# CURRICULUM VITAE

## Personal details

**Name, surname: Dudău, Maria**
**Unic ID cercetător:** www.orcid.org/0000-0002-5071-9756 , UEFISCDI ID (UEF-iD):U-1700-037W-9158
**URL web site:** https://www.researchgate.net/profile/Maria-Dudau

## Studies and key competences

**2018-2022** **Doctor of Medical Sciences, *Summa cum laude*,** OME no.3900/28.03.2023
**"Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania**
"Fatty acids as potential modulators of cell proliferation and migration in tumour cell lines"
Alfred Teitel Award – Carol Davila Distinction for the best doctoral thesis

**2018-2022** **Ophthalmology Specialist,** Average Specialty Exam Graduation Average 9.90
WHO no. 385/15.02.2022

**2011-2017** **Doctor, Faculty of General Medicine,** graduation average 9.77
**"Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania**
"Expression of amyloid precursor protein in the brain of caveolin-1 knockout mice"

## Current position

**2024 -present** **Scientific Researcher Grade III (CS III),** Laboratory of Biochemistry and Proteomics
**"Victor Babeș" National Research Institute, Bucharest, Romania**

**2022- present** **Ophthalmology Specialist,** MarDx Optic S.R.L., Romania

## Previous professional experience

**2018-2022** **Research Assistant,** Biochemistry and Proteomics Laboratory
**"Victor Babeș" National Research Institute, Bucharest, Romania**

**2015-2018** **Biochemist/Technician,** Biochemistry and Proteomics Laboratory
**"Victor Babeș" National Research Institute, Bucharest, Romania**

**2018-2022** **Resident Ophthalmologist,**
**Clinical Institute of Ophthalmological Emergencies, Bucharest, Romania**

## Other relevant professional experience

**2023-present** team member "Molecular approaches in 3D models (tumor spheroids) gene-edited by CRISPR/Cas9 method in developing solutions for personalized medicine in cancer" - PN 23.16.02.03

**2023-present** team member "Role of Caveolin-1 in age-associated vascular amyloidosis (CANVAS)" - PN-10N/2023-23.16.01.01

**2020-2022** team member "Combined CD36 immuno-affinity and nano-structure technology for metastatic tumor cells enrichment from blood" PN-III-P2-2.1-PED-2019-3141

**2016-2022** team member „Implementation of biomedical research expertise through knowledge transfer to the environment private for validation of products and services in the fields of medical biotechnologies and health -INTELBIOMED" POC-G/ID: P_40_197

**2019-2022** team member "Evaluation of kinomic and miRNomic profile, for exploration of new molecular targets and combinatorial therapies in glioblastoma; Omics approaches" PN 19.29.01.04

**2018-2020** team member "New methods of diagnosis and treatment: current challenges and technological solutions based on nanomaterials and biomaterials" PN-III-P1-1.2-PCCDI-2017-0062

**2015-2017** team member "Before Alzheimer's Disease: novel mechanism of amyloid precursor protein signaling in adult healthy brain" PN-II-RU-TE-2014-4-1534

**Research achievements**

Maria DUDAU, M.D., Ph.D., has been serving as a Research Assistant and Postdoctoral Researcher at the Biochemistry-Proteomics Laboratory of the "Victor Babes National Institute" in Bucharest, Romania, since 2016. Her expertise in fundamental research includes proficiency in various techniques such as cell cultures, viability and cytotoxicity assessments, Western Blot analysis, Immunofluorescence microscopy, and Real-time cell monitoring using Biostation and x-CELLigence systems. Additionally, she has expertise in the derivation and maintenance/passage of patient-derived organoids, acquired during a hands-on course at the Wellcome Genome Institute. Furthermore, she is skilled in handling gene editing utilizing the CRISPR-Cas9-px459v2.0 system, including sgRNA design, primer synthesis for target genes, transfection, nucleofection, selection, and single-cell cloning with subsequent clone propagation, and PCR proofing, as acquired through her participation in the Trialect Scholarship program at Verona University in the Zipeto Lab. Since 2019, she has been actively engaged in various research projects, including PNIII projects such as P2-2.1-PED-2019-3141 (grant number 382/2020), PN 19.29.01.04, and COP A 1.2.3., with the grant ID:P_40_197/2016. Her contributions to these projects have led to the publication of 16 articles indexed in ISI Web of Science, with a Hirsch Index of 8 and 223 citations in Web of Science.

**Main research fields/ interests:**

a) *in vitro* testing to evaluate the biocompatibility, cytotoxicity, and anti-inflammatory properties of different materials and compounds, including hydrogel, silver and silica nanoparticles, novel dietary supplements, calcium phosphate-based bioceramics for orthopedic and dentistry applications, aiming to assess their potential for medical and therapeutic applications.

