

## PERSONAL INFORMATION

## Dan Florin Mihailescu



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Sex Male | Date of birth 27/04/1956 | Nationality Romanian

 WORK  
EXPERIENCE

- 2010 – 2021 **Head of the Anatomy, Animal Physiology and Biophysics Department**  
 Faculty of Biology, University of Bucharest, Bucharest ([www.bio.unibuc.ro](http://www.bio.unibuc.ro))
- 2000 – 2021 **Professor**  
 Faculty of Biology, University of Bucharest, Bucharest ([www.bio.unibuc.ro](http://www.bio.unibuc.ro))
  - Teaching and research activities
- 2000 – 2003 **Scientific researcher**  
 National Cancer Institute, Heidelberg, Germany
  - Research activities
- 2000 – 2004 **Invited professor**  
 University of Heidelberg, Heidelberg, Germany
  - Teaching and research activities
- 1992 – 2000 **Assistant professor**  
 Faculty of Biology, University of Bucharest, Bucharest ([www.bio.unibuc.ro](http://www.bio.unibuc.ro))
  - Teaching and research activities
- 1984 – 1993 **Scientific researcher**  
 Institute of Biology, Bucharest
  - Research activities
- 1982 – 1984 **High-school teacher**  
 High school of Cernavoda
  - Teaching activities

 EDUCATION  
AND TRAINING

- 1990 - 1994 **Ph.D. in Physics**  
 Faculty of Physics, University of Bucharest, Bucharest
  - Ph. D. thesis: „The effect of certain local anesthetics on biomembranes. ESR studies.”

- 1981 – 1982 **Master's degree in Biophysics**  
Faculty of Physics, University of Bucharest, Bucharest
- 1977 – 1981 **Bachelor's degree**  
Faculty of Physics, University of Bucharest, Bucharest

**PERSONAL SKILLS**

Mother tongue(s) Romanian

| Other language(s) | UNDERSTANDING |         | SPEAKING           |                   | WRITING |
|-------------------|---------------|---------|--------------------|-------------------|---------|
|                   | Listening     | Reading | Spoken interaction | Spoken production |         |
| English           | C2            | C2      | C2                 | C2                | C2      |
| French            | C2            | C2      | C2                 | C2                | C2      |

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user  
[Common European Framework of Reference for Languages](#)

- Communication skills** ▪ good communication skills gained through my experience in working with students, as a teacher/professor and with the employees of Faculty of Biology, as a grant manager and Head of the Department of Anatomy, Animal Physiology and Biophysics
- Organisational / managerial skills** ▪ leadership – as a grant manager I am currently responsible for a team of 11 people  
▪ good organizational skills – as Head of the Department of Anatomy, Animal Physiology and Biophysics I am involved in and I coordinate the activities performed by the members of the department
- Job-related skills** I acquired additional working skills during several work stages in foreign institutions as follows:  
▪ 1988, 1992, 1998 (two weeks each year): Biological Research Center, Szeged, Hungary  
▪ 1996, 1997 (one month each year): University of Nottingham, UK  
▪ 1997, 1998 (six and five months each year): Center of Atomic Studies („Centre D'Etude Atomique”, CEA), France  
▪ 2000 -2004 (four years): University of Heidelberg, Germany  
▪ 2006-2007 (six months): University of Tennessee, USA  
▪ 2006-2007 (six months): Oak Ridge National Laboratory, USA

