

PERSONAL INFORMATION



NEAGU, Adrian

 Timișoara, Romania



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Sex Male | Year of birth 1967 | Nationality Romania

POSITION

Professor, Head of the Biophysics Discipline,
Victor Babeș University of Medicine and Pharmacy Timișoara,
Piața Eftimie Murgu Nr. 2, 300041 Timișoara, Romania;
Web: www.umft.ro
Tel./Fax: +40-256-204117

WORK EXPERIENCE

-
- October 2006 - present **Professor (Profesor Universitar)**
Victor Babeș University of Medicine and Pharmacy Timișoara, Piața Eftimie Murgu Nr. 2, 300041 Timișoara, Romania, www.umft.ro; Tel./Fax: +40-256-204117
- Lectures in biophysics, research in biological physics, biophysics, and data analysis
- Discipline of Biophysics**
- May 2008 - present **Adjunct Professor**
University of Missouri, 223 Physics Bldg. 65211, Columbia, MO, USA; Tel.: +01-573-882-2335
- Lectures in physics, research in biological physics
- Business or sector Academia**
- October 2004 - October 2006 **Associate Professor (Conferențiar Universitar)**
Victor Babeș University of Medicine and Pharmacy Timișoara, Piața Eftimie Murgu Nr. 2, 300041 Timișoara, Romania, www.umft.ro; Tel./Fax: +40-256-204117
- Lectures in biophysics, research in biological physics and biophysics
- Discipline of Biophysics**
- February 2002 - October 2004 **Assistant Professor (Șef Lucrări)**
Victor Babeș University of Medicine and Pharmacy Timișoara, Piața Eftimie Murgu Nr. 2, 300041 Timișoara, Romania, www.umft.ro; Tel./Fax: +40-256-204117
- Lectures in biophysics, research in biological physics
- Discipline of Biophysics**
- October 1998 - February 2002 **Teaching Assistant (Asistent Universitar)**
Victor Babeș University of Medicine and Pharmacy Timișoara, Piața Eftimie Murgu Nr. 2, 300041 Timișoara, Romania, www.umft.ro; Tel./Fax: +40-256-204117
- Laboratory works in biophysics, research in theoretical biophysics
- Discipline of Biophysics**
- October 1994 - October 1998 **Teaching Assistant (Asistent Universitar)**
West University of Timisoara, Blvd. V. Parvan 4, 300223, Timișoara, Romania; www.uvt.ro; Tel. +40-256-592111, Fax: +40-256-592311
- Lectures and seminars in theoretical physics (lectures in quantum mechanics, problem solving classes in electrodynamics, quantum mechanics and quantum field theory)
- Discipline of Theoretical Physics**
- October 1991 - October 1994 **Teaching Assistant (Preparator Universitar)**

West University of Timisoara, Blvd. V. Parvan 4, 300223, Timișoara, Romania; www.uvt.ro; Tel. +40-256-592111, Fax: +40-256-592311

- Seminars in theoretical physics (problem solving classes in electrodynamics, quantum mechanics and quantum field theory)

Discipline of Theoretical Physics

EDUCATION AND TRAINING

March 2002 - April 2003

Post-doctoral fellow

University of Missouri, 223 Physics Bldg. 65211, Columbia, MO, USA; https://missouri.edu/; Tel.: +01-573-882-2335

- theoretical and experimental research in biological physics

March 1995 - November 2001

PhD (Doctorat)

Level 8 (ISCED 2011)

Babeș – Bolyai University Cluj–Napoca (Universitatea Babeș – Bolyai Cluj–Napoca), Romania; http://www.ubbcluj.ro/en/

- Physics

October 1986-July 1991

Masters Degree (Diplomă de licență, Diplomă de merit)

Level 7 (ISCED 2011)

West University of Timisoara, Blvd. V. Parvan 4, 300223, Timișoara, Romania; www.uvt.ro; Tel. +40-256-592111, Fax: +40-256-592311

- Physics

PERSONAL SKILLS

Mother tongue(s)

Romanian, Hungarian

Other language(s)

| | UNDERSTANDING | | SPEAKING | | WRITING |
|---------|---------------|---------|--------------------|-------------------|---------|
| | Listening | Reading | Spoken interaction | Spoken production | |
| English | C2 | C2 | C2 | C2 | C2 |
| German | B2 | C1 | B1 | A2 | A2 |
| French | B1 | B1 | A2 | A2 | A2 |

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

Communication skills

Teamwork skills acquired as member of research groups in Romania, United States, Hungary, and Germany

Organisational / managerial skills

Managerial skills

- leader of 7 research projects;
- member of the organizing committee of 4 national conferences with international participation (The 7-th National Conference of Biophysics, October 5-7, 2003, Predeal, Romania; The 11-th National Conference of Biophysics, November 10-12, 2011, Sibiu, Romania; The 13-th National Conference of Biophysics, June 4-6, 2015, Timișoara, Romania; The 14-th National Conference of Biophysics, June 2-4, 2016, Cluj-Napoca, Romania).

