



## Europass Curriculum Vitae

### Personal information

First name(s) / Surname(s)

Address(es)

Telephone(s)

Fax(es)

E-mail

Nationality

Date of birth

Gender

Desired employment /  
Occupational field

### Work experience

Dates

Occupation or position held

Main activities and responsibilities

Name and address of employer

Type of business or sector

Dates

Occupation or position held

Main activities and responsibilities

Name and address of employer

Type of business or sector

Dates

Occupation or position held

Main activities and responsibilities

Name and address of employer

Type of business or sector

### Education and training

Insert photograph. Remove heading if not relevant (see instructions)

Adriana – Elena Vulcu

6, street. I.P. Banateanu, Sibiu, Romania

0040264584037

Mobile: 0040742098025

0040264420042

adriana.vulcu@itim-cj.ro; vulcu\_adriana@yahoo.com

Romanian

28.04.1982

Female

(remove if not relevant, see instructions)

November 2009 - present

Scientific Researcher

- ✓ Synthesis and biosynthesis of isotopically labelled compounds
- ✓ Preparation of nanomaterials based on gold and silver nanoparticles (AuNPs, AgNPs)
- ✓ Preparation and characterization of electrochemical sensors based on gold nanoparticles and organic molecules (thycytosine and guanine) for uric acid, ascorbic acid and dopamine determination
- ✓ Preparation and characterization of biosensors based on gold nanoparticles and leucine dehydrogenase for ammonium ion detection involved in reductive amination of  $\alpha$ -ketoisocaproic acid

National Institute for Research and Development of Isotopic and Molecular Technologies, Cluj-Napoca, Romania

Research

December 2007 – November 2009

Research assistant

Synthesis of  $^{15}\text{N}$  labelled compounds

National Institute for Research and Development of Isotopic and Molecular Technologies, Cluj-Napoca, Romania

Research

August 2006 – December 2007

Chemist – responsible with environmental issues

- ✓ Physico-chemical analysis of chicken food
- ✓ Preparation and submission of reports to the competent authority for environmental protection