Publications . Scopus ID: 7003875385

2. Google Scholar: <https://scholar.google.com/citations?user=gG2kjQ0AAAAJ&hl=ro>

Publications

3. Maria Mernea, Roxana Ulăreanu, Octavian Călboreanu, Gabriela Chirițoiu, Dana Cucu, **Dan F. Mihailescu**, N-glycosylation state of TRPM8 protein revealed by terahertz spectroscopy and molecular modelling, *Biochimica et Biophysica Acta (BBA) - General Subjects*, 1864, 11, 129580, 2020, Elsevier
4. Avram, Speranta; Puia, Alin; Udrea, Ana Maria; **Mihailescu, Dan**; Mernea, Maria; Dinischiotu, Anca; Oancea, Florin; Stiens, Johan; ", "Natural Compounds Therapeutic Features in Brain Disorders by Experimental, Bioinformatics and Cheminformatics Methods", *Current medicinal chemistry*, 2019, Bentham Science Publishers
5. Airini, Razvan; Iordache, Florin; Alexandru, Dorin; Savu, Lorand; Epureanu, Florin Bogdan; **Mihailescu, Dan**; Amuzescu, Bogdan; Maniu, Horia, "Senescence?induced immunophenotype, gene expression and electrophysiology changes in human amniocytes", *Journal of cellular and molecular medicine*, 23, 11, 7233-7245, 2019,
6. Cojocaru, F; Selescu, T; Domocos, D; **Mihailescu, D**; Babes, A; Cucu, D; ", "Investigation of Transient receptor potential ankyrin 1 (TRPA1) expression and function in a pancreatic adenocarcinoma cell line, *EUROPEAN BIOPHYSICS JOURNAL WITH BIOPHYSICS LETTERS*, 48,, S176-S176, 2019, "SPRINGER 233 SPRING ST, NEW YORK, NY 10013 USA
7. M. S. STAN, L. O. CİNTEZA, L. PETRESCU, M. A. MERNEA, O. CALBOREAN, D. F. MIHAILESCU, C. SIMA, A. DINISCHIOTU, Dynamic analysis of the interactions between Si/SiO<sub>2</sub> quantum dots and biomolecules for improving applications based on nano-bio interfaces. *Scientific Reports*, 8(1) (2018).
8. S. AVRAM, A. L. MILAC, L. C. BORCAN, D. MIHAILESCU, F. BORCAN, M. CASTANHO, Designing of artificial peptides for an improved antiviral activity. *Current Proteomics*, 15(4), 258-266 (2018).
9. R. ULĂREANU, G. CHIRIȚOIU, F. COJOCARU, A. DEFTU, V. RISTOIU, L. STĂNICĂ, D. F. MIHĂILESCU, D. CUCU, N-glycosylation of the transient receptor potential melastatin 8 channel is altered in pancreatic cancer cells. *Tumor Biology*, 39(10), 1-10 (2017).
10. L. PETRESCU, S. AVRAM, M. MERNEA, D. F. MIHAILESCU. Up-converting nanoparticles: Promising markers for biomedical applications. *Biomedical Engineering: Concepts, Methodologies, Tools, and Applications 2017*:278-311.
1. M. MERNEA, O. CALBOREAN, I. VASILE, S. AVRAM, D. F. MIHAILESCU, Radiation induced molecular damage addressed by terahertz spectroscopy - A theoretical study. *NATO Science for Peace and Security Series B: Physics and Biophysics*, Part F143-48(2017).
2. S. AVRAM, M. MERNEA, E. BAGCI, L. HRITCU, L. C. BORCAN, D. F. MIHAILESCU, Advanced structure-activity relationships applied to *Mentha spicata* L. subsp. *spicata* essential oil compounds as AChE and NMDA ligands, in comparison with donepezil, galantamine and memantine – new approach in brain disorders pharmacology. *CNS and Neurological Disorders - Drug Targets*, 16(7), 800-811 (2017).
3. S. AVRAM, I. ALEXANDRESCU, A. PUIA, A. M. UDREA, M. MERNEA, D. F. MIHAILESCU, L. C. BORCAN, Aneuploidy-inducing mutations in mitotic checkpoint protein HMAD1-carboxy terminal domain analyzed by SAR and computational mutagenesis. *Current Proteomics*, 14(4), 254-260 (2017).
4. M. MERNEA, R. ULĂREANU, O. CĂLBOREAN, S. CHIRA, O. POPESCU, D. F. MIHAILESCU, D. CUCU, Effects of Cd<sup>2+</sup> on the epithelial Na<sup>+</sup> channel (ENaC) investigated by experimental and modeling studies. *General Physiology and Biophysics*, 35(3), 259-271 (2016).
5. S. AVRAM, M. MERNEA, F. BORCAN, D. MIHAILESCU, Evaluation of the therapeutic properties of mastoparan-and sifuvirtide-derivative antimicrobial peptides using chemical structure-function relationship-in vivo and in silico approaches. *Current Drug Delivery*, 13(2), 202-210 (2016).
6. S. AVRAM, F. BORCAN, L. C. BORCAN, A. L. MILAC, D. MIHAILESCU, QSAR approaches applied to antidepressants induced neurogenesis -in vivo and in silico applications. *Mini-Reviews in Medicinal Chemistry*, 16(3), 230-240 (2016).
7. M. MERNEA, A. IONESCU, I. VASILE, C. NICA, G. STOIAN, T. DASCALU, D. F. MIHAILESCU, In vitro human serum albumin glycation monitored by Terahertz spectroscopy. *Optical and Quantum Electronics*, 47(4), 961-973 (2015).
8. O. GRIGORE, O. CALBOREAN, G. COJOCARU, R. UNGUREANU, M. MERNEA, M. P. DINCA, S. AVRAM, D. F. MIHAILESCU, T. DASCALU, High-intensity thz pulses

