

## 1. Articole publicate *in extenso* în reviste științifice indexate ISI cu factor de impact

1. **Irina Schiopu**, Sorana Iftemi, Tudor Luchian, *Nanopore investigation of the stereoselective interactions between  $\text{Cu}^{2+}$  and D,L-histidine amino acids engineered into an amyloidic fragment analogue*, 2014, *Langmuir*, 31 (1), pp. 387 - 396  
**Factor de impact:** 4.384  
**Prim autor:** da
2. Alina Asandei, Sorana Iftemi, Loredana Mereuta, **Irina Schiopu** and Tudor Luchian, *Probing of Various Physiologically Relevant Metals–Amyloid- $\beta$  Peptide Interactions with a Lipid Membrane-Immobilized Protein Nanopore*, 2014, **The Journal of Membrane Biology**, 247 (6), pp. 523 - 530  
**Factor de impact:** 2.478  
**Prim autor:** nu, coautor
3. Alina Asandei\*, **Irina Schiopu\***, Sorana Iftemi, Loredana Mereuta and Tudor Luchian, *Investigation of  $\text{Cu}^{2+}$  Binding to Human and Rat Amyloid Fragments  $\text{A}\beta$  (1–16) with a Protein Nanopore*, 2013, *Langmuir*, 29 (50), pp. 15634 – 15642  
**Factor de impact:** 4.186  
**Prim autor:** da, \*cu contribuții egale cu CS III Dr. Alina Asandei
4. 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*, 2012, *Langmuir*, 28 (49), pp. 17079 – 17091  
**Factor de impact:** 4.186  
**Prim autor:** da, \*cu contribuții egale cu Lect. Univ. Dr. Loredana Mereuta
5. **Irina Schiopu**, Loredana Mereuță, Aurelia Apetrei, Yoonkyung Park, Kyung-Soo Hahm, Tudor Luchian, *The role of tryptophan spatial arrangement for antimicrobial-derived, membrane-active peptides adsorption and activity*, 2012, *Molecular BioSystems*, 8 (11), pp. 2860 - 2863  
**Factor de impact:** 3.534  
**Prim autor:** da

## 2. Articole publicate *in extenso* în reviste științifice naționale

1. Liliana Chiribașa, **Irina Șchiopu**, Tudor Luchian, *The modulatory effects exerted by electrical properties of lipid membranes and ionic strength upon peptides - biomimetic systems interactions*, *Revista Științifică V. Adamachi*, 2013.
2. **Irina Șchiopu**, Aurelia Apetrei, Tudor Luchian, *Kinetics of pore formation by selected antimicrobial peptides monitored through a calcein release assay*, *Revista Științifică V. Adamachi*, 2011.
3. **Irina Șchiopu**, Aurelia Apetrei, Tudor Luchian, *Fluorescence and electrophysiology investigation of*

*cholesterol effect on the adsorption and activity of selected antimicrobial peptides*, Revista Științifică V. Adamachi, 2010.

4.

## 2. Citări ale articolelor publicate *in extenso* în reviste științifice naționale

1. **Irina Șchiopu**, L. Mereuță, A. Apetrei, Y. Park, K.-S. Hahm, T. Luchian, *The role of tryptophan spatial arrangement for antimicrobial-derived, membrane-active peptides adsorption and activity*, **2012**, **Molecular BioSystems**, 8, 2860 – 2863, **citat în:**
  - D. Koller, K. Lohner, *The role of spontaneous lipid curvature in the interaction of interfacially active peptides with membranes*, **2014**, **BBA-Biomembranes** 1838 (9), 2250-2259
  - G.R. Li, Y.B. Huang, Q. Feng, Y.X. Chen, *Tryptophan as a Probe to Study the Anticancer Mechanism of Action and Specificity of alpha-Helical Anticancer Peptides*, **2014**, **Molecules**, 19 (8), 12224-12241
2. L. Mereuta, **Irina Schiopu**, A. Asandei, Y. Park, K.-S. Hahm, T. Luchian, *Protein nanopore-based, single-molecule exploration of copper binding to an antimicrobial-derived, histidine-containing chimera peptide*, **2012**, **Langmuir**, 28, 17079 – 17091, **citat în:**
  - L. Wang, Y.J. Han, S. Zhou, G.H. Wang, X.Y. Guan, *Nanopore Biosensor for Label-Free and Real-Time Detection of Anthrax Lethal Factor*, **2014**, **ACS Appl. Mater. Interfaces**, 6 (10), 7334-7339
  - L. Mereuta, A. Asandei, C.H. Seo, Y. Park, T. Luchian, *Quantitative Understanding of pH- and Salt-Mediated Conformational Folding of Histidine-Containing, beta-Hairpin-like Peptides, through Single-Molecule Probing with Protein Nanopores*, **2014**, **ACS Applied Materials & Interfaces**, 6 (5), pp. 13242-13256
  - G. Wang, L. Wang, Y.J. Han, S. Zhou, X.Y. Guan, *Nanopore detection of copper ions using a polyhistidine probe*, **2014**, **Biosens. Bioelectron.** 53, 453-458
  - L. Mereuta, M. Roy, A. Asandei, J.K. Lee, Y. Park, I. Andricioaie T. Luchian, *Slowing down single-molecule trafficking through a protein nanopore reveals intermediates for peptide translocation*, **2014**, **Scientific Reports**, 4, article number 3885, doi: 10.1038/srep03885
  - F.-N. Meng et al., *Single-molecule analysis of the self-assembly process facilitated by host-guest interactions*, **2015**, **Chemical Communications** 51 (7), pp. 1202 – 1205
3. A. Asandei, **Irina Schiopu**, S. Iftemi, L. Mereuta and T. Luchian, *Investigation of Cu<sup>2+</sup> Binding to Human and Rat Amyloid Fragments A $\beta$  (1–16) with a Protein Nanopore*, **2013**, **Langmuir**, 29 (50), 15634 – 15642, **citat în:**
  - L. Wang, Y.J. Han, S. Zhou, G.H. Wang, X.Y. Guan, *Nanopore Biosensor for Label-Free and Real-Time Detection of Anthrax Lethal Factor*, **2014**, **ACS Appl. Mater. Interfaces**, 6 (10), 7334-7339