SC Amareto Impex SRL, Florești, Cluj-Napoca

Food industry

Dates	2008 - present																																								
Title of qualification awarded	PhD studies – in progress																																								
Name and type of organisation providing education and training	Faculty of Chemistry and Chemical Engineering – Department of Biochemical Engineering, Babes Bolyai University, Cluj-Napoca																																								
Level in national or international classification	ISCED 3 344																																								
Dates	2006 - 2007																																								
Title of qualification awarded	Master in Cellular Biotransformations																																								
Name and type of organisation providing education and training	Faculty of Biology and Geology – Department of Biochemical Engineering, Babes Bolyai University, Cluj-Napoca																																								
Level in national or international classification	ISCED 6 646																																								
Dates	2001 - 2006																																								
Title of qualification awarded	Diplomate Engineer in Biochemistry																																								
Name and type of organisation providing education and training	Faculty of Chemistry and Chemical Engineering “Babes-Bolyai” University, Cluj-Napoca																																								
Level in national or international classification	ISCED 7 747																																								
Dates	1997 – 2001																																								
Title of qualification awarded	Bachelor diploma																																								
Name and type of organisation providing education and training	Theoretical High School Octavian Goga, Sibiu																																								
Level in national or international classification																																									
<b>Personal skills and competences</b>																																									
Mother tongue(s)	Romanian																																								
Other language(s)																																									
Self-assessment																																									
<i>European level (*)</i>																																									
English																																									
German																																									
	<table border="1"> <thead> <tr> <th colspan="4">Understanding</th> <th colspan="4">Speaking</th> <th colspan="2">Writing</th> </tr> <tr> <th colspan="2">Listening</th> <th colspan="2">Reading</th> <th colspan="2">Spoken interaction</th> <th colspan="2">Spoken production</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td>C1</td> <td>Proficient user</td> <td>C1</td> <td>Proficient user</td> <td>B2</td> <td>Independent user</td> <td>B2</td> <td>Independent user</td> <td>C1</td> <td>Proficient user</td> </tr> <tr> <td>A1</td> <td>Basic user</td> <td>A1</td> <td>Basic user</td> <td>A1</td> <td>Basic user</td> <td>A1</td> <td>Basic user</td> <td>A1</td> <td>Basic user</td> </tr> </tbody> </table>	Understanding				Speaking				Writing		Listening		Reading		Spoken interaction		Spoken production				C1	Proficient user	C1	Proficient user	B2	Independent user	B2	Independent user	C1	Proficient user	A1	Basic user	A1	Basic user	A1	Basic user	A1	Basic user	A1	Basic user
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	<i>(*) <a href="#">Common European Framework of Reference for Languages</a></i>																																								
