

PERSONAL INFORMATION

Lucian-Gabriel Zamfir



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Sex Male | Date of birth 28/08/1986 | Nationality Romanian

WORK EXPERIENCE

November 2021 - present

Research Assistant

National Institute for Research & Development in Chemistry and Petrochemistry-ICECHIM, 202 Splaiul Independentei, 060021 Bucharest

- research in the field of sensors and biosensors for environmental monitoring

November 2008 - October 2021

Research Assistant

LaborQ, University of Bucharest. Șos. Panduri, nr. 90, sector 5, Bucharest

- development of sensors and biosensors, immobilization of biomolecules (enzymes, antibodies, peptides, protein receptors, oligonucleotides) on sensing surfaces, detection of mycotoxins, organophosphate pesticides and biomarkers, study of biochemical interactions

EDUCATION AND TRAINING

2014 – 2015

Post-Doctoral research (POSDRU/159/1.5/S/ 137750)

Faculty of Chemistry, University of Bucharest, Romania

2010 – 2013

PhD in Chemistry

Faculty of Chemistry, University of Bucharest, Romania

Title "New biosensors based on a rational design of the biomolecule-transducer interface"

2008 – 2010

Master Biomolecules

Faculty of Chemistry, University of Bucharest, Romania

Title "Biosensors for the detection of toxic compounds"

2005 – 2008

Bachelor's degree in Technological Biochemistry

Faculty of Chemistry, University of Bucharest, Romania

Title "Determination of antioxidant properties of Echinacea purpurea extracts, using cellular lines sensitive towards oxidative stress"

PERSONAL SKILLS

Mother tongue(s)

Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
French	B1	B2	B1	B1	B2

Communication skills

- good communication skills gained through experience as a member in research teams (Annex 2)
- cooperation with foreign researchers at institutes in France, Tunisia, South Africa
- assisting work of foreign exchange researchers

Computer skills ▪ good command of Microsoft Office, EndNote, OriginPro, ChemOffice, Nova, DropView

Publications (Annex 1) ▪ 14 publications in international journals, 7 as main author

Citations ▪ 365 (339 without self-citations) on Scopus
▪ Hirsch index: 9

Publications ▪ 14 publications in international journals, 7 as main author (Annex 1)

