

## Europass Curriculum Vitae



### Personal information

First names /  
Surname **ANCA VIOLETA / GAFENCU**

Address 48A, Anton Pann Str., Bucharest, Romania

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Nationality Romanian

Date of birth July 24, 1970

Gender female

### Occupational field

**Research: cellular and molecular biology**

### Work experience

<p>Dates</p> <p>Occupation or position held</p> <p>Main activities and responsibilities</p> <p>Name and address of employer</p> <p>Type of business or sector</p>	<p>2014-present</p> <p>Scientific researcher I</p> <p>Research (projects conception, grant application, experimental design, work distribution in the laboratory, data analysis, performing specific experiments and tests, dissemination of the research results, collaborative work, project reports)</p> <p>Institute of Cellular Biology and Pathology "N. Simionescu" Bucharest, Romania</p> <p>Academic</p>
<p>Dates</p> <p>Occupation or position held</p> <p>Main activities and responsibilities</p> <p>Name and address of employer</p>	<p>2000-2014</p> <p>Scientific researcher II</p> <p>Research (projects conception, grant application, experimental design, work distribution in the research group, data analysis, performing specific experiments and tests, dissemination of the research results, collaborative work, project reports)</p> <p>Institute of Cellular Biology and Pathology "N. Simionescu" Bucharest, Romania</p>

Type of business or sector	Academic
Dates	2000-2003
Occupation or position held	Scientific researcher III
Main activities and responsibilities	Research (performing experiments and tests, data analysis, grant application, experimental design, dissemination of the research results, project reports)
Name and address of employer	Institute of Cellular Biology and Pathology "N. Simionescu" Bucharest, Romania
Type of business or sector	Academic
Dates	1998-2000 (performing experiments and tests, data analysis, dissemination of the research results, project reports)
Occupation or position held	Scientific researcher
Main activities and responsibilities	research
Name and address of employer	Institute of Cellular Biology and Pathology "N. Simionescu" Bucharest, Romania
Type of business or sector	Academic
Dates	1994-1998
Occupation or position held	Research assistant
Main activities and responsibilities	Research (performing experiments and tests, dissemination of the research results, project reports)
Name and address of employer	Institute of Cellular Biology and Pathology "N. Simionescu" Bucharest, Romania
Type of business or sector	Academic
<b>Education and training</b>	
Dates	2004
Title of qualification awarded	<b><i>PhD in Biology</i></b>

Principal subject	Study of the plasmalemmal vesicles and of the cellular receptors from the vascular endothelium
Name and type of organisation providing education and training	Institute of Cellular Biology and Pathology "Nicolae Simionescu" – Romanian Academy
Level in national classification	Summa cum laude
Dates	1989-1994
Title of qualification awarded	<b><i>Master of Science in Biochemistry</i></b>
Principal subject	Biochemistry
Name and type of organisation providing education and training	Faculty of Biology, University of Bucharest
Level in national classification	9.53
Dates	1985-1989
Title of qualification awarded	<b><i>Baccalaureate in biology- chemistry</i></b>
Principal subject	Biology- Chemistry
Name and type of organisation providing education and training	High School of Natural Sciences "C.A. Rosetti", Bucharest
Level in national classification	9.16
<b>Personal skills and competences</b>	
Mother tongue	<b>Romanian</b>

Other languages  
Self-assessment  
*European level*  
(\*)  
**Language: English**  
**Language: French**

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
	C1		C1		C1		C1		C1
	A2		A2		A2		A2		A2

(\*) [Common European Framework of Reference for Languages](#)

**Research stages:** June 22– August 10, 1997, and July 1 – September 30, 1998 – research stage in the laboratory of Prof. Walter Hunziker, Institute of Biochemistry, University of Lausanne, Switzerland; November 19, 2002-March 16, 2003; March 8 - June 5, 2004, February 27 - April 23, 2006 and June 22 - July 17, 2007 - research stages in Prof. Dimitris Kardassis' lab, Univ. Crete, Heraklion, Greece; May 23 - June 3, 2007 – research stage in the laboratory of Dr. L. Nagy – Univ. Debrecen, Hungary; October 18-31, 2008 - research stage in the laboratory of Dr. K. Kypreos, Patras University, Greece

