Curriculum Vitae

Name: Miruna Nemecz (42 years old), PhD, Principal Investigator III, Biologist, Dept. of Cellular Pathophysiology and Pharmacology, Institute of Cellular Biology and Pathology 'Nicolae Simionescu' (ICBP 'NS'), Bucharest, Romania.

Education:
•**Doctoral Degree**, Natural Sciences: Biology Domain, Romanian Academy **(2007-2012);**
•**Master of Science Degree,** Biology, University of Bucharest **(2004-2006);**
•**Bachelor of Science Degree,** Biology, University of Bucharest **(2000-2004).**

Training, Awards and Grants:
•***Postdoctoral program*****,** Faculty of Biology, University of Bucharest in collaboration with ICBP 'NS' **(2014-2015);**
•***"The Annual International Workshop RAMSES",*** Bucharest, Romania **(2012);**
•***Summer school***: **"*Inflammation and Cardiovascular Disease",*** Obergurgl, Austria **(2011);**
•***Training stage***, Friedrich Schiller University, Center for Molecular Biomedicine Molecular Cell Biology Lab. (Prof. Dr. F-D.Böhmer), Jena, Germany-scholarship granted by Boheringer Inghelheim Funds **(2009)**;
•***Biomedicine workshop****: "From fundamental research to therapeutic applications",* Bucharest, Romania (**2008**);
•***Postgraduate course***: **"*From cellular and molecular biology to XXI century medicine, 7th edition"*****,** ICBP 'NS'**(2007)** •***Anniversary workshop "From Basic Science to Therapeutic Applications"*****,** Romanian Society for Cell Biology at 25th Anniversary, ICBP 'NS'**(2007);**
•***Postgraduate course*****:*****"From cellular and molecular biology to XXI century medicine, 6th* edition**", ICBP 'NS'**(2006).**

Research experience:
•**ICBP 'NS' (2019-Present)-*Principal Investigator gr.III*** - Dept. of Pathophysiology and Pharmacology, group of Dr. A. Georgescu;
•**ICBP 'NS' (2008-2019)-*Scientific Researcher***-Dept. of Pathophysiology and Pharmacology, group of Dr. A. Georgescu Acad. D. Popov (since May 2016, group of Dr. A. Georgescu);
•**University of Bucharest, Faculty of Biology,** in collaboration with **ICBP 'NS' (2014-2015)-*Postdoctoral programme,*** Mentor: Acad. M. Simionescu;
•**ICBP 'NS' (2007-2012)-*PhD student*,** Advisor: Acad. M. Simionescu;
•**ICBP 'NS' (2006-2008)-*Research Assistant***-Dept. of Pathophysiology and Pharmacology, group of Acad. D. Popov and in the Dept. of Genomics, Transcriptomics and Molecular Therapies, group of Dr. A. Gafencu.

Administrative and managerial competence:
•Scientific collaborations between the ICBP 'NS' and (1)Institute of Molecular Cell Biology, Friedrich Schiller University, Germany(2008-2009; (2)National Institute of Diabetes, Nutrition and Metabolic Diseases, N.C.Paulescu(2019-Present);

•Co-organiser of 'The 4th International Symposium on Adipobiology and Adipopharmacology'(2015);
•Secretary of Managerial Internal Control Commission in ICBP 'NS'(since 2020).

Professional activities:
•Peer Review Evaluator, Frontiers, MDPI (since July 2016);
•Member of the International Society for Regenerative Medicine and Surgery (ISRMS) (since 2014);
•Member of the Romanian Society for Developmental Biology (RSDB) (since 2010);
•Member of the Romanian Society for Cell Biology (RSCB) (since 2006);
•Member of the Order of Biochemists, Biologists and Chemists in Romanian Sanitary System (OBBCSR) (since 2006).

Research record:
● published articles: **(1) 16 ISI articles(4 as first author and 12 as co-author**); **(2) 2 BDI articles** as first author; **(3) 2 book chapters (4) 10 abstracts in ISI journals** (**2 as first author and 7 as co-author**); **(5) 5 abstracts in CNCS B+ indexed journals**;
●**6** oral presentations(one as invited speaker);
●**42** poster communications at international conferences and **27** at national conferences;
●**7** national and **one** international award;
●**3** national and **4** international training programs;
●**12** projects as collaborator.