- L. Mereuta, A. Asandei, C.H. Seo, Y. Park, T. Luchian, *Quantitative Understanding of pH- and Salt-Mediated Conformational Folding of Histidine-Containing, beta-Hairpin-like Peptides, through Single-Molecule Probing with Protein Nanopores*, **2014, Acs Applied Materials & Interfaces**, 6 (5), pp. 13242-13256
- S. Boopathi, P. Kolandaivel, *Role of zinc and copper metal ions in amyloid beta-peptides A beta(1-40) and A beta(1-42) aggregation*, **2014, RSC Advances**, 4 (73), pp. 38951-38965
- Y. Wang et al., *Nanopore sensing of botulinum toxin type B by discriminating an enzymatically cleaved peptide from a synaptic protein synaptobrevin 2 derivative*, **2015, ACS Applied Materials and Interfaces** 7 (1), 184 – 192;
- O. Tavassol et al., *The use of nanopore analysis for discovering drugs which bind to  $\alpha$ -synuclein for treatment of Parkinson's disease*, **2014, European Journal of Medicinal Chemistry**, 88, pp. 42 – 54;
- 4. Alina Asandei, Sorana Iftemi, Loredana Mereuta, **Irina Schiopu** and Tudor Luchian, *Probing of Various Physiologically Relevant Metals–Amyloid- $\beta$  Peptide Interactions with a Lipid Membrane-Immobilized Protein Nanopore*, **2014, The Journal of Membrane Biology**, 247 (6), pp. 523 - 530 , **citat în:**
- L. Mereuta, A. Asandei, C.H. Seo, Y. Park, T. Luchian, *Quantitative Understanding of pH- and Salt-Mediated Conformational Folding of Histidine-Containing, beta-Hairpin-like Peptides, through Single-Molecule Probing with Protein Nanopores*, **2014, Acs Applied Materials & Interfaces**, 6 (5), pp. 13242-13256
- O. Tavassol et al., *The use of nanopore analysis for discovering drugs which bind to  $\alpha$ -synuclein for treatment of Parkinson's disease*, **2014, European Journal of Medicinal Chemistry**, 88, pp. 42 – 54;

### 3. Lucrări prezentate la conferințe internaționale

1. **Irina Schiopu**, Alina Asandei, Sorana Iftemi, Loredana Mereuta, Liliana Chiribasa, Tudor Luchian, *Single – molecule probing of Cu<sup>2+</sup> induced folding on human versus rat amyloid A $\beta$  (1-16) fragments*, IC-ANMBES 2014, Brasov, Romania, 13 – 15 Iunie 2014 (poster)
2. **Irina Șchiopu**, Loredana Mereuță, Alina Asandei, Tudor Luchian, *Copper(II) binding to a histidine - containing chimera peptide: a single protein nanopore study*, FEBS Workshop: Biological surfaces and interfaces, Sant Feliu de Guixols, Catalonia, Spania, 30 iunie – 5 iulie 2013 (poster).
3. **Irina Șchiopu**, Loredana Mereuță, Aurelia Apetrei, Tudor Luchian, *Electrophysiology and fluorescence studies of the key role played by the position of aromatic amino acids in antimicrobial peptide activity and translocation*, 9<sup>th</sup> ISCBPU, International Student Conference of Balkan Physical Union, Constanța, România, 5-7 iulie 2012 (prezentare orală).
4. Aurelia Apetrei, **Irina Șchiopu**, Loredana Mereuță, Tudor Luchian, *Electrophysiology study of amyloid beta channel formation and activity in reconstructed planar lipid membranes*, 8<sup>th</sup> BPU, The 8<sup>th</sup> General Conference of Balkan Physical Union, Constanța, România, 5-7 iulie 2012 (poster).