- application to protein conformational changes. *Romanian Reports in Physics*, 67(4), 1251-1260 (2015).
9. M. MERNEA, O. CALBOREAN, O. GRIGORE, T. DASCALU, D. F. MIHAILESCU, Validation of protein structural models using THz spectroscopy: A promising approach to solve three-dimensional structures. *Optical and Quantum Electronics*, 46(4), 505-514 (2014).
  10. I. GHEORGHE, I. CZOBOR, M. C. CHIFIRIUC, E. BORCAN, C. GHIȚĂ, O. BANU, V. LAZĂR, G. MIHĂESCU, D. F. MIHĂILESCU, Z. ZHIYONG, Molecular screening of carbapenemase-producing Gram-negative strains in Romanian intensive care units during a one year survey. *Journal of Medical Microbiology*, 631303-1310 (2014).

## Publications

15. S. AVRAM, A. MILAC, M. MERNEA, D. MIHAILESCU, M. V. PUTZ, C. BUIU, Structure–biological function relationship extended to mitotic arrest-deficient 2-like protein Mad2 native and mutants-new opportunity for genetic disorder control. *International Journal of Molecular Sciences*, 15(11), 21381-21400 (2014).
16. O. CALBOREAN, M. MERNEA, S. AVRAM, D. F. MIHAILESCU, Pharmacological descriptors related to the binding of Gp120 to CD4 corresponding to 60 representative HIV-1 strains. *Journal of Enzyme Inhibition and Medicinal Chemistry*, 28(5), 1015-1025 (2013).
17. S. AVRAM, M. MERNEA, D. MIHAILESCU, D. DUDA-SEIMAN, C. DUDA-SEIMAN, Advanced QSAR methods evaluated polycyclic aromatic compounds duality as drugs and inductors in psychiatric disorders. *Current Organic Chemistry*, 17(23), 2880-2890 (2013).
18. O. PETRESCU, O. CINTEZA, A. M. VOICULESCU, T. ROSU, I. ENCULESCU, E. MATEI, S. GEORGESCU, R. BIRJEGA, S. AVRAM, D. A. N. MIHAILESCU, Interaction of NaYF<sub>4</sub>:Er:Yb nanoparticles with phospholipid monolayers as models of biological membranes. *Revista de Chimie*, 63(9), 956-961 (2012).
19. A. IONESCU, M. MERNEA, I. VASILE, C. A. BRANDUS, M. E. BARBINTA-PATRASCU, L. TUGULEA, D. MIHAILESCU, T. DASCALU. Study of supported phospholipid bilayers by THz-TDS. Paper presented at: Proceedings of SPIE - The International Society for Optical Engineering2012.
20. S. AVRAM, A. L. MILAC, D. MIHAILESCU, 3D-QSAR study indicates an enhancing effect of membrane ions on psychiatric drugs targeting serotonin receptor 5-HT1A. *Molecular BioSystems*, 8(5), 1418-1425 (2012).
21. S. AVRAM, D. MIHAILESCU, F. BORCAN, A. L. MILAC, Prediction of improved antimicrobial mastoparan derivatives by 3D-QSAR-CoMSIA/CoMFA and computational mutagenesis. *Monatshefte fur Chemie*, 143(4), 535-543 (2012).