Organisational skills and competences	Organizational sense acquired from involvement in the organization of several conferences																																								
Computer skills and competences	Competent with Microsoft Office (Word, Excell, Power Point), Origin, ChemDraw, Internet																																								
<b>Research areas</b>	Nanomaterials based on gold and silver (AuNPs, AgNPs); modified electrodes																																								
<b>Projects</b>	<ol style="list-style-type: none"> <li>1. Molecular Biotechnologies for the Synthesis of L- Amino Acids and Proteins Isotopically Labelled with <sup>15</sup>N, Module I CEEEX , 2007-2008 (member)</li> <li>2. The Use of Nuclear Techniques to Determine the Environmental and Agrochemical Efficiency of Some Unconventional Fertilizers, PNII 2008-2011 (member)</li> <li>3. Researche on the development of technologies for the production of isotopically labeled compounds: <sup>15</sup>N, <sup>13</sup>C (member)</li> <li>4. Dermatological Products Based On Hybrid Biomaterials Obtained From Anthocyanins And</li> </ol>																																								

## Publications

Metallic Nanoparticles, PN-II-PT-PCCA-2011-3.1-0914 (member)

1. C. Berghian-Grosan, L. Olenic, G. Katona, M. Perde-Schrepler, **A. Vulcu**, *L-Leucine for gold nanoparticles synthesis and their cytotoxic effects evaluation*, **Amino Acids**, 2014, 46, 2545-2552;
2. L. David, B. Moldovan, **A. Vulcu**, L. Olenic, M. Perde-Schrepler, E. Fischer-Fodor, A. Florea, M. Crisan, I. Chiorean, S. Clichici G. A. Filip, *Green synthesis, characterization and anti-inflammatory activity of silver nanoparticles using European black elderberry fruits extract*, **Colloids and Surfaces B**, 2014, 122, 767-777;
3. **A. Vulcu**, S. Pruneanu, C. Berghian-Grosan, L. Olenic, L.M. Muresan, L. Barbu-Tudoran, *Impedimetric Investigation of Gold Nanoparticles – Guanine Modified Electrode*, **AIP Conf. Proc.**, 2013, 1565, 273-277;
4. L. Olenic, **A. Vulcu**, I. Chiorean, M. Crisan, C. Berghian-Grosan, S. Dreve, L. David, L. B. Tudoran, I. Kacso, I. Bratu, C. Neamtu, C. Voica, *Effect of Natural Extracts pH on Morphological Characteristics of Hybrid Materials Based on Gold Nanoparticles*, **AIP Conf. Proc.**, 2013, 1565, 238-242;
5. M. Crisan, L. David, B. Moldovan, **A. Vulcu**, S. Dreve, M. Perde-Schrepler, C. Tatomir, A.G. Filip, P. Bolfa, M. Achim, I. Chiorean, I. Kacso, C. Berghian Grosan, L. Olenic, *New Nanomaterials for the Improvement of Psoriatic Lesions*, **J. Mater. Chem. B**, 2013, 1, 3152-3158
6. **A. Vulcu**, C. Grosan, L.M. Muresan, S. Pruneanu, L. Olenic, *Modified Gold Electrodes Based On Thiocytosine/Guaninegold Nanoparticles For Uric And Ascorbic Acid Determination*, **Electrochimica Acta**, 2013, 88, 839-846
7. S. Pruneanu, L. Olenic, F. Pogacean, L.B. Tudoran, V. Canpean, **A. Vulcu**, C. Grosan, A.S. Biris, *Nanostructures Based on Metallic Nanoparticles and Biomolecules*, **AIP Conf. Proc.**, 2012, 1425, 144-147;
8. C. Berghian Grosan, C. Varodi, **A. Vulcu**, L. Olenic, S. Pruneanu, V. Almasan, *Structural and Electrochemical Characterization of Novel Leucine-Gold Nanoparticles Modified Electrode*, **Electrochim. Acta**, 2012, 63, 146-152
9. **A. Vulcu**, C. Berghian Grosan, M. Chiriac, V. Almăsan, *Biosynthesis of <sup>15</sup>N Labeled L-Glutamic Acid: Experimental and Computational Studies*, **Revue Roumain de Chimie**, 2011, 56(6), 667-674.