5. **Irina Șchiopu**, Loredana Mereuță, Aurelia Apetrei, Tudor Luchian, *Tryptophan anchor position determines antimicrobial peptide activity and translocation*, Third International Symposium on Antimicrobial Peptides – “Today knowledge and future applications”, Lille, Franța, 13-15 iunie 2012 (poster).

#### 4. Lucrări prezentate la conferințe naționale

1. Liliana Chiribasa, **Irina Șchiopu**, Tudor Luchian, The modulatory effects exerted by electrical properties of lipid membranes and ionic strength upon peptides - biomimetic systems interactions, FTEM National Conference, Iași, 26 octombrie 2013 (**prezentare orală**)
2. **Irina Șchiopu**, Loredana Mereuță, Alina Asandei, Tudor Luchian, *Analysis of copper ion induced peptide folding through a nanopore sensing technique*, 12<sup>th</sup> National Conference on Biophysics „CNB 2013” – Biophysics of Health, cu *participare internațională*, Iași, 13-16 iunie 2013 (**prezentare orală**).
3. Liliana Chiribașa, **Irina Șchiopu**, Tudor Luchian, *Mellitin affinity enhancement through a dipole potential modifying agent*, 12<sup>th</sup> National Conference on Biophysics „CNB 2013” – Biophysics of Health, cu *participare internațională*, Iași, 13-16 iunie 2013 (**prezentare poster**).
4. Liliana Chiribașa, **Irina Șchiopu**, Tudor Luchian, *Importanța aminoacidului Triptofan în studiul adsorbției peptidei antimicrobiene melitină*, National Conference on Fundamental and Applied Research in Physics, Iași, 26 octombrie 2012 (**prezentare poster**).
5. Liliana Chiribașa, **Irina Șchiopu**, Tudor Luchian, *Tryptophan fluorescence study of the adsorption of antimicrobial peptide Melitin*, FTEM National Conference, Iași, 12 – 14 mai 2012 (**prezentare orală**).
6. **Irina Șchiopu**, Aurelia Apetrei, Tudor Luchian, *The modulatory role of cholesterol on the activity of the antimicrobial peptide Cecropin B: a fluorescence approach*, National Conference of Biophysics, Sibiu, 10-12 noiembrie 2011 (**prezentare poster**).
7. **Irina Șchiopu**, Aurelia Apetrei, Tudor Luchian, *Kinetics of pore formation by selected antimicrobial peptides monitored through a calcein release assay*, FTEM National Conference, Iași, 14 mai 2011 (**prezentare orală**).
8. Aurelia Apetrei, **Irina Șchiopu**, Tudor Luchian, *Influence of cholesterol on the membrane activity of the antimicrobial peptide Cecropin B*, National Conference on Physics, Iași, 23-25 septembrie 2010 (**prezentare poster**).
9. **Irina Șchiopu**, Aurelia Apetrei, Tudor Luchian, *Fluorescence and electrophysiology investigation of cholesterol effect on the adsorption and activity of selected antimicrobial peptides*, FTEM National Conference, Iași, 15 mai 2010 (**prezentare orală**).

## 5. Premii, burse și distincții profesionale

- \* **Premiul I** la conferința 12<sup>th</sup> National Conference on Biophysics „CNB 2013” – Biophysics of Health, cu *participare internațională*, Iași, 13-16 iunie 2013, pentru lucrarea: „*Mellitin affinity enhancement through a dipole potential modifying agent*”.
- \* **Premiul I** la **Conferința Națională de Fizică și Tehnologii Educaționale Moderne, 2012**, 12 – 14 mai, Iași, România, pentru lucrarea: „*Tryptophan fluorescence study of the adsorption of antimicrobial peptide Melitin*”.
- \* **Premiu pentru cel mai bun poster** la conferința **11th National Conference on Biophysics**, Sibiu, 10-12 noiembrie **2011**, pentru lucrarea: “*The modulatory role of cholesterol on the activity of the antimicrobial peptide Cecropin B: a fluorescence approach*”.
- \* **Premiul II** la conferința **FTEM National Conference**, Iași, 14 mai **2011**, pentru lucrarea: “*Kinetics of pore formation by selected antimicrobial peptides monitored through a calcein release assay*”.
- \* **Premiul II** la conferința **FTEM National Conference**, Iași, 15 mai **2010**, pentru lucrarea: „*Fluorescence and electrophysiology investigation of cholesterol effect on the adsorption and activity of selected antimicrobial peptides*”.
- \* **Bursă** în cadrul programului LLP - Erasmus „*Mobilități studențești de practică*” la Departamentul de Fizică Medicală, Facultatea de Medicină, Universitatea din Patras, Grecia, iunie – septembrie 2010.