tudor Luchian**, Ion selectivity, transport properties and dynamics of amphotericin B channels studied over a wide range of acidity changes**,** 2008, *Colloids and Surfaces B: Biointerfaces*, 67, 99–106
51. Loredana Mereuta, **Tudor Luchian**, Yoonkyung Park, Kyung-Soo Hahm, Single-molecule investigation of the interactions between reconstituted planar lipid membranes and an analogue of the HP(2–20) antimicrobial peptide, *Biochemical and Biophysical Research Communications*, 2008, 373(4), 467-472
52. Alina Asandei, Loredana Mereuta, **Tudor Luchian**, Influence of membrane potentials upon reversible protonation of acidic residues from the OmpF eyelet, *Biophysical Chemistry*, 2008, 135, 32–40
53. Roxana Chiriac, **Tudor Luchian**, pH modulation of transport properties of alamethicin oligomers inserted in zwitterionic-based artificial lipid membranes, *Biophysical Chemistry*, 130, 139-147, 2007
54. **Tudor Luchian**, Loredana Mereuta, Phlorizin- and 6-Ketocholestanol-Mediated Antagonistic Modulation of Alamethicin Activity in Phospholipid Planar Membranes, *Langmuir*, 2006, *22*, 8452-8457
55. Loredana Mereuta, **Tudor Luchian**, A virtual instrumentation based protocol for the automated implementation of the inner field compensation method, *Central European Journal of Physics*, 2006, 4(3), 299-416
56. **Tudor Luchian,** Loredana Mereuta, Selective transfer of energy through an alamethicin-doped artificial lipid membrane studied at discrete molecular level, *Bioelectrochemistry* 69 (2006) 94–98
57. Loredana Mereuta, **Tudor Luchian**, How could a chirp be more effective than a louder clock – resonant transfer of energy between subthreshold excitation pulses and excitable tissues, *Journal of Cellular and Molecular Medicine*, 9:2, 446-456, 2005
58. **Tudor Luchian,** An automated method for generating analogic signals that embody the Markov kinetics of model ionic channels, *Journal of Neuroscience Methods*, 147(1), 8-14, 2005
59. **Tudor Luchian**, The modulatory effect of calcium ions upon alamethicin monomers uptake on artificial phospholipid membranes, *Journal of Biological Physics*, 31, 23-33, 2005
60. Seong-Ho Shin, **Tudor Luchian**, Steve Cheley, Orit Braha, Hagan Bayley , Reversible covalent chemistry in a protein-based nano-reactor at the single molecule level, *Biophysical J.* 84 (2): 125A-125A Part 2 Suppl. S FEB 2003
61. **Tudor Luchian**, Seong Ho Shin, Hagan Bayley, Single-molecule chemistry with spatially separated reactants, *Angewandte Chemie International Edition*, 42, 3766-3771 , 2003
62. **Tudor Luchian**, Seong Ho Shin, Hagan Bayley, Kinetics of a three-step reaction observed at the single-molecule level, *Angewandte Chemie International Edition* 42, 1925-1929, 2003 (**reviewed in C & En News, May 5, 2003**
63. Seong-Ho Shin, **Tudor Luchian**, Steve Cheley, Orit Braha, Hagan Bayley**,** Kinetics of a reversible covalent-bond-forming reaction observed at the single-molecule level, *Angewandte Chemie International Edition*, 41 (19): 3707-3709, 2002 (**reviewed in Nature –** science update**, 7 October 2003**)
64. **Tudor Luchian,** The influence exerted by the β_3 subunit on MVIIA binding to neuronal N-type calcium channels, *BBA-Biomembranes*, 1512:2, 329-334, 2001

65. Richard J. Lewis, Katherine J. Nielsen, David J. Craik, Marion L. Loghnan, Denise A. Adams, Iain A. Sharpe, **Tudor Luchian,** David J. Adams, Trudy Bond, Linda Thomas, Alun Jones, Jodi L. Matheson, Roger Drinkwater, Peter R. Andrews, Paul F. Alewood, Novel ω-conotoxins from Conus Catus discriminate among neuronal calcium channel subtypes, *Journal of Biological Chemistry*, 275:45, 35335-35344, 2000
66. **Tudor Luchian**, Wolfgang Schreibmayer, Ion permeation through a G protein-activated, inwardly rectigying K^+ channel, *BBA-Biomembranes*, 1368, 167-170, 1997
67. **Tudor Luchian**, Nathan Dascal, Carmen Dessauer, Dieter Platzer, Norman Davidson, Henry Lester, Wolfgang Schreibmayer, A C-terminal peptide of the GIRK1 subunit directly blocks the G protein-activated K^+ channel (GIRK1) expressed in Xenopus oocytes, *J. Physiology (London*), 505.1, 13-22, 1997 (**reviewed in J. Physiology, 505.1, 1997**
68. **Tudor Luchian**, Nathan Dascal, Norman Davidson, Henry A. Lester, Wolfgang Schreibmayer, Single channel analysis of block of the G-protein activated potassium channel from rat atrium (KGA/GIRK1) by the C-terminal peptide, *Biophysical J.* (2): TU278-TU278 Part 2 FEB 1996
69. **Tudor Luchian**, Zsolt Tokaji, Zsolt Dancshazy, Actinic light density dependence of the O intermediate of the photocycle of bacteriorhodopsin, *FEBS Lett*. 386, 55-59, 1996