ANNEXES

ANNEX 1 - LIST OF PUBLICATIONS

1. G.M. Danila, M. Puiu, L.-G. Zamfir, C. Bala, Early detection of cannabinoids in biological samples based on their affinity interaction with the growth hormone secretagogue receptor, *Talanta* (2021) 122905, DOI: 10.1016/j.talanta.2021.122905
2. M. Puiu, L.-G. Zamfir, G.M. Danila, F. Papi, C. Nativi, V. Mirceski, C. Bala, Label-free detection of target proteins using peptide molecular wires as conductive supports, *Sensors and Actuators B: Chemical* 345 (2021) 130416, DOI: 10.1016/j.snb.2021.130416
3. L.-G. Zamfir, M. Puiu, C. Bala, Advances in Electrochemical Impedance Spectroscopy Detection of Endocrine Disruptors, *Sensors* 20 (2020), DOI: 10.3390/s20226443
4. G.M. Danila, M. Puiu, L.-G. Zamfir, C. Bala, Early Detection of Growth Hormone Secretagogue Receptor Antagonists Exploiting Their Atypical Behavior in Competitive Assays, *Analytical Chemistry* 91 (2019) 14812-14817, DOI: 10.1021/acs.analchem.9b03845
5. M. Puiu, L.-G. Zamfir, V. Buiculescu, A. Baracu, C. Mitrea, C. Bala, Significance testing and multivariate analysis of datasets from surface plasmon resonance and surface acoustic wave biosensors: prediction and assay validation for surface binding of large analytes, *Sensors*, 18 (2018) 3541, DOI: 10.3390/s18103541
6. M. Braik, L.-G. Zamfir, L. Rotariu, C. Curutiu, M.C. Chifiriu, M.B. Ali, C. Bala, An enzyme-free hydrogen peroxide sensor for evaluation of probiotic potential of *Enterococcus faecium*, *Sensors and Actuators B: Chemical* 273 (2018) 298-304, DOI: 10.1016/j.snb.2018.06.057
7. L.-G. Zamfir, L. Rotariu, V.E. Marinescu, X.T. Simelane, P.G.L. Baker, E.I. Iwuoha, C. Bala, Non-enzymatic polyamic acid sensors for hydrogen peroxide detection, *Sensors and Actuators B: Chemical*, 226 (2016) 525-533, DOI: 10.1016/j.snb.2015.12.026
8. L.-G. Zamfir, P. Fortgang, C. Farre, M. Ripert, G. De Crozals, N. Jaffrezic-Renault, C. Bala, P. Temple-Boyer, C. Chaix, Synthesis and electroactivated addressing of ferrocenyl and azido-modified stem-loop oligonucleotides on an integrated electrochemical device, *Electrochimica Acta*, 164 (2015) 62-70, DOI: 10.1016/j.electacta.2015.02.167
9. L.-G. Zamfir, L. Rotariu, C. Bala, Sensing of sulfhydryl based compounds by a simple electrochemical approach, *Sensors and Actuators B: Chemical* 206 (2015) 65-73, DOI: 10.1016/j.snb.2014.09.046
10. L.-G. Zamfir, L. Rotariu, C. Bala, Acetylcholinesterase biosensor for carbamate drugs based on tetrathiafulvalene-tetracyanoquinodimethane/ionic liquid conductive gels, *Biosensors and Bioelectronics*, 46 (2013) 61-67, DOI: 10.1016/j.bios.2013.02.018
11. L. Rotariu, L.-G. Zamfir, C. Bala, A rational design of the multiwalled carbon nanotube-7,7,8,8-tetracyanoquinodimethane sensor for sensitive detection of acetylcholinesterase inhibitors, *Analytica Chimica Acta*, 748 (2012) 81-88, DOI: 10.1016/j.aca.2012.08.045
12. L.-G. Zamfir, L. Rotariu, C. Bala, A novel, sensitive, reusable and low potential acetylcholinesterase biosensor for chlorpyrifos based on 1-butyl-3-methylimidazolium tetrafluoroborate/multiwalled carbon nanotubes gel, *Biosensors and Bioelectronics*, 26 (2011) 3692-3695, DOI: 10.1016/j.bios.2011.02.001
13. L.-G. Zamfir, I. Geana, S. Bourigua, L. Rotariu, C. Bala, A. Errachid, N. Jaffrezic-Renault, Highly sensitive label-free immunosensor for ochratoxin A based on functionalized magnetic nanoparticles and EIS/SPR detection, *Sensors and Actuators B: Chemical*, 159 (2011) 178-184, DOI: 10.1016/j.snb.2011.06.069
14. L. Rotariu, L.-G. Zamfir, C. Bala, Low potential thiocholine oxidation at carbon nanotube-ionic liquid gel sensor, *Sensors and Actuators B: Chemical*, 150 (2010) 73-79, DOI: 10.1016/j.snb.2010.07.040.

ANNEX 2 - RESEARCH PROGRAMS AND GRANTS

(1) as team member

- A. International
 1. European project FP7 Marie Curie IRSES, grant no. PIRSES_GA_2012-318053, "Micro/nanosensors for early cancer warning system diagnostic and prognostic information", 2012-2016, project manager Prof. dr. Camelia Bala
 2. ERA NET MNT no. 7-027/2010, "Advanced functionalized piezoelectric materials for good quality and security control", 2010-2013.
 3. PAI-Brancusi, no. 717/2013, "Innovation sensors based on advanced carbon materials for fast and sensitive detection of toxic compound in food and feeds", 2013-2014

- B. National
1. PN-III-P4-ID-PCE-2016-0288, no. 20/2017 (2017-2019), "Biomimetic peptide scaffolds affording tunable biosensor interfaces"
 2. PN-II-PCCA-2011-3.2-0762, no.107/2012, "Sensing platforms integrating biomimic systems for rapid screening of undesirable substances in food", 2012-2016
 3. PN-II-ID-PCE-2011-3-0286, no.195/2011, "Biofunctionalized interfaces as smart biosensors for fast identification of pharmaceutical and metabolites in waste water", 2011-2016
 4. PN-II-ID, no. 548/2009, "New electrochemical detection systems used in the development of biosensors based on the inhibition of acetylcholinesterase", 2009-2012, project manager Conf. dr. Lucian Rotariu.

(2) as project leader

1. 1 November 2020 – 31 October 2021, ICUB (Research Institute of University of Bucharest) - Fellowship for Young Researchers, title "Point-of-care biosensors for tumor marker detection"
2. 15 July 2020 – 15 July 2023, fellowship from the "Romanian Young Academy (RYA)", funded by Stiftung Mercator and the Alexander von Humboldt Foundation, title "Biosensors for fast detection of biologically active compounds"
3. 1 June 2019 – 31 May 2020 ICUB Young Researchers Grants, title "Electrochemical biosensors for sensitive detection of endocrine disruptors"
4. 1 October 2017 – 30 September 2018, ICUB Fellowship for Young Researchers, title "Biosensors for fast screening of food contaminants"

