

Cercetător științific dr. Alina ASANDEI—Listă de lucrări

1. Bucataru, IC; Dragomir, I; **Asandei, A**; Pantazica, AM; Branza-Nichita, N; Park, Y; Luchian, T. Probing the Hepatitis B Virus E-Antigen with a Nanopore Sensor Based on Collisional Events Analysis, **BIOSENSORS-BASEL 2022**, 12, 596.
2. Mereuta, L; **Asandei, A**; Dragomir, I; Park, J; Park, Y, [5] ; Luchian, T. A Nanopore Sensor for Multiplexed Detection of Short Polynucleotides Based on Length-Variable, Poly-Arginine-Conjugated Peptide Nucleic Acids, **Analytical Chemistry 2022**, 94,,8774-8782.
3. **Asandei, A**; Mereuta, L; Bucataru, IC; Park, Y; Luchian, T. A Single-Molecule Insight into the Ionic Strength-dependent, Cationic Peptide Nucleic Acids-Oligonucleotides Interactions, **CHEMISTRY-AN ASIAN JOURNAL**, 2022, 17, e202200261.
4. **Asandei A.**, Mereuta L., Schiopu I., Park Y., Luchian T. 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**, e2100047.
5. Luchian, T.; Mereuta, L.; Park, Y.; **Asandei, A.**; Schiopu, I. Single-molecule, hybridization-based strategies for short nucleic acids detection and recognition with nanopores, **Proteomics 2021**, e2100046.
6. Dragomir, I.S., **Asandei, A.**, Schiopu, I, Bucataru, I.C., Mereuta, L., Luchian, T. The Nanopore-Tweezing-Based, Targeted Detection of Nucleobases on Short Functionalized Peptide Nucleic Acid Sequences, **Polymers 2021**, 13 (8), 1210.
7. Schiopu Irina, **Asandei Alina**, Mereuta Loredana, Dragomir Isabela, Bucataru Ioana Cezara, Luchian Tudor. Single-molecule detection and manipulation with biological nanopores. **Studia Universitatis Babeș-Bolyai, Chemia 2021**, 66 161-174.
8. **Asandei, A.**; Mereuta, L.; Schiopu, I.; Park, J.; Seo, C-H.; Park, Y.; Luchian, T. Non-Receptor-Mediated Lipid Membrane Permeabilization by the SARS-CoV-2 Spike Protein S1 Subunit, **ACS APPLIED MATERIALS & INTERFACES 2020**, 12(50), 55649-55658.
9. 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, 2020** 10 (1).
10. Ko, Su Jin; Park, Eunji; **Asandei, Alina**; Choi, Jee-Young; Lee, Seung-Chul; Seo, Chang Ho; Luchian, Tudor; Park, Yoonkyung, Bee venom-derived antimicrobial peptide melectin has broad-spectrum potency, cell selectivity, and salt-resistant properties **SCIENTIFIC REPORTS 2020**, 10(1).
11. **Asandei, Alina**; Di Muccio, Giovanni; Schiopu, Irina; Mereuta, Loredana; Dragomir, Isabela S.; Chinappi, Mauro; Luchian, Tudor, Nanopore-Based Protein Sequencing Using Biopores: Current Achievements and Open Challenges, **SMALL METHODS 2020**, 4 (11).
12. 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, 8630-8637.