Published papers
ISI indexed journals with impact factor

1. **Nemecz M**., Stefan D.S., Comarița I.K., Constantin A., Tanko G., Guja C., Georgescu A., Microvesicle-associated and circulating microRNAs in diabetic dyslipidemia: miR-218, miR-132, miR-143, and miR-21, miR-122, miR-155 have biomarker potential. Cardiovasc Diabetol.;22(1):260 (2023)-(IF: 9.3)
2. Constantin A., Comarița I.K., Alexandru N., Filippi A., Bojin F., Gherghiceanu M., Vilcu A., **Nemecz M.,** Niculescu L.S., Paunescu V., Georgescu A., "Stem Cell - Derived Extracellular Vesicles Reduce the Expression of Molecules Involved in Cardiac Hypertrophy - in a Model of Human-Induced Pluripotent Stem Cell-Derived Cardiomyocytes", Frontiers in Pharmacology-Translational Pharmacology, 13:1003684 (2022)-(IF: 5.98)
3. Comarita I.K., Vilcu A., Constantin A., Procopciuc A., Safciuc F., Alexandru N., Dragan, E., **Nemecz M**., Filippi A., Chitoiu L., Gherghiceanu M., Georgescu A., "Therapeutic Potential of Stem Cell-Derived Extracellular Vesicles on Atherosclerosis-Induced Vascular Dysfunction and Its Key Molecular Players", Front. Cell Dev. Biol., 10: 817180 (2022)-(IF:6.68)
4. Simionescu N.*, **Nemecz M**.*, Petrovici A.R., Nechifor I.S., Buga R.C, Dabija M.G., Eva L., Georgescu A., „Microvesicles and microvesicle-associated microRNAs reflect glioblastoma recurrence: microvesicle-associated miR-625-5p has biomarker potential", International Journal of Molecular Science, 29;23(15):8398 (2022) - (IF: 6.20)

5. Dumitrescu M., Constantin A., **Nemecz M**., Dragan E., Popov D., Tanko G., "Hypertension induces compensatory left ventricular hypertrophy by a mechanism involving gap junction lateralization and overexpression of CD36, PKC, and MMP-2", Rom J Morph Embryol, 61(X) (2021) - (IF: 1.41)

6. Constantin A., Filippi A., Alexandru N., **Nemecz M**., Georgescu A., "Extracellular vesicles from adipose tissue stem cells in diabetes and associated cardiovascular disease; pathobiological impact and therapeutic potential", International Journal of Molecular Science, 21(24):9598 (2020) - (IF: 4.55)

7. Alexandru N., Constantin A., **Nemecz M**., Comarita I.K., Vilcu A., Procopciuc A., Tanko G., Georgescu A., "Hypertension associated with hyperlipidemia induced different microRNA expression profiles in plasma, platelets, and platelet-derived microvesicles; effects of endothelial progenitor cell therapy", Frontiers in Medicine, 6:280 (1-10) (2020) (IF: 3.9) - UEFISCDI reworded

8. **Nemecz M**., Constantin A., Dumitrescu M., Alexndru N., Filippi A., Tanko G., Georgescu A., "The distinct effects of palmitic and oleic acid on pancreatic beta cell" Frontiers in Pharmacology – Ethnopharmacology, 9 (article1554):1-16 (2019) - (IF: 3.83) - UEFISCDI reworded

9. Alexandru N., Frunza S., Dragan E., Badila E., Constantin A**., Nemecz M**., Tanko G., Georgescu A., "Platelets of healthy origins promote functional recovery of atherosclerotic endothelial progenitor cells", Frontiers in Pharmacology-Inflammation Pharmacology, 10 (article 424):1-14 (2019) - (IF: 3.84) - UEFISCDI reworded

10. Constantin A., Dumitrescu M., **Nemecz M.,** Picu A., Smeu B., Guja C., Alexandru N., Georgescu A., Tanko G., "Sera of obese type 2 diabetic patients undergoing metabolic surgery instead of conventional treatment exert beneficial effects on beta cell survival and function: results of a randomized clinical study", Obesity Surgery,1-13 (2019) - (IF:3.60) - UEFISCDI reworded

11. Titorencu I., Albu MG., **Nemecz M**., Jinga VV., "Natural polymer-cell bioconstructs for bone tissue engineering", Current Stem Cell Research & Therapy, 12(2): 165-174 (2017) - (IF:2.65)

12. **Nemecz M**. *, Alexandru N. *, Tanko G., Georgescu A., "Role of microRNAs in endothelial dysfunction and hypertension", Current Hypertension Reports 18(12):87 (2016) - (IF: 3.11) - UEFISCDI reworded

13. Georgescu A., Alexandru N., **Nemecz M**., Titorencu I., Popov D., "Irbesartan administration therapeutically influences circulating endothelial progenitor cell and microparticle mobilization by involvement of pro-inflammatory cytokines", European Journal of Pharmacology, 711: 27-35 (2013) - (IF: 2.78) - UEFISCDI reworded

14. Georgescu A, Alexandru N., **Nemecz M**., Titorencu I., Popov D., "Enoxaparin reduces adrenergic contraction of resistance arterioles in aging and in aging associated with diabetes via engagement of MAP kinase pathway", Blood Coagulation and Fibrinolysis, 22(4): 310:316 (2011) - (IF: 1.4)

15. Georgescu A., Popov D., Constantin A., **Nemecz M**., Alexandru N.,Cochior D.,Tudor A., "Dysfunction of human subcutaneous fat arterioles in obesity alone or obesity associated with Type 2 diabetes", Clinical Science, 120(10): 463-472 (2011) - (IF: 4.613) - UEFISCDI reworded

16. Popov D., **Nemecz M**., Dumitrescu M., Georgescu A., Böhmer F- D., "Long-term high glucose concentration influences Akt, ERK1/2, and PTP1B protein expression in human aortic smooth muscle cells", Biochemical and Biophysical Research Communications, 388(1): 51-55 (2009) - (IF: 2.64)