22. S. AVRAM, C. BUIU, D. DUDA-SEIMAN, C. DUDA-SEIMAN, F. BORCAN, D. MIHAILESCU, Evaluation of the pharmacological descriptors related to the induction of antidepressant activity and its prediction by QSAR/QRAR methods. *Mini-Reviews in Medicinal Chemistry*, 12(6), 467-476 (2012).
23. L. TARKO, S. AVRAM, D. MIHAILESCU, Prediction for antidepressants activity using QSAR study. *Revista de Chimie*, 62(4), 371-375 (2011).
24. G. NECULA, M. E. MIHAI, C. E. SBARCEA, S. DINU, E. LUPULESCU, E. CEASU, A. STREINU-CERCEL, D. F. MIHAILESCU, V. I. ALEXANDRESCU, Overview of influenza virus antiviral resistance in Romania in the last four epidemic seasons-phenotyping, genotyping and molecular analysis study. *Revista Romana de Medicina de Laborator*, 19(3), 227-240 (2011).
25. M. MERNEA, A. LECA, T. DASCALU, D. MIHAILESCU, Bovine serum albumin 3D structure determination by THz spectroscopy and molecular modeling. *NATO Science for Peace and Security Series B: Physics and Biophysics*, 101-105(2011).
26. M. MERNEA, O. CALBOREAN, A. TIȚA, D. F. MIHAILESCU, PRO206SER and ARG441HIS mutations influence on human tryptophan hydroxylase 2 activity - A molecular modeling study. *Revue Roumaine de Chimie*, 56(8), 833-841 (2011).
27. M. MERNEA, O. CALBOREAN, L. PETRESCU, D. ZATREANU, O. SANDU, T. DASCALU, D. F. MIHAILESCU. THz spectroscopy and molecular modeling of bovine serum albumin under various hydration conditions. Paper presented at: Proceedings of SPIE - The International Society for Optical Engineering2011.
28. S. AVRAM, D. DUDA-SEIMAN, F. BORCAN, B. RADU, C. DUDA-SEIMAN, D. MIHAILESCU, Evaluation of antimicrobial activity of new mastoparan derivatives using QSAR and computational mutagenesis. *International Journal of Peptide Research and Therapeutics*, 17(1), 7-17 (2011).
29. M. MERNEA, O. CALBOREAN, L. PETRESCU, A. TITA, A. LECA, T. DASCALU, D. F. MIHAILESCU. Protein association investigated by THz spectroscopy and molecular modeling. Paper presented at: Proceedings of SPIE - The International Society for Optical Engineering2010.
30. M. MERNEA, O. CALBOREAN, L. PETRESCU, M. P. DINCA, A. LECA, D. APOSTOL, T. DASCALU, D. MIHAILESCU. Proteins vibrations in THz frequency domain. Paper presented at: Proceedings - 10th International Conference on Laser and Fiber-Optical Networks Modeling, LFNM'2010, 2nd IEEE International Workshop on THz Radiation: Basic Research and Applications, TERA'20102010.
31. M. MERNEA, O. CALBOREAN, L. PETRESCU, M. P. DINCA, A. LECA, D. APOSTOL, T. DASCALU, D. MIHAILESCU. The flexibility of hydrated bovine serum albumin investigated by THz spectroscopy and molecular modeling. Paper presented at: Proceedings of SPIE - The International Society for Optical Engineering2010.