13. 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, 1502-1507.
14. Luchian, T, Park Y, **Asandei A**, Schiopu I, Mereuta L, Apetrei A, Nanoscale Probing of Informational Polymers with Nanopores. Applications to Amyloidogenic Fragments, Peptides, and DNA-PNA Hybrids. **ACCOUNTS OF CHEMICAL RESEARCH** **2019**, 52, 267-276.
15. **Alina Asandei**, Dragomir Isabela S., Di Muccio Giovanni, Chinappi Mauro, Park Yoonkyung, Luchian Tudor. Single-Molecule Dynamics and Discrimination between Hydrophilic and Hydrophobic Amino Acids in Peptides, through Controllable, Stepwise Translocation across Nanopores. **Polymers** **2018**, 10, 885.
16. Ciuca Andrei, **Asandei Alina**, Schiopu Irina, Apetrei Aurelia, Mereuta Loredana, Seo Chang Ho, Park Yoonkyung, Luchian Tudor. Single Molecule, Real-Time Dissecting of Peptide Nucleic Acids-DNA Duplexes with a Protein Nanopore Tweezer. **Anal. Chem.**, **2018**, 90, 7682–7690.
17. **Alina Asandei**, Schiopu Irina, Ciobanasu Corina, Park Yoonkyung, Luchian Tudor. If Squeezed, a Camel Passes Through the Eye of a Needle: Voltage-Mediated Stretching of Dendrimers Facilitates Passage Through a Nanopore. **J. Membr. Biol.** **2018**, 251, 405-417.
18. **Alina Asandei**, Aldo E Rossini, Mauro Chinappi, Yoonkyung Park, Tudor Luchian. Protein Nanopore-Based Discrimination Between Selected Neutral Amino Acids from Polypeptides. **Langmuir** **2017**, 33, 14451–14459.
19. **Alina Asandei**, Andrei Ciuca, Aurelia Apetrei, Irina Schiopu, Loredana Mereuta, Chang Ho Seo, Yoonkyung Park, Tudor Luchian, Nanoscale Investigation of Generation 1 PAMAM Dendrimers Interaction with a Protein Nanopore. **Scientific Reports** **2017**, 7.
20. **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. **Applied Materials & Interfaces** **2016**, 8 (20), 13166-13179.
21. **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), 16706-16714.
22. **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** **2015**, 5 (10419).
23. Loredana Mereuta, **Alina Asandei**, Chang Ho Seo, Yoonkyung Park, Tudor Luchian, Quantitative Understanding of pH- and Salt-Mediated Conformational Folding of Histidine-Containing, beta-Hairpin-like Peptides, through Single-Molecule Probing with Protein Nanopores. **ACS Applied Materials & Interfaces** **2014**, 6, (15), 13242-13256.
24. **Alina Asandei**, Sorana Iftemi, Loredana Mereuta, Irina Schiopu, Tudor Luchian, Probing of Various Physiologically Relevant Metals: Amyloid-beta Peptide Interactions with a Lipid Membrane-Immobilized Protein Nanopore, **Journal of Membrane Biology** **2014**, 247(6), 523-553.

25. 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** **2014**, 4 (3885).
26. **Alina Asandei**, Irina Schiopu, Sorana Iftemi, Loredana Mereuta, Tudor Luchian, Investigation of Cu²⁺ Binding to Human and Rat Amyloid Fragments A beta (1-16) with a Protein Nanopore, **Langmuir** **2013**, 29, (50), 15634-15642.
27. 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**, 28, (49), 17079-17091.
28. Elisa Campos, **Alina Asandei**, Colin E. McVey, Joao C. Dias, A. Sofia F. Oliveira, Claudio M. Soares, Tudor Luchian, Yann Astier, The Role of Lys147 in the Interaction between MPSA-Gold Nanoparticles and the alpha-Hemolysin Nanopore, **Langmuir** **2012**, 28, (44), 15643-15650.
29. 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.
30. **Alina Asandei**, Loredana Mereuta, Tudor Luchian, The Kinetics of Ampicillin Complexation by gamma-Cyclodextrins. A Single Molecule Approach, **Journal of Physical Chemistry B** **2011**, 115 (33), 10173-10181.
31. **Alina Asandei**, Aurelia Apetrei, Tudor Luchian, Uni-molecular detection and quantification of selected beta-lactam antibiotics with a hybrid alpha-hemolysin protein pore, **Journal of Molecular Recognition** **2011**, 24, 199-207.
32. **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, 19-24.
33. Apetrei Aurelia, **Asandei Alina**, Park Yoonkyung, Hahm Kyung-Soo, Winterhalter Mathias, Luchian Tudor 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, 173-180.
34. **Alina Asandei**, Tudor Luchian, Ion selectivity, transport properties and dynamics of amphotericin B channels studied over a wide range of acidity changes, **Colloids and Surfaces B: Biointerfaces** **2008**, 67, 99-106.
35. **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.