## Scientific communications

1. B. Moldovan, L. David, L. Olenic, **A. Vulcu**, G-A. Filip, *Polyphenols from SAMBUCUS NIGRA Berries as Raw Material for the Synthesis of NEW Functionalised Silver Nanoparticles with Anti-Inflammatory Effect*, IUPAC 9<sup>th</sup> International Conference on Novel Materials and Synthesis (NMS-IX) & 23<sup>rd</sup> International Symposium on Fine Chemistry and Functional Polymers (FCFP-XXIII), Shanghai, 17-22 October, 2013 (poster);
2. B. Moldovan, L. David, L. Olenic, **A. Vulcu**, M. Perde-Schrepler, *New Biomaterials Based on Silver Nanoparticles and Polyphenols from VIBURNUM OPULUS Fruits with Potential Anticancer Activity*, IUPAC 9<sup>th</sup> International Conference on Novel Materials and Synthesis (NMS-IX) & 23<sup>rd</sup> International Symposium on Fine Chemistry and Functional Polymers (FCFP-XXIII), Shanghai, 17-22 October, 2013 (poster)
3. **A. Vulcu**, S. Pruneanu, C. Berghian-Grosan, L. Olenic, L.M. Muresan, L. Barbu-Tudoran,

- Impedimetric Investigation of Gold Nanoparticles – Guanine Modified Electrode*, PIM 2013, Cluj-Napoca, Romania, 25.09 – 27.09.2013 (poster)
4. Olenic, A. Vulcu, I. Chiorean, M. Crisan, C. Berghian-Grosan, S. Dreve, L. David, L. B. Tudoran, I. Kacso, I. Bratu, C. Neamtu, C. Voica, *Effect of Natural Extracts pH on Morphological Characteristics of Hybrid Materials Based on Gold Nanoparticles*, PIM 2013, Cluj-Napoca, Romania, 25.09 – 27.09.2013 (poster)
  5. Liliana Olenic, Adriana Vulcu, Camelia Berghian Grosan, Simina Dreve, Ioana Chiorean, Lucian Barbu-Tudoran, Maria Crisan, Luminita David, Maria Perde-Schrepler, Adriana Gabriela Filip, *Nanomateriale pe baza de nanoparticule metalice (Au, Ag) si extracte naturale aplicate in medicina*, A 12-a editie a Seminarului national de Nanostiinta si Nanomateriale, Bucuresti, Romania, 16 mai 2013, (poster)
  6. Liliana Olenic, Adriana Vulcu, Camelia Grosan, Luminita David, Bianca Moldovan, Maria Perde-Schrepler, Adriana Gabriela Filip, Maria Crisan, Ioana Chiorean, *The Non-Invasive Assessment of the Efficacy of Gold Nanoparticles-Anthocyanins Nanomaterials on Cutaneous Pathology*, NanotechItaly 2012, 21.11 – 23.11.2012, Venetia, Italia (poster)
  7. Adriana Vulcu, Liliana Olenic, Simina Dreve, Luminita David, Bianca Moldovan, Maria Perde-Schrepler, Adriana Gabriela Filip, Maria Crisan, Ioana Chiorean, *Modern Therapies based on Nanobiotechnology in Psoriasis*, NanotechItaly 2012, 21.11 – 23.11.2012, Venetia, Italia (poster)
  8. Adriana Vulcu, Camelia Grosan, Liliana Olenic, Ioan Bratu, Diana Bogdan, Liana Muresan, Lucian Barbu-Tudoran, *"Determination of Uric Acid using Gold Nanoparticles Modified Interfaces"*, 5th International Conference "Biomaterials, Tissue Engineering & Medical Devices", Constanta, Romania, 29 august – 1 septembrie 2012 (poster)
  9. Adriana Vulcu, Codruta Varodi, Camelia Grosan, Ioan Bratu, *"Electrochemical Behavior of Gold Nanoparticles Functionalized with Leucine-Modified Carbon Paste Electrode"* Processes in Isotopes and Molecules, Cluj-Napoca, Romania, 29 septembrie-1 octombrie 2011, (poster)
  10. Camelia Grosan, Valer Almasan, Adriana Vulcu, *"Synthesis of Gold Nanoparticles Functionalized with <sup>15</sup>N Labelled Amino Acids for Structural Characterization"*, ISOTOPES 2011, 20-24 Iunie 2011, Château Laval, Gréoux-les-Bains Provence-Alpes-Côte d'Azur, FRANCE (poster)
  11. Camelia Grosan, Adriana Vulcu, Irina Kosco, *"The Enzymatic Synthesis of <sup>15</sup>N Labelled L-leucine. Experimental and Theoretical Characterization"*, Progress in Cryogenics and Isotopes Separation, 13-15 October, 2010, Calimanesti-Caciulata, Romania (poster)
  12. Adriana Vulcu, Camelia Berghian Grosan, Maria Chiriac, Valer Almasan, *Biosynthesis of <sup>15</sup>N Labelled L-Glutamic Acid: Experimental and Computational Studies*, RomCat 2010, 23-26 June, 2010, Iasi, Romania (poster)
  13. M. Chiriac, I. Lupan, F. Popa, Adriana Vulcu, Nicolae Palibroda, Octavian Popescu *"The Synthesis of L – Amino Acids Isotopically Labelled with <sup>15</sup>N"*, Isotopes 2009, 25-29 May 2009, Cluj – Napoca, Romania (poster).
  14. M.Chiriac, Flavia Popa, I.Bratu, Irina Kacso, G. Borodi, N. Palibroda, Adriana Vulcu, *"The synthesis of Orotic Acid isotopically labelled with <sup>15</sup>N "*, Isotopic Processes, 22-24 Sept. 2008, Cluj-Napoca, Romania (poster).

**Patents**

1. Olenic Liliana, **Vulcu Adriana**, Berghean-Grosan Camelia, Dreve Simina, New materials based on silver nanoparticles and anthocyanines obtained from natural extracts for medical applications. Patent application no. A/00263/2014 from 04.04.**2014**
2. Olenic Liliana, **Vulcu Adriana**, Grosan Ana Camelia si Dreve Simina, Hybrid materials based on gold nanoparticles and anthocyanines obtained from natural extracts of fruits from *Adoxaceae* and *Comaceae*. Patent application no. A/00805/2013 from 04.11.**2013**

**Member of National Scientific Societies**

Member of the Catalysis Society since 2010

Cluj-Napoca,  
30.10.2014

Vulcu Adriana-Elena