- Assessing Polysaccharides/Aloe Vera–Based Hydrogels for Tumor Spheroid Formation, Gels, Preda P., Dudau M, doi: 10.3390/gels9010051
- Chirică IM, Enciu A-M, Tite T, Dudău M, Albulescu L, Iconaru SL, Predoi D, Pasuk I, Enculescu M, Radu C, et al. The Physico-Chemical Properties and Exploratory Real-Time Cell Analysis of Hydroxyapatite Nanopowders Substituted with Ce, Mg, Sr, and Zn (0.5–5 at.%). *Materials*. 2021; 14(14):3808. https://doi.org/10.3390/ma14143808

b) assessing the effects of fatty acids from sea-buckthorn seed oil on cellular regeneration, proliferation, and their potential anti-tumoral properties, translational use of bioactive lipids, skin regeneration, and anti-inflammatory mechanisms.

- Dudău, M., et al. (2021). A Fatty Acid Fraction Purified from Sea Buckthorn Seed Oil Has Regenerative Properties on Normal Skin Cells. Frontiers in Pharmacology, doi: 10.3389/fphar.2021.737571

- Dudău, M., et al. (2021). Sea-Buckthorn Seed Oil Induces Proliferation of Both Normal and Dysplastic Keratinocytes in Basal Conditions and under UVA Irradiation. Journal of Personalized Medicine, 36doi: 10.3390/jpm11040278

c) Lipid Receptors, CD36 Signaling and cancer: how CD36 interacts with key signaling partners, including thrombospondin-1 and CD47, shaping tumor-microenvironment communication and influencing processes such as cell survival, invasion, and angiogenesis. This interest is reflected in her analyses of aggressive malignancies, including glioblastoma, where altered lipid metabolism is increasingly recognized as a driver of tumor aggressiveness and immune evasion.
-Dudău, M., et al. (2022). Fatty Acids, CD36, Thrombospondin-1, and CD47 in Glioblastoma: Together and/or separately? International Journal of Molecular Sciences, doi: 10.3390/ijms23020604
- Dudău, M., et al. (2021). The Interplay Between Natural Compounds and Non-Coding RNAs in Cancer. Cancers.
DOI: 10.3390/cancers131435xx
-Ana-Maria Dobri, Maria Dudău, Ana-Maria Enciu, Mihail Eugen Hinescu,CD36 in Alzheimer's Disease: An Overview of Molecular Mechanisms and Therapeutic Targeting, Neuroscience,doi.org/10.1016/j.neuroscience.2020.11.003

d) Ophthalmology and Clinical Outcomes Research:

Dudău, M., et al. (2024). Visual Outcomes in Ectopia Lentis in Marfan Syndrome: A Study of Four Surgical Techniques in Children and Adults. Medicina, doi: 10.3390/medicina6009
Dudău, M., et al. (2021). Traumatic Intralenticular Neovascularization in a HLA-B27-Positive Pediatric Patient. Diagnostics, doi: 10.3390/diagnostics11081410

**Professional recognition**
**Awards and Scholarships:**

- Trialect Visiting Traineship - Prof. Majlinda Lako- Newcastle, UK – to be received in 2026

- Alfred Teitel Award - Carol Davila Distinction for best doctoral thesis 2022

- Trialect Scholarship – Prof. Donato Zipeto, Verona University - 2021

- Translational Neuroscience Prize- Leiden University Conference, 2018

Patents

- *Identifying native amyloid precursor protein used in Alzheimer's disease pathology, involves separating cell membranes, extracting and separating protein complexes by gel electrophoresis, and identifying protein with specific antibodies* – 2024 – RO132970 (B1)

Patents - pending

*OSIM A10091/28.12.2023* ***Bioactive polyphenolic phytocomplex conditioned in stabilized lipid nanoparticles,*** Hertzog R, Diaconu M, Alecu A, Litescu Filipescu S, **Tanase C, Popesu ID, Enciu AM, Codrici E, Pop S, Dudau M, Albulescu L**, Bobica A, Scurtu M, Zanov Kliment, Popa CV, Catrina AM, Ionescu LE, Popescu DM, Badea GI.

OSIM A/00418 din 21.07.2021 ***Biocomposite based on type I collagen and aloe vera, complexed with silver nanoparticles obtained by green synthesis from aqueous cinnamon solution, with a regenerative effect on human fibroblasts in the skin,*****Enciu AM, Tanase C, Codrici E, Popescu ID, Albulescu L, Dudau M, Codorean E, Albulescu RNA,** Avram M, Stan D, Mateescu LA, Preda P.