Job-related skills
Research experience

- 2006 – 2009, for about 3-4 months each year, Visitor, Research Associate Professor, University of Missouri, Columbia, MO, U.S.A.
- Jun. – Jul. 2004 Research Fellow, University of Missouri, Columbia, MO, U.S.A.
- Jul. – Aug. 2003 Research Fellow, University of Missouri, Columbia, MO, U.S.A.
- 2002 – 2003 Post-doctoral Fellow, University of Missouri, Columbia, MO, U.S.A.
- Feb. – Mar. 2001 Research Fellow, Biological Research Centre of the Hungarian Academy of Sciences, Szeged, Hungary
- Jan. – Feb. 2000 Research Fellow, Biological Research Centre of the Hungarian Academy of Sciences, Szeged, Hungary
- 1992 – 1993 DAAD (German Academic Exchange Office) Research Fellow at the Free University of Berlin (Freie Universität Berlin), in the group of Prof. Dr. Hagen Kleinert

Evaluator of research

- Reviewer of research projects funded by the National Research Council of Romania (CEEX and PNII programs) and by the Hungarian Scientific Research Fund (Hungarian abbreviation: OTKA).

Editorial Board Member

1. Plos ONE, an open access journal published by The Public Library of Science, indexed by The Institute for Scientific Information (ISI), impact factor (IF) = 3.7.
2. Encyclopedia, published by MDPI, Basel, Switzerland.
3. Life, published by MDPI, Basel, Switzerland, indexed by ISI, IF = 3.2.
4. Open Physics, published by De Gruyter Brill, indexed by ISI, IF = 1.8.
5. Applied Rheology, published by De Gruyter Brill, indexed by ISI, IF = 1.8.
6. Member of the scientific advisory committee of the Romanian Journal of Biophysics, the journal of the Romanian Society of Pure and Applied Biophysics, published by the Romanian Academy.

Referee of international journals: Anatomical Record, Biofabrication, Bioprinting, Biosensors, Bioengineering, Biomedicines, Coatings, Computers in Biology and Medicine, Industrial & Engineering Chemistry Research, International Journal of Molecular Sciences, Journal of Theoretical Biology, Materials, Mathematical Problems in Engineering, Nanomaterials, PeerJ, Physical Biology, Physica A, Phys. Rev. E, Phys. Rev. Lett., Plos ONE, Polymers, Proc. Natl. Acad. Sci. USA, Processes, Scientific Programming.

Research output

- 6 books and over 70 papers in peer reviewed journals
- over 1200 independent citations according to Web of Science Core Collection Citation Report
- Hirsch index (h-index): 16

Digital skills

SELF-ASSESSMENT

| Information processing | Communication | Content creation | Safety | Problem solving |
|------------------------|------------------|------------------|------------------|-----------------|
| Proficient user | Independent user | Proficient user | Independent user | Proficient user |

Programming in C++, MATLAB, and Python; user of Microsoft Office (Word, Excel, PowerPoint), and Adobe Acrobat.

Technical skills

Furniture design, construction works.

Other skills

I am passionate about cycling and camping.

Driving licence

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ADDITIONAL INFORMATION

- July 2013 - 2018, President of the Romanian Society of Pure and Applied Biophysics (RSPAB) - Societatea Română de Biofizică Pură și Aplicată (SRBPA)
- July 18, 2008 - February 17, 2011 member of the Permanent Commission No. 12 (Medical Sciences) of the Romanian Agency of Quality Assurance in Higher Education - Agenția Română de Asigurare a Calității în Învățământul Superior (ARACIS)
- January 2015 - January 2017 member of the National Council of Scientific Research - Consiliul Național al Cercetării Științifice (CNCS).