**Training courses:** 2006 – Eukariotic gene expression Training Course - National Cancer Institute - Cold Spring Harbor Laboratory (New Yourk, USA); 2007- EMBO Course on Chromatin Immunoprecipitation and related techniques, EMBL Heidelberg, Germania; 2008: PCR and Cloning Methodologies: Theory and Practice Workshop –Newcastle University, UK; 2008: Summer School on System Biology for Medical Applications, Tenerife, Spania; Cardiovascular Regenerative Medicine Summer School 2018 – CAVAREM Groningen, The Netherland; 2018-10th Training school on Microencapsulation (Biomedical applications), Trondheim, Norway.

Social skills and competences

- Team spirit; I have worked in various research teams
- Good ability to adapt to multicultural environments, gained through my work experience abroad;

Organisational skills and competences

- Leadership (currently responsible for a team of 5 people);
- Sense of organization (experience in logistics);
- Good experience in project management, since :
  - I was Executive Manager of two European Grants (one in FP5 and one in FP6);
  - I was coordinator of 13 Grants;
  - I organised two international scientific workshops and two training courses for young researchers of ICBP with top quality instructors from abroad;
  - I coordinated 4 master theses.
    - Together with Dr. Alexandrina Burlacu, I organised the international training course: *Simionescu Advanced School of Cellular and Molecular Approaches for the Progress of the Biomedical Research*. November 5-14, 2012
    - In the frame of the COST ACTION BM0904, I organised the international training course: "HDL Physiology, Regulation and Therapeutic Potential". Bucharest and Sinaia, August 26-30, 2013

Technical skills and competences

Biochemistry (protein and nucleic acid determination and analysis, electrophoresis, chromatography, Western Blot, ELISA, etc.), cell culture, molecular biology (PCR, RT-PCR and Real Time PCR, cloning, sequencing, transfection, etc.), microscopy.

Computer skills and competences

- Very good abilities in Molecular Biology Software: Gene Runner, SnapGene, etc.
- Good command of Microsoft Office™ tools (Word™, Excel™ and PowerPoint™);
- Basic knowledge of graphic design applications (PhotoShop™).

Driving licence	I am a holder of an Romanian drivers license for vehicles Category B.
Past research interest	Structure of caveolae from plasmalemma of endothelial cells (EC). Isolation, characterization and immortalization of EC. Cellular receptors (transferrin receptor, albumin receptor, IgG receptors expressed by the human placental endothelium).
Present research interest	Apolipoproteins and their implications in various diseases. Mechanisms and therapy of atherosclerosis. Gene regulation in normal and pathological states. Stem cells in therapies. Chimeric proteins for therapeutic purposes.
Member of scientific associations	Member of the Romanian Society of Cell Biology; member in the Management Committee of COST action BM0904 HDLnet

### Additional information

**Hirsch's h-index:**13 (Scopus) 15 ( Google Scholar)

**Citations:** 885 citations (Scopus) 1215 (Google Scholar)

**Author ID:** 6506192688

<http://orcid.org/0000-0002-1290-1346>

**Reviewer for various scientific papers at international journals** (Atherosclerosis, Cell and Tissue Research, Gene, Gordon immunopharmacology, Jove, Molecules, MPDI, Nutrition and Metabolism, Pharmaceuticals, BBA, etc. )

**Reviewer for project applications** (UEFISCDI, Research Foundation Flanders, FWO)

### Awards:

1. Prize CNCSIS for the results obtained in the frame of the grant "Regulation Of Apolipoprotein Gene Clusters- An Innovative Therapeutic Approach Of Neurodegenerative And Cardiovascular Diseases" "Young researchers -Excellent Projects" 2005-2007
2. Prize of Excellency- 2007- National Foundation for Science and Art.
3. Four Prizes from CNCSIS for 4 papers published in peer reviewed journals

**Fellowships:** I received four fellowships to attend scientific meetings from: European Science Foundation, European Commission, European Cell Biology Organization and German Research Council

### Member of the project teams:

-Executive manager of a complex project (PCCDI), PN-III-P1-1.2-PCCDI-2017-0697, grant awarded to Dr. Maya Simionescu by UEFISCDI from Romanian Education and Research Ministry 2018-2020.