## Publications

32. M. MERNEA, O. CALBOREAN, M. P. DINCA, A. LECA, D. APOSTOL, T. DASCALU, D. MIHAILESCU, The simulation of bovine serum albumin vibration spectrum in THz domain. *Journal of Optoelectronics and Advanced Materials*, 12(1), 135-140 (2010).
33. M. P. DINCA, A. LECA, D. APOSTOL, M. MERNEA, O. CALBOREAN, D. MIHAILESCU, T. DASCALU, Transmission THz time domain system for biomolecules spectroscopy. *Journal of Optoelectronics and Advanced Materials*, 12(1), 110-114 (2010).
34. S. AVRAM, C. BUIU, D. M. DUDA-SEIMAN, C. DUDA-SEIMAN, D. MIHAILESCU, 3D-QSAR design of new escitalopram derivatives for the treatment of major depressive disorders. *Scientia Pharmaceutica*, 78(2), 233-248 (2010).
35. M. MERNEA, A. LECA, O. CALBOREAN, M. P. DINCA, T. DASCALU, D. MIHAILESCU. 3D protein structure determination by THz spectroscopy and molecular modelling: Case study on bovine serum albumin. Paper presented at: Proceedings - TERA-MIR 2009, NATO Advanced Research Workshop Terahertz and Mid Infrared Radiation: Basic Research and Practical Applications 2009.
36. C. PISTERER, D. MIHAILESCU, J. C. SMITH, J. REED, A common pharmacophoric footprint for AIDS vaccine design. *Journal of Medicinal Chemistry*, 47(15), 3723-3729 (2004).
37. D. MIHAILESCU, J. REED, J. C. SMITH, Convergence in peptide folding simulation: Multiple trajectories of a potential AIDS pharmacophore. *Biopolymers*, 70(2), 121-133 (2003).
38. D. MIHAILESCU, J. C. SMITH, J. REED, Solution structure of a putative HIV1 immunogenic peptide: Computer simulation of the principal CD4 binding domain of gp120. *Journal of Medicinal Chemistry*, 45(5), 1019-1025 (2002).
39. D. MIHAILESCU, J. C. SMITH, Atomic detail peptide-membrane interactions: Molecular dynamics simulation of gramicidin S in a DMPC bilayer. *Biophysical Journal*, 79(4), 1718-1730 (2000).
40. D. CUCU, D. MIHAILESCU, Spontaneous electrical potential oscillation on a filter impregnated with soybean lecithin placed between identical solutions of alanine. *Biophysical Chemistry*, 85(1), 41-47 (2000).
41. D. MIHAILESCU, J. C. SMITH, Molecular dynamics simulation of the cyclic decapeptide antibiotic, gramicidin S, in dimethyl sulfoxide solution. *Journal of Physical Chemistry B*, 103(9), 1586-1594 (1999).
42. D. MIHAILESCU, L. I. HORVÁTH, Molecular dynamics of lipid association at the hydrophobic interface of gramicidin S. *European Biophysics Journal*, 28(3), 216-221 (1999).
43. D. CUCU, D. MIHAILESCU, G. MIHAILESCU, D. P. NIKOLELIS, M. L. FLONTA, P. T. FRANGOPOLO, Fourier analysis of potential oscillations of a liquid membrane for the discrimination of taste substances. *Biophysical Chemistry*, 63(1), 47-54 (1996).
44. D. MIHAILESCU, A. CONSTANTINESCU, I. DRAGUTAN, M. CUCULESCU, P. T. FRANGOPOLO, Procaine incorporation into human erythrocyte membrane - a spin label study. *Archives of Physiology and Biochemistry*, 101(2), 155-159 (1993).
45. A. CONSTANTINESCU, D. MIHAILESCU, M. S. IONESCU, P. T. FRANGOPOLO, The effects of tertiary amines on the liposome permeability to ascorbate. An ESR study. *Revue Roumaine de Biochimie*, 26(4), 325-330 (1989).
46. V. EȘANU, L. BUCȘA, S. BĂCANU, R. POPA, D. MIHĂILESCU, A. CONSTANTINESCU, The action of mouse liver and lung homogenates on the ESR signal of a spin-labelled antiviral compound. *Revue Roumaine de Medecine - Serie de Virologie*, 37(3), 175-179 (1986).
47. I. V. PATRASCU, D. MIHAILESCU, I. SANDU, Tumoural processes in the prostate in the prostate gland of breeding bulls. *Oncologia*, 19(4), 293-300 (1980).
48. I. V. PATRASCU, D. MIHAILESCU, I. NICOLAE, T. ANDRIAN, G. GRIGORIU, A. IOST, Investigations on the presence of serum antibodies to Epstein-Barr virus in patients with various tumors. *Revue Roumaine de Medecine - Serie de Virologie*, 31(4), 279-281 (1980).
49. I. V. PATRASCU, S. COMAN, I. SANDU, P. STIUBE, I. MUNTEANU, M. IONESCU, D. POPESCU, D. MIHĂILESCU, Specific protection against bovine leukemia virus infection conferred on cattle by the Romanian inactivated vaccine BL-VACC-RO. *Revue Roumaine de Medecine - Serie de Virologie*, 31(2), 95-102 (1980).
50. D. MIHAILESCU, I. V. PATRASCU, I. APOSTOL, M. MAZILU, Detection of C-type virus by immunoferritin technique in bat lung cell line chronically infected with bovine leucosis virus. *Archiv fur experimentelle Veterinarmedizin*, 34(6), 847-850 (1980).