International database indexed journals

1. **Nemecz M**., Dumitrescu M., Constantin A., Titorencu I., Tanko G., Popov D., " Catalase reduces PDGF-mediated vascular SMCs proliferation in high glucose conditions", Annals of RSCB, XIX(3): 95-103 (2015) - (CNCS B+ indexed)
2. **Nemecz M.,** Popov D, Georgescu A., "Phosphorylation / dephosphorylation signaling events in the aorta of streptozotocin - injected Golden Syrian Hamsters", Annals of RSCB, XV(1): 28-34 (2010) - (CNCS B+ indexed

Book chapters

1. Gherghiceanu M., Alexandru N., Magda S. L., Constantin A., **Nemecz M**., Filippi A., Ioghen O. C., Ceafalan L. C., Bojin F., Tanko G., Paunescu V., Vinereanu D., Stepien E., Georgescu A.. Chapter's Title: Extracellular Vesicles as Valuable Players in Diabetic Cardiovascular Diseases. Book's Title: Extracellular Vesicles, Book edited by Dr. Ana Gil De Bona, IntechOpen, ISBN 978-1-78923-944-7, pp. 1-25, 2019.
2. Ceafalan L. C., Ioghen O. C., Marta D. S., Constantin A., Alexandru N., **Nemecz M**., Tanko G., Filippi A., Magda S. L., Bojin F., Paunescu V., Vinereanu D., Georgescu A., Gherghiceanu M. Chapter's Title: Extracellular Vesicles as Risk Factor in Neurodegenerative Diseases. Book's Title: Extracellular Vesicles, Book edited by Dr. Ana Gil De Bona, IntechOpen, ISBN 978-1-78923-944-7, pp. 1-21, 2019

Collaborator in the projects

(1)2023-2026"*New nanotherapeutic strategies for cardiac fibrosis targeting the mechanisms underlying the fibroblast to myofibroblast transition"*(PNRR /2022/C9/MCID/I8), project manager - Dr. Rostyslav Bilyy, Danylo Halytsky Lviv National Medical University, Liov, Ukraine;

(2)2020-2022*"Immune modulation of T-cells by platelets and platelet-derived microvesicles in experimental induced atherosclerosis; the role of microRNA-142-3p"*(PN-III-P1-1.1-TE-2019-0811), dir.: N. Alexandru, PhD, ICBP 'NS', Bucharest;

(3)2018-2021*"Development of BIOnanotechnologies based on extracellular vesicles for early diagnosis, prognosis and therapy of atherosclerotic disease"*(PN-III-P1-1.2-PCCDI-2017-0527), dir.: A. Georgescu, PhD, ICBP 'NS';

(4)2018-2021*"Pathogenic mechanisms and personalized treatment in pancreatic cancer using multi-omics technologies"*(PN-III-P1-1.2-PCCDI-2017-0797), dir.: I.Popescu, M.D., Fundeni Clinical Institute, Bucharest;

(5)2015-2017*"New insights in platelet-endothelial progenitor cell interplay in atherosclerotic disease"*(PN-II-RU-TE-2014-4-0523), dir.: N. Alexandru, PhD, ICBP 'NS';

(6)2014-2016*"Development of a protocol for selection of patients with obesity and type 2 diabetes mellitus who are highly prone to diabetes remission after metabolic surgery"*(*PN-II-PT-PCCA-2013-4-2154),* dir.: C. Copaiescu, M.D., Ponderas Hospital, Bucharest;

(7)2014-2016*"Biodegradable implants from magnesium alloys used in foot and knee surgery"*(PN-II-PT-PCCA-2013-4-2267), dir.: I. Antoniac., PhD, Politehnica University of Bucharest;
(8)2014-2016 "*Multifunctional coatings for load bearing implants made of novel titanium-based alloy*"(PN-II-PT-PCCA-2013-4-1958), dir: A. Vladescu, PhD, National Institute for Research and Development in Optoelectronics, Bucharest;
(9)2012-2014*"Circulating platelet microparticles and endothelial progenitor cells in vascular atherosclerosis: new pathophysiological and therapeutic implications"* (PN-II-CT-ERC-2012-1), dir: A. Georgescu, PhD, ICBP 'NS';
(10)2008-2011*"Vascular complications of small arteries in patients with obesity associated or not with type 2 diabetes; the endothelial dysfunction and insulin resistance*"(PNCDI-II-1159/19.01.2009)", dir: A. Georgescu, PhD, ICBP 'NS';
(11)2008-2011"*Ratio of circulating microparticles to endothelial progenitor cells, a new cellular marker of endothelial dysfunction induced by combined hypertension and hypercholesterolemia; anti-atherosclerotic effect of irbersartan"*(PNCDI-II-42138/ 1.10.2008)", dir: A. Georgescu, PhD, ICBP 'NS';
(12)2006-2008*"The effect of elevated levels of shed membrane microparticles on the function of pheripheral veins at patients with chronic venous insuffieciency"*(15121/2006-2008), dir: A. Georgescu, PhD, ICBP 'NS'.