Representative Publications

1. Neagu M, Robu A, Arjoca S, Neagu A. 2026. Cell-Based Computational Models of Organoids: A Systematic Review, *Cells* 2026; 15(2):177.
2. Tuce RA, Pupăzan V, Neagu M, Arjoca S, Neagu A. 2026. The use of thermal imaging to assess heat generation during dental implant bed preparation in the presence of a surgical guide with an incorporated coolant channel. *J Prosthodont.* 2026, doi:10.1111/jopr.70078.
3. Ghenciu DM, Dănilă AI, Stoicescu ER, Neagu A, Ghenciu LA. 2025. Tear Film Alterations in Type 2 Diabetes Mellitus: A Systematic Review and Meta-Analysis, *Diagnostics* 2025; 15(24):3104.
4. Popoiu TA, Cimpean AM, Bojin F, Cerbu S, Gug MC, Pirvu CA, Pantea S, Neagu A. 2025. Microengineered Breast Cancer Models: Shaping the Future of Personalized Oncology. *Cancers* 2025; 17(19):3160.
5. Neagu M, Neagu A. 2025. A Decade of Progress in Ultrasound Assessments of Subcutaneous and Total Body Fat: A Scoping Review, *Life* 2025 Feb 5;15(2):236.
6. Tuce RA, Neagu M, Pupazan V, Neagu A, Arjoca S. 2024. Heat generation during dental implant bed preparation using surgical guides with and without internal irrigation channels evaluated on standardized models of the alveolar bone, *Applied Sciences.* 2024; 14 (17): 8051.
7. Muntean P, Miclos-Balica M, Macavei GA, Munteanu O, Neagu A, Neagu M. 2024. Anthropometric formulas repurposed to predict body fat content from ultrasound measurements of subcutaneous fat thickness, *Symmetry.* 2024; 16 (8): 962Arjoca S, Bojin F, Neagu M, Paunescu A, Neagu A, Paunescu V. 2024. Hydrogel extrusion speed measurements for the optimization of bioprinting parameters, *Gels* 10(2):103.
8. Arjoca S, Bojin F, Neagu M, Paunescu A, Neagu A, Paunescu V. 2024. Hydrogel extrusion speed measurements for the optimization of bioprinting parameters, *Gels* 10(2):103.
9. Arjoca S, Robu A, Neagu M, and Neagu A. 2023. Mathematical and computational models in spheroid-based biofabrication, *Acta Biomaterialia* 165:125-139.
10. Horhat R, Miclos-Balica M, Muntean P, Popa S, Sima I, Glisici B, Cîrja O, Neagu A, and Neagu M. 2022. The impact of subject positioning on body composition assessments by air displacement plethysmography evaluated in a heterogeneous sample, *PLOS ONE* 17:e0267089.
11. Bojin F, Robu A, Bejenariu MI, Ordodi V, Olteanu E, Cean A, Popescu R, Neagu M, Gavriluc O, Neagu A, Arjoca S, Paunescu V. 2021. 3D bioprinting of model tissues that mimic the tumor microenvironment. *Micromachines (Basel)* 12(5):535.
12. Miclos-Balica M, Muntean P, Schick F, Haragus HG, Glisici B, Pupazan V, Neagu A, Neagu M. 2021. Reliability of body composition assessment using A-mode ultrasound in a heterogeneous sample. *Eur J Clin Nutr.* 75(3):438-445.
13. Muntean P, Miclos-Balica M, Popa A, Neagu A, Neagu M. 2021. Reliability of Repeated Trials Protocols for Body Composition Assessment by Air Displacement Plethysmography. *Int J Environ Res Public Health* 18(20): 10693.
14. Petraş A, Drăgoi RG, Pupazan V, Drăgoi M, Popa D, Neagu A. 2021. Using portable ultrasound to monitor the neuromuscular reactivity to low-frequency electrical stimulation, *Diagnostics* 11(1):65.
15. Tuce R-A, Arjoca S, Neagu M, Neagu A. 2019. The use of 3D-printed surgical guides and models for sinus lift surgery planning and education, *Journal of 3D Printing in Medicine* 3(3):145-155.
16. Robu A, Mironov V, Neagu A. 2019. Using Sacrificial Cell Spheroids for the Bioprinting of Perfusable 3D Tissue and Organ Constructs: A Computational Study. *Comput Math Methods Med.* 2019:7853586.
17. Neagu A. 2017. Role of computer simulation to predict the outcome of 3D bioprinting, *Journal of 3D Printing in Medicine* 1(2):103-121.
18. David OT, Tuce RA, Munteanu O, Neagu A, and Panainte I. 2017. Evaluation of the influence of patient positioning on the reliability of lateral cephalometry, *Radiologia Medica* 122(7):520-529
19. Cristea A, Neagu A. 2016. Shape changes of bioprinted tissue constructs simulated by the Lattice Boltzmann method, *Computers in Biology and Medicine* 70:80-87.
20. Lighezan L, Georgieva R, Neagu A. 2016. The secondary structure and the thermal unfolding parameters of the S-layer protein from *Lactobacillus salivarius*. *European Biophysics Journal* 45(6):491-509.
21. Lighezan L, Meiri D, Breiman A, Neagu A. 2013. Circular dichroism and the secondary structure of the ROF2 protein from *Arabidopsis thaliana*, *J. Biol. Phys.* 39(4):635-648.
22. Lighezan L, Georgieva R, Neagu A. 2012. Study of the Thermal Denaturation of the S-layer Protein from *Lactobacillus Salivarius*, *Phys. Scr.* 86 035801.
23. Robu A, Aldea R, Munteanu O, Neagu M, Stoicu-Tivadar L, Neagu A. 2012. Computer simulations of in vitro morphogenesis, *Biosystems* 109: 430-443.
24. Flenner E, Janosi L, Barz B, Neagu A, Forgacs G, Kosztin I. 2012. Kinetic Monte Carlo and cellular particle dynamics simulations of multicellular systems, *Phys. Rev. E* 85:031907.
25. Cristea A, Neagu A, Sofonea V. 2011. Lattice Boltzmann simulations of the time evolution of living multicellular systems, *Biorheology* 48(3-4):185-197.
26. Fleming PA, W. Argraves S, Gentile C, Neagu A, Forgacs G, Drake CJ. 2010. Fusion of uniluminal vascular spheroids: A model for assembly of blood vessels, *Dev. Dyn.* 239 (2) 398-406.
27. Neagu A, Mironov V, Kosztin I, Barz B, Neagu M, Moreno-Rodriguez RA, Markwald RR, Forgacs G. 2010. Computational modeling of epithelial-mesenchymal transformations, *Biosystems* 100: 23-30.

