Anexa 20

# MEMORIUL ȘTIINȚIFIC

Subsemnatul(a) Șulea Teodor Asvadur, student doctorand în cadrul SCOSAAR, Școala Doctorală de de științele vieții, înmatriculat la data de 02.11.2020 în domeniul de studii universitare de doctorat Biologie, la conducătorul de doctorat C.S. I Dr. Andrei-Jose Petrescu , autor al tezei de doctorat cu titlul Bioinformatics and Biocomputing techniques for ligand interactions and bioactive compound analysis and development, declar următoarele activități realizate in cadrul stagiului doctoral (se vor păstra doar activitățile realizate):

## A. Lista de lucrări științifice

1. Autor / autori, *„titlu lucrare”*, Revista/publicația, nr. ....., anul;
2. Spiridon L, Şulea TA, Minh DDL, Petrescu AJ. „Robosample: A Rigid-Body Molecular Simulation Program Based on Robot Mechanics”, Biochimica Biophysica Acta General Subjects 1864(8): 129616, 2020;
3. Chiritoiu G., Munteanu CVA., Şulea TA., Spiridon L., Petrescu AJ., Jandus C., Romero P., Petrescu SM. „Methionine oxidation selectively enhances T cell reactivity against a melanoma antigen”, iScience(107205), 2023
4. Papadopoulos N, Nédélec A, Derenne A, Şulea TA, Pecquet C, Chachoua I, Vertenoeil G, Tilmant T, Petrescu AJ, Mazzucchelli G, Iorga BI, Vertommen D, Constantinescu SN „Oncogenic CALR mutant C-terminus mediates dual binding to the thrombopoietin receptor triggering complex dimerization and activation”, Nature communications 14(1): 1881, 2023
5. Şulea TA, Draga S, Mernea M, Corlan AD, Radu BM, Petrescu AJ, Amuzescu B . „Differential Inhibition by Cenobamate of Canonical Human Nav1.5 Ion Channels and Several Point Mutants”, International journal of molecular sciences 26(1), 2025
6. Șulea TA, Martin EC, Bugeac CA, Bectaș FS, Iacob AL, Spiridon L, Petrescu AJ . "Lessons from Deep Learning Structural Prediction of Multistate Multidomain Proteins-The Case Study of Coiled-Coil NOD-like Receptors", International journal of molecular sciences 26(2), 2025

## B. Participări la conferințe/workshop-uri

1. Teodor A. Şulea, Eliza C. Martin, Victor G. Ungureanu, Laurențiu Spiridon, Andrei-Jose Petrescu: “ROBOSAMPLE: robotics-based Gibbs sampling of macro-molecular systems”, MacroYouth2021 Scientific Communications of Young Researchers, Iasi, 19th November 2021.
2. T.A. Şulea, E.C. Martin, V.G. Ungureanu, A.J. Petrescu, L. Spiridon, “Highly efficient exploration of conformational spaces using robot mechanics – A helical bundle case study”, 12 (sup 1) July 2022, The Biochemistry Global Summit, 25th IUBMB Congress, 46th FEBS Congress, 15th PABMB Congress, Lisbon, Portugal

3. Șulea A. Teodor, Nicolas Papadopoulos, Stefan N. Constantinescu, Laurentiu Spiridon, Petrescu J. Andrei, "Unravelling molecular basis of myeloproliferative neoplasms (MPN) by experimentally constrained modelling and simulation", Studia Universitatis Babeș-Bolyai, Biologia, 68(2), December 2023, The Annual International Conference of the RSBMB, Cluj-Napoca, Romania
4. T.A. Șulea, E.C. Martin, L. Spiridon, A.J. Petrescu – "Prediction of NOD like receptor structure with new, state of the art Deep Learning methods. Deep Learning, ma non troppo", The Annual International Conference of the RSBMB 2024, Bucharest, Romania
5. T.A. Șulea, V.G. Ungureanu, E.C. Martin, A.J. Petrescu, L. Spiridon – "Modelling Receptor/Ligand Binding Using Robot Mechanincs-Aided Simulation", 18th National Conference of Biophysics, Iași, Romania, 2024
6. T.A. Șulea, V.G. Ungureanu, E.C. Martin, A.J. Petrescu, L. Spiridon – "Molecular binding processes using robot mechanics molecular simulation", The 48th FEBS Congress, Milano, Italy, 2024

**C. Proiecte**

CYBORG - Usage of high speed robotics algorithms for in-sillico assisted experimental research of large biomolecular systems - PN-III-P4-IDPCE-2020-2444

Student-doctorand
Șulea Teodor Asvadur