Selected, peer-reviewed work of 'science-society'- related aspects

1. Tudor Luchian, 'Balkan science: how to halt the brain drain', **Nature**, 2011, 470 (7334), 333-333
2. Tudor Luchian, 'Romanian funding cuts calls for more stringent criteria', **Nature**, 2009, 458, 1101

Patents:

Hagan Bayley**,** Seong-Ho Shin**, Tudor Luchian,** Steve Cheley – **'**New system comprising a sensing device, a protein pore, a detection system and an ionic solution containing a reactive analyte capable of covalently bonding to the protein probe, useful for sensing a reactive analyte in a solution', Patent Number(s): WO2003095669-A; WO2003095669-A1; US2003215881-A1; AU2003245272-A1; EP1504114-A1

PARK Y, LUCHIAN T, APETREI A, CIUCA A - 'Sensor for detecting bacteria within aqueous sample, has container for containing fluid included with electrolyte, and measuring apparatus for measuring change of electric signal between first fluid compartment and second fluid compartment', Patent Number(s): KR2018108281-A; KR1909446-B1, Patent Assignee Name(s) and Code(s): UNIV CHOSUN IND ACADEMIC COOP FOUND(CHOS-C), Derwent Primary Accession Number: 2018-783708

Others:

- Recipient of the 'Stefan Procopiu' prize, Romanian Academy, 2012
- Recipient of the 1st prize on the 'Researcher of the Year' section, 2011, 'Gala Premiilor in Educatie' ('Dinu Patriciu' foundation)
- The 'Gheorghe Benga' prize for the year 2008, awarded in 2009 by UMF-Iuliu Hatieganu, Cluj-Napoca
- **Recently, the history and current state of my laboratory has been reviewd in an article which appeared in 'Science Careers, from the journal 'Science'. Please see: '**In Person: A Dream Lab in Romania', at http://sciencecareers.sciencemag.org/career_magazine/previous_issues/articles/2009_12_11/caredit.a0900153
- Scientific evaluator Fulbright Romania
- Scientific evaluator Austrian Science Fund (FWF)
- Scientific evaluator National Science Foundation (USA)
- Editorial Board Member for Scientific Reports, a journal from Nature Publishing Group (2016)

- Member in the 'Management board' of Institutului Național de Cercetare-Dezvoltare pentru Fizică Tehnică - IFT Iași (2016)
- Advisory Editor for European Biophysics Journal (2017)

Research projects implemented as 'Principal Investigator'-PI

1. 'Nanoscale approach towards studying couplings between biomembranes, bacterial toxins and proteins with roles in drug penetration', 2006, CEEX-Modul I (CERES)
2. 'Integrated laboratory of virtual instrumentation in biophysics', National Instruments (Texas, Austin, USA), 2006
3. 'Molecular characterization of action mechnisms of antimicrobial peptides and de novo prediction of structures with enhanced antimicrobial potential', 2007, PN II – CNMP
4. 'Elucidation of mechanisms of interaction of selected cytotoxic peptides with tumor cells, and optimization of anti-tumoral properties of such peptides', 2008, PN II – CNMP
5. 'Ion sensing and separation through modified cyclic peptides, cyclodextrins and protein pores', PN-II-ID-PCCE-2011-2-0027, 2012, UEFISCDI
6. 'Rational design and generation of synthetic, short antimicrobial peptides. Linking structure to function', PN-II-PT-PCCA-2011-3.1-0595, 2012
7. 'Design and development of therapeutic AMP's against epidemic superbugs', Global Research Laboratory (NRF-2014K1A1A2064460; Republic of Korea), 2015
8. 'A nanopore tweezer-based approach for studying intermolecular interactions at uni-molecular level. Application to exploring metal-mediated, mismatched base pairs hybridization in nucleic acids' (NANOTWEEZ) Grant no. PN-III-P4-ID-PCE-2016-0026, nr. 33/12.07.2017
9. 'Emerging molecular technologies based on micro and nano-structured systems with biomedical applications' (TehnoBioMed), PCCDI – UEFISCDI, project number PN-III-P1-1.2-PCCDI-2017-0010 / 74PCCDI/2018 (PNCDI III)
10. 'Label-free, real-time detection platform of Hepatitis B Virus antigens with protein biosensors//Platformă integrată pentru detecția în timp real a antigenilor virusului hepatitei B, cu ajutorul biosenzorilor proteici', project number PN-III-P2-2.1-PED-2019-0016, PI-UAIC
11. "Xeno nucleic acids-mediated, real-time multiplexed detection of disease relevant miRNAs, with single molecule sensitivity and selectivity // Detecția multiplex, cu sensibilitate și selectivitate moleculară, a unor miRNAs relevante fiziologic, cu ajutorul unor xeno acizi nucleici", PCE 2020

Books or chapters

1. Tudor Luchian – *'**Electrofiziologie moleculară. Teorie și aplicații',** Sedcom-Libris Publishing House, Iași, 2006* (ISBN: 973-670-154-9)

2. Hagan Bayley, Tudor Luchian, Seong-Ho Shin, Mackay Steffensen – ***'Single-molecule covalent chemistry in a protein nanoreactor', Springer Series in Biophysics "Single Molecules and Nanotechnology" Rigler & Vogel eds.**, 2008 (*capitol*), 251-277*

3. Tudor Luchian – '***Functional nanopores in artificial membranes – it takes at least two to tango***', Advances in Micro- and Nanoengineering, 6, 42-53, 2004 (capitol)

4. Tudor Luchian – **'*Introducere în biofizica moleculară și celulară*'**, '*Alexandru Ioan Cuza' University Publishing House*, Iași, 2001

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