-Executive Manager of an European project in FP5: "Function and dysfunction of blood vessels: transcytosis in normal/pathological states, alterations in atherosclerosis and diabetes; their therapeutic control"- "Centre of Excellence", Grant in the Framework Programme 5 of the European Community (2000-2004). (ICA-CT-2000-70020)

- Executive Manager of an European project in FP6: "Strengthening the European Research Area by Reinforcement of Romanian Research Competency in Genomics and Proteomics of Major Global Risk Diseases: Atherosclerosis, Diabetes and its Complications" Grant in FP 6 of the European Community (2004-2007) Contract No 016873

-member in 15 national projects/grants

- member of the team of a project supported by Swiss National Science Foundation, #7RUPJ048567/ "IgG transport through endothelial cells", grant awarded to Dr. Maya Simionescu and Dr. Walter Hunziker (1996-1998)

- member of the team of a project supported by NATO Science Program - Collaborative linkage grant: "Role of ApoE in cholesterol and triglyceride homeostasis", awarded to Prof. Vassilis Zannis, Boston Univ. School of Medicine, USA.

### GRANTS AWARDED:

**2019:** Integrative Personal Omics Profiles in Glioblastoma Recurrence and Therapy Resistance – ERA-NET PerMed – Coordinator for Romanian team (2019-2021).

**2014:** Genetically engineered apolipoproteins immobilized on nanoparticles: a Molecular Trojan horse targeting atherosclerotic plaque (Acronym: APGEN) PN-II-RU-TE-2014-4-2143, Projects for Young Research Teams, supported by CNCSIS Romania, 2015-2017.

**2011:** Apolipoprotein E-based novel anti-atherosclerosis cell-therapy approaches Exploratory research projects, project PN-II ID\_PCE-2011-3-0591, supported by CNCSIS Romania 2011-2016.

**2009:** Novel strategies employing genetic engineering to increase plasma HDL- the protective lipoproteins in atherosclerosis, Exploratory research projects:1307 supported by CNCSIS Romania (2009-2011).

**2005:** Grant awarded by the Romanian Ministry of Research: "Excellence Research Program: Projects for Young Researchers"- project "Regulation of apolipoprotein gene clusters- an innovative therapeutic approach of neurodegenerative and cardiovascular diseases" (2005-2007).

**2005:** Grant awarded by the Greek and Romanian Ministries of Research- to Prof Dimitris Kardassis and Dr. Anca Gafencu - Support for collaboration and exchanges in the framework of the project "Regulation of the expression of the human apolipoprotein E gene in macrophages and the brain: new approaches for the treatment of dyslipidemias and Alzheimer's Disease" (2005-2007).

**2003:** Grant awarded by the Romanian Ministry of Research- National Research Program for Biotechnology "BIOTECH"- project "ApoE gene regulation - therapeutic target in cardiovascular and neurodegenerative diseases", (2003-2005).

**2001:** Grant awarded by the Romanian Ministry of Research- National Research Program for fundamental research "CERES"- project "Characterization of albumin and IgG receptors, expressed by the endothelial cells in normal and pathologic states", (2001-2003).

**2000:** Grant awarded by the Romanian Research Ministry- project "Functional analysis of the IgG receptors in endothelial cells"

**1999:** Grant awarded by the Romanian Academy- project entitled "Identification of FcR in human placental endothelial cells"

**1998:** Grant awarded by the Romanian Academy- project entitled "Immortalization of endothelial cells"

**1997:** Grant awarded by the Romanian Academy- project "Lipid composition of the microdomains of the endothelial cell membrane" (1997 – 1998).

**1996:** Grant awarded by the Romanian Research Ministry- project "Biochemical and functional characterization of the endothelial plasmalemma" (1996- 1999).