## Projects

- Tempus Project 9695/95 (1995-1998);
- CEEX\* 60/2005-2007: The effect of Cadmium on biomembranes. Implication in apoptosis;
- CNCSIS\*\*: 1072/2006-2008: Study of interactions between typical and atypical antipsychotic drugs and their membrane receptors using in silico methods - implications in drug design;
- CEEX 141/2006-2008: Molecular mechanism of depression: electrophysiological and molecular modeling with clinical implications, 1.200.000 RON;
- CEEX:168/2006-2008: Study of impermeability-mediated antimicrobial resistance mechanisms of Gram-negative bacteria in natural and reconstituted membranes;
- CEEX 2-Cex06-11-49/2006-2008 Nano-scale approach towards studying couplings between biomembranes, bacterial toxins and proteins with roles in drugs penetration;
- PNCI2\*\*\* – 42151/2008: Genotype-phenotype correlation for some candidate genes in bipolar I disorder;
- PNCI2 – 62055/2008: Biomedical applications of the THz spectroscopy. Early diagnostics of cancer;
- PNCI2 – 62060/2008: Biospecific nanoparticles used in research and biomedical analyses laboratories;
- PNCI2 – 12135/2008: Infrared-pumped upconversion nanophosphors for biomedical applications.
- PCE \*\*\*\* – 137/2011: Protein three-dimensional structure and conformational transitions determination by high-power narrow-band THz radiation and by molecular modeling.
- Romania-Slovenia BILATERAL COOPERATION – 538/2012: Protein three-dimensional structure and conformational transitions determination by high-power narrow-band THz radiation and by molecular modelling.
- PNCI2 - 89/2012: Genomewide study of bipolar disorder and guide for assessing the genetic risk for bipolar disorder in the romanian population
- PNCI2- 16/2012: Intelligent Tutoring System – Evolutionary Approach in e-Learning
- PN II 198/2014: Integrated system for biomolecular modeling that can be applied to Gram – negative bacteria
- HIVERA 4-004/2013 : An innovative approach to deliver dual - targeting HIV entry inhibitours using cationic liposomes
- COST Action MP1204 (2012 – 2015): TERA-MIR Radiation: Materials, Generation, Detection and Applications – reprezentant in Management Comitee din partea Romaniei
- PNII – 198/2014: “Integrated system for biomolecular modeling, with applicability in research on Gram-negative bacteria”
- PCCDI 63PCCDI/2018 (2018-2020): “Integrated project for the development of novel technologies for advanced medical treatments”

## Memberships

- President of Romanian Society of Pure and Applied Biophysics

## Citations

- 506 citations according to Google Scholar;
- H-index = 12