**Reviewer for ISI Publications** :Frontiers in Immunology, Frontiers in Pharmacology
**Member of Academic Societies:** European Society of Cataract and Refractive Surgery, Romanian Society of Cataract and Refractive Surgery, Romanian Society of Ophthalmology

**Additional information:**
Total number of publications: 16 (WoS)
Total number of citations (without self-citations): 223 (WoS)
Index h: 8 (WoS)

**Career breaks, unconventional career paths, and major life events**
During the years of professional training, the clinical training in Ophthalmology was carried out together with the realization of doctoral studies in the field of Molecular Biology, the studies being carried out within the Victor Babeș Institute.

**List of relevant publications 2015-2025**

1. **Dudău, M**., Codrici, E., Tarcomnicu, I., Mihai, S., Popescu, I. D., Albulescu, L., Constantin, N., Cucolea, I., Costache, T., Rambu, D., Enciu, A. M., Hinescu, M. E., & Tanase, C. (2021). A Fatty Acid Fraction Purified From Sea Buckthorn Seed Oil Has Regenerative Properties on Normal Skin Cells. Frontiers in pharmacology, 12, 737571. https://doi.org/10.3389/fphar.2021.737571 IF:5.8
2. **Dudău, M**., Vilceanu, A. C., Codrici, E., Mihai, S., Popescu, I. D., Albulescu, L., Tarcomnicu, I., Moise, G., Ceafalan, L. C., Hinescu, M. E., Enciu, A. M., & Tanase, C. (2021). Sea-Buckthorn Seed Oil Induces Proliferation of both Normal and Dysplastic Keratinocytes in Basal Conditions and under UVA Irradiation. Journal of personalized medicine, 11(4), 278. https://doi.org/10.3390/jpm11040278 IF:4.945
3. **Dudău, M**., Codrici, E., Tanase, C., Gherghiceanu, M., Enciu, A. M., & Hinescu, M. E. (2020). Caveolae as Potential Hijackable Gates in Cell Communication. Frontiers in cell and developmental biology, 8, 581732. https://doi.org/10.3389/fcell.2020.581732 IF:6.684
4. Preda, P., Enciu, A. M., Tanase, C**., Dudău, M**., Albulescu, L., Maxim, M. E., Darie-Niță, R. N., Brincoveanu, O., & Avram, M. (2023). Assessing Polysaccharides/Aloe Vera-Based Hydrogels for Tumor Spheroid Formation. Gels (Basel, Switzerland), 9(1), 51. https://doi.org/10.3390/gels9010051 IF: 4.6
5. Tanase, C., Enciu, A. M., Codrici, E., Popescu, I. D., **Dudău, M.**, Dobri, A. M., Pop, S., Mihai, S., Gheorghișan-Gălățeanu, A. A., & Hinescu, M. E. (2022). Fatty Acids, CD36, Thrombospondin-1, and CD47 in Glioblastoma: Together and/or Separately?. International journal of molecular sciences, 23(2), 604. https://doi.org/10.3390/ijms23020604 IF:5.6
6. Sabo, A. A., **Dudău, M**., Constantin, G. L., Pop, T. C., Geilfus, C. M., Naccarati, A., & Dragomir, M. P. (2021). Two Worlds Colliding: The Interplay Between Natural Compounds and Non-Coding Transcripts in Cancer Therapy. Frontiers in pharmacology, 12, 652074. https://doi.org/10.3389/fphar.2021.652074 IF:5.811
7. Tătaru, C. P., Tătaru, C. I., **Dudău, M.**, Moșu, A., Luca, L., Maria, B., Bancu, A., & Curcă, P. F. (2021). Traumatic Intralenticular Neovascularization in a HLA B27+ Pediatric Patient. Diagnostics (Basel, Switzerland), 11(8), 1493. https://doi.org/10.3390/diagnostics11081493 IF:3.706

8. Dobri, A. M., **Dudău, M**., Enciu, A. M., & Hinescu, M. E. (2021). CD36 in Alzheimer's Disease: An Overview of Molecular Mechanisms and Therapeutic Targeting. Neuroscience, 453, 301–311. https://doi.org/10.1016/j.neuroscience.2020.11.003 IF:3.59
9. 90P-Dextran-based polymers can be used as first choice to generate tumor spheroids in vitro, Enciu, AM; Codrici, E Popescu, IDS [1] ; Albulescu, L ; **Dudău, M**; Costache, I; Avram, A; Tanase, C, https://doi.org/10.1016/j.annonc.2022.09.091 IF 50.5
10. Targeting signaling pathways by natural products in glioblastoma, Tanase, C ; Codrici, E; Popescu, IDS; Enciu, AM ; Albulescu, L ; **Dudău, M** ; Popa, ML, Albulescu, R, 10.1016/j.annonc.2022.09.087 IF50.5