#### List of publications (Scopus):

1. Fuior, E.V., **Gafencu, A.V.** Apolipoprotein C1: Its Pleiotropic Effects in Lipid Metabolism and Beyond (2019) . *Int J Mol Sci.* 2019;20(23):5939
2. Fundueanu, G., Constantin, M., Bucatariu, S., Nicolescu A., Ascenzi P., Moise LG, Tudor L, Trusca V.G., **Gafencu A.V.**, Fikai D., Fikai, A., Andronescu, E. Simple and dual cross-linked chitosan millicapsules as a particulate support for cell culture (2020) *Int J Biol Macromol.* 143:200–212
3. Trusca, V.G., Dumitrescu, M., Fenyo, I.M., Tudorache IF, Simionescu, M., **Gafencu, A.V.** The mechanism of bisphenol a atherogenicity involves apolipoprotein A-I downregulation through NF-κB activation (2019) *Int J Mol Sci.* 20(24):6281
4. Trusca, V.G., Fuior, E.V., Kardassis, D., Simionescu, M., **Gafencu, A.V.** The opposite effect of c-Jun transcription factor on apolipoprotein E gene regulation in hepatocytes and macrophages (2019), *Int J Mol Sci.* 20(6): 1471
5. Trusca, V.G., Fuior, E.V., Fenyo, I.M., Kardassis, D., Simionescu, M., **Gafencu, A.V.** Differential action of glucocorticoids on apolipoprotein E gene expression in macrophages and hepatocytes (2017) *PLoS ONE*, 12 (3), art. no. e0174078
6. Tudorache, I.F., Trusca, V.G., **Gafencu, A.V.** Apolipoprotein E - A Multifunctional Protein with Implications in Various Pathologies as a Result of Its Structural Features (2017) *Computational and Structural Biotechnology Journal*, 15, pp. 359-365.
7. Brehar, F.M., **Gafencu, A.V.**, Trusca, V.G., Fuior, E.V., Arsene, D., Amaireh, M., Giovani, A., Gorgan, M.R. Preferential association of lissencephaly-1 gene expression with CD133+ glioblastoma cells (2017) *Journal of Cancer*, 8 (7), pp. 1284-1291.
8. Dumitrescu, M., **Gafencu, A.V.**, Fuior, E.V. New insights on apolipoprotein E involvement in brain lipid homeostasis (2016) *Romanian Biotechnological Letters*, 21 (3), pp. 11443-11450.
9. Fenyo, I.M., Eftimie, A.M., Fuior, E.V., **Gafencu, A.V.** A system for in vivo endothelial-specific and conditional expression of apolipoprotein E3 (2016) *Romanian Biotechnological Letters*, 21 (5), pp. 11803-11815.
10. Dumitrescu, M., Fuior, E.V., Tudor, M., **Gafencu, A.V.** Apolipoprotein E3 - expressing RAW 264.7 cell transplant reduces atheroma in a mouse model (2016) *Romanian Biotechnological Letters*, 21 (2), pp. 11418-11426.
11. Stavri, S., Simionescu, M., Kardassis, D., **Gafencu, A.V.** Krüppel-like factor 4 synergizes with CREB to increase the activity of apolipoprotein e gene promoter in macrophages (2015) *Biochemical and Biophysical Research Communications*, 468 (1-2), pp. 66-72.