Representative
Publications

28. Small AR, Neagu A, Amyot F, Sackett D, Chernomordik V, Gandjbakhche A. 2008. Spatial distribution of VEGF isoforms and chemotactic signals in the vicinity of a tumor, *J. Theor. Biol.* 252:593-607.
29. Doaga IO, Savopol T, Neagu M, Neagu A, Kovács E. 2008. The Kinetics of Cell Adhesion to Solid Scaffolds: An Experimental and Theoretical Approach, *J. Biol. Phys.* 34:495-509.
30. Norotte C, Marga F, Neagu A, Kosztin I, Forgacs G. 2008. Experimental evaluation of apparent tissue surface tension based on the exact solution of the Laplace equation, *EPL* 81 , 46003.
31. Flenner E, Marga F, Neagu A, Kosztin I, Forgacs G. 2008. Relating Biophysical Properties Across Scales. *Curr. Top. Dev. Biol.* 81:461-483.
32. Jakab K, Norotte C, Damon B, Marga F, Neagu A, Besch-Williford CL, Kachurin A, Church KH, Park H, Mironov V, Markwald RR, Vunjak-Novakovic G, Forgacs G. 2008. Tissue Engineering by Self-Assembly of Cells Printed into Topologically Defined Structures, *Tissue Engineering: Part A*, 14 (3):413-421.
33. Marga F, Neagu A, Kosztin I, Forgacs G. 2007. Developmental Biology and Tissue Engineering, *Birth Defects Research (Part C)* 81:320-328.
34. Neagu A, Kosztin I, Jakab K, Barz B, Neagu M, Jamison R, Forgacs G. 2006. Computational modeling of tissue self-assembly, *Modern Phys. Lett. B* 20:1217-1231.
35. Jakab K, Damon B, Neagu A, Kachurin A, Forgacs G. 2006. Three-dimensional tissue constructs built by bioprinting. *Biorheology* 43:509-513.
36. Neagu A, Jakab K, Jamison R, Forgacs G. 2005. Role of physical mechanisms in biological self-organization, *Phys. Rev. Lett.* 95:178104-1-4.
37. Jakab K, Neagu A, Mironov V, Markwald RR, Forgacs G. 2004. Engineering biological structures of prescribed shape using self-assembling multicellular systems. *Proc. Natl. Acad. Sci. USA* 101:2864-2869.
38. Jakab K, Neagu A, Forgacs G. 2004. Organ printing: fiction or science. *Biorheology* 41:371-375.
39. Neagu M, Neagu A. 2001. On the Na, K pump in fluctuating membrane potential. *European Biophysics Journal* 30:221-226.
40. Neagu A, Neagu M, Dér A. 2001. Fluctuations and the Hofmeister effect. *Biophys. J.* 81:1285-1294.
41. Neagu A. 1997. On fermions in a plane coupled to the nonlinear sigma model. *Physica A* 237:45-51.
42. Neagu A, Schakel A M J. 1993. Induced quantum numbers in a (2+1)-dimensional electron gas. *Phys. Rev. D* 48:1785-1791.