12. Roman, C., Fuior, E.V., Trusca, V.G., Kardassis, D., Simionescu, M., **Gafencu, A.V.** Thyroid hormones upregulate apolipoprotein e gene expression in astrocytes (2015) *Biochemical and Biophysical Research Communications*, 468 (1-2), pp. 190-195.
13. Trusca, V.G., Fuior, E.V., **Gafencu, A.V.** Beyond lipoprotein receptors: Learning from receptor knockouts mouse models about new targets for reduction of the atherosclerotic plaque (2015) *Current Molecular Medicine*, 15 (10), pp. 905-931.
14. Stavri, S., Trusca, V.G., Simionescu, M., **Gafencu, A.V.** Metformin reduces the endotoxin-induced down-regulation of apolipoprotein e gene expression in macrophages (2015) *Biochemical and Biophysical Research Communications*, 461 (2), pp. 435-440.
15. Brehar, F.M., **Gafencu, A.**, Gorgan, M.R. Organotypic brain slice model in glioblastoma research (2015) *Experimental Models in Glioblastoma Research*, pp. 73-83.
16. Fuior, E.V., Fenyo, I.M., **Gafencu, A.V.** The expression of translin is regulated by inflammatory stimuli in monocytes and macrophages(2015) *Annals of the Romanian Society for Cell Biology*, 19 (2), pp. 33-40.
17. Kardassis, D., **Gafencu, A.**, Zannis, V.I., Davalos, A. Regulation of HDL genes: Transcriptional, posttranscriptional, and posttranslational (2015) *Handbook of Experimental Pharmacology*, 224, pp. 113-179.
18. Fenyo, I.M., **Gafencu, A.V.** The involvement of the monocytes/macrophages in chronic inflammation associated with atherosclerosis (2013) *Immunobiology*, 218 (11), pp. 1376-1384.
19. Trusca, V.G., Florea, I.C., Kardassis, D., **Gafencu, A.V.** Stat1 interacts with RXR $\alpha$  to upregulate ApoCII gene expression in macrophages (2012) *PLoS ONE*, 7 (7), art. no. e40463.
20. Trusca, V.G., Fuior, E.V., Florea, I.C., Kardassis, D., Simionescu, M., **Gafencu, A.V.** Macrophage-specific up-regulation of apolipoprotein E gene expression by STAT1 is achieved via long range genomic interactions(2011) *Journal of Biological Chemistry*, 286 (16), pp. 13891-13904.
21. Florea, I.C., Trusca, V.G., Fenyo, I.M., **Gafencu, A.V.** Expression of APOE3-HRP chimeric molecule in HEK293 cells (2009) *Annals of the Romanian Society for Cell Biology*, 14 (2), pp. 21-27.
22. Manea, A., Manea, S.A., **Gafencu, A.V.**, Raicu, M., Simionescu, M. AP-1-dependent transcriptional regulation of NADPH oxidase in human aortic smooth muscle cells: Role of p22phox subunit(2008) *Arteriosclerosis, Thrombosis, and Vascular Biology*, 28 (5), pp. 878-885.
23. Titorencu, I., Jinga, V.V., Constantinescu, E., **Gafencu, A.V.**, Ciohodaru, C., Manolescu, I., Zaharia, C., Simionescu, M. Proliferation, differentiation and characterization of osteoblasts from human BM mesenchymal cells(2007) *Cytherapy*, 9 (7), pp. 682-696.
24. **Gafencu, A.V.**, Robciuc, M.R., Fuior, E., Zannis, V.I., Kardassis, D., Simionescu, M. Inflammatory signaling pathways regulating ApoE gene expression in macrophages(2007) *Journal of Biological Chemistry*, 282 (30), pp. 21776-21785.
25. Manea, A., Manea, S.A., **Gafencu, A.V.**, Raicu, M. Regulation of NADPH oxidase subunit p22phox by NF- $\kappa$ B in human aortic smooth muscle cells (2007) *Archives of Physiology and Biochemistry*, 113 (4-5), pp. 163-172.
26. Heltianu, C., Costache, G., **Gafencu, A.**, Diaconu, M., Bodeanu, M., Cristea, C., Azibi, K., Poenaru, L., Simionescu, M. Relationship of eNOS gene variants to diseases that have in common an endothelial cell dysfunction (2005) *Journal of Cellular and Molecular Medicine*, 9 (1), pp. 135-142.
27. **Gafencu, A.**, Heltianu, C., Burlacu, A., Hunziker, W., Simionescu, M. Investigation of IgG receptors expressed on the surface of human placental endothelial cells (2003) *Placenta*, 24 (6), pp. 664-676.
28. Simionescu, M., **Gafencu, A.**, Antohe, F. Transcytosis of plasma macromolecules in endothelial cells: A cell biological survey(2002) *Microscopy Research and Technique*, 57 (5), pp. 269-288.
29. Burlacu, A., Jinga, V., **Gafencu, A.**, Simionescu, M. Severity of oxidative stress generates different mechanisms of endothelial cell death (2001) *Cell and Tissue Research*, 306 (3), pp. 409-416.
30. Antohe, F., Rădulescu, L., **Gafencu, A.**, Ghetie V., Simionescu, M. Expression of functionally active FcRn and the differentiated bidirectional transport of IgG in human placental endothelial cells (2001) *Human Immunology*, 62 (2), pp. 93-105.
31. Jinga, V.V., **Gafencu, A.**, Antohe, F., Constantinescu, E., Heltianu, C., Raicu, M., Manolescu, I., Hunziker, W., Simionescu, M. Establishment of a pure vascular endothelial cell line from human placenta (2000) *Placenta*, 21 (4), pp. 325-336.
32. **Gafencu, A.**, Stanescu, M., Toderici, A.M., Heltianu, C., Simionescu, M. Protein and fatty acid composition of caveolae from apical plasmalemma of aortic endothelial cells (1998) *Cell and Tissue Research*, 293 (1), pp. 101-110.
33. Heltianu, C., Serban, G., Alexandru, V., **Gafencu, A.**, Simionescu, N., Simionescu, M. Expression of transferrin receptors in endothelial cells transfected by electroporation (1997) *Eur. Journal of Cell Biology*, 72 (1), pp. 79-89.

**Book chapter:** I.M. Fenyo and A.V. Gafencu: Molecular targets for atherosclerosis treatment From *Vascular Cell Biology to Cardiovascular Medicine*, 2011: ISBN: 978-81-7895-503-2

### List of publications indexed in other data-bases

- 1.C. Neagoe, **A. Gafencu**, C. Heltianu "Transfection of type I receptor for immunoglobulin G in bovine aortic endothelial cells, Current Protocols in Cell Biology, 1998, 3: 378-383
2. **A. Gafencu**, C. Heltianu, A. Burlacu, W. Hunziker, M. Simionescu "Immortalization of endothelial cells", Proceedings of the Romanian Academy Series B, 2, p.117-121, 2001.
3. **A. Gafencu**, O. Postea, C. Heltianu, M. Simionescu, "Hyperlipemic serum stimulates the binding and the endocytosis of IgG by the endothelial aortic cells" Current Problems and Techniques in Cellular and Molecular Biology 2001 p79-83.
4. **A. Gafencu**, M Dutca, C. Heltianu, "Albumin binding sites in human placental endothelial cells" Analele SNBC p. 64-68, 2003.
5. A. Manea, **A. Gafencu**, M. Raicu, M. Simionescu, „Mecanismele moleculare implicate in reglarea complexului NAD(P)H oxidaza in celulele musculare netede”. Rolul factorului nuclear kB. Analele SNBC vol X, Cap II, p. 53-56, 2005.
6. I.C. Florea, V. G. Trusca, I.M. Fenyo, **A.V. Gafencu** "Expression of apoE3-HRP chimeric molecule in HEK293 cells", vol. XIV nr. 2/2009, p21-27 Annals of the Romanian Society for Cell Biology.
7. E.V. Fuior, V.G. I.M. Fenyo, **A.V. Gafencu** The expression of translin is regulated by inflammatory stimuli in monocytes and macrophages Annals of R.S.C.B., Vol. XIX, Issue 2, 2015, pp. 33 - 40
8. E.V. Fuior, V.G. Trusca, C. Roman, **A.V. Gafencu** \*Enzymatic targets in atherosclerosis - J Mol Genet Med 9:176.
9. V.G. Trusca, A. D. Mihai, E.V. Fuior, M.I. Fenyo, **A.V. Gafencu**, High levels of homocysteine downregulate apolipoprotein E expression via NF-kB, World Journal of Biological Chemistry 2016;7(1):178-87. doi: 10.4331/wjbc.v7.i1.178.

### Patents

1. Adenovirus containing murine FasL mini-gene for induction of the functional FasL expression in transduced cells, Mădălina Dumitrescu, Violeta Georgeta Truscă, Alexandrina Burlacu, Maya Simionescu, Nadir Askenasy, Anca Violeta Gafencu – OSIM A/00512/26.08.2019 – patent pending
2. The technologic process of polymeric vesicles and tubes formation, Denisa Ficai, Andreea Iliev, Anton Ficai, Violeta Georgeta Trusca, Anca Violeta Gafencu, Sanda-Maria Bucatariu, Fundueanu Constantin Gheorghe, Maya Simionescu, Ecaterina Andronescu – patent pending