ANNEX 3 - SCIENTIFIC CONFERENCES AND PRESENTATIONS

- A. International
1. XXVIth International Symposium on Bioelectrochemistry and Bioenergetics, 9–13 May, 2021, Cluj-Napoca, Romania, Novel Conductive Peptide Molecular Materials for Electrochemical Sensing of Biomarkers, L.-G. Zamfir, M. Puiu, M. G. Dănilă, C. Bala (poster);
 2. 33° Latin-American congress of Chemistry, CLAQ and the X Congress of Chemical Science, Technology and Innovation, QUIMICUBA'2018, 9–12 October 2018, Havana, Cuba, Peptide biosensor for small ligands detection - C. Bala, M. G. Dănilă, L.-G. Zamfir, M. Puiu (oral presentation);
 3. 17th International conference on Electroanalysis (ESEAC 2018), 3–7 June 2018, Rhodes, Greece, Redox - Labelled peptide monolayers as universal supports for small ligands in electrochemical ligand-binding assays - M. Puiu, L.-G. Zamfir, M. G. Dănilă, C. Bala (oral presentation);
 4. The 8th International Workshop on Surface Modification for Chemical and Biochemical Sensing, 3–7 November 2017, Żelechów (Warsaw), Poland, Controlled labelling of an electrochemical peptide-based sensor aiming ghrelin receptor agonists detection - G.M. Dănilă, L.-G. Zamfir, M. Puiu, C. Bala (poster).
 5. XXIII International Symposium on Bioelectrochemistry and Bioenergetics of the Bioelectrochemical Society, 14–18 June, 2015, Malmö, Sweden, Electrochemical assay of thiolic compounds using enzymatically generated benzoquinone - L.-G. Zamfir, C. Bala, O.-M. Istrate, L. Rotariu (poster).
 6. Summer School on Electrochemistry for Environmental and Biomedical Applications, 17–21 June 2013, Cluj-Napoca, Romania, Sensitive detection of acetylcholinesterase inhibitors using mediator-ionic liquid-modified enzymatic biosensor - L.-G. Zamfir, L. Rotariu, C. Bala (poster).
 7. Recent Advances in Micro/Nano Sensors for Mono-and Multi-Target Assays", 20–22 May 2013, Kiev, Ukraine, Interface design for improvement of biosensors performance - C. Bala, L. Rotariu, L.-G. Zamfir, A.-M. Gurban, International Workshop (oral presentation).
 8. 244th ACS National Meeting, 19–23, August 2012, Philadelphia, Pennsylvania, USA, Rational design of nanocomposite materials-based sensors for sensitive detection of acetylcholinesterase inhibitors - C. Bala, L.-G. Zamfir, L. Rotariu (oral presentation).
 9. 22nd World Congress on Biosensors, 15–18 May 2012, Cancun, Mexico. Biosensors based on carbon nanotubes composite materials for sensitive detection of acetylcholinesterase inhibitors, L.-G. Zamfir, L. Rotariu, C. Bala (oral presentation).
 10. Regional Symposium on Electrochemistry on South-East Europe, 13–17 May 2012, Bucharest, Romania, Novel immunosensor for ochratoxin A based on functionalized magnetic nanoparticles - L.-G. Zamfir, L. Rotariu, N. Jaffrezic-Renault, C. Bala (poster).
 11. Regional Symposium on Electrochemistry on South-East, 13–17 May 2012, Bucharest, Romania, Acetylcholinesterase biosensor based on carbon nanotubes/ionic liquid composite -L.-G. Zamfir, L. Rotariu și C. Bala (poster).
 12. The 7th International Conference «IMA 2011-Instrumental Methods of Analysis-Modern Trends and Applications», 18–22 September 2011, Chania, Greece, New strategies for developing sensitive pesticide biosensors based on carbon nanotubes composite materials - L. Rotariu, L.-G. Zamfir, C. Bala (oral presentation).
 13. 43rd IUPAC 2011 World Chemistry Congress, 30 July–7 August, 2011, San Juan, Puerto Rico, Carbon nanotube-ionic liquid composite biosensors - C. Bala, L. Rotariu, L.-G. Zamfir, A.M. Gurban (oral presentation).
 14. IX Latin American Symposium on Environmental and Sanitary Analytical Chemistry, 17–20 April 2011, Salvador, Brazil, Electrochemical system based on carbon nanotubes/ionic liquids nanocomposite materials for fast and sensitive detection of pesticides - L. Rotariu, L.-G. Zamfir, C. Bala (oral presentation).

15. 61st Annual Meeting of the International Society of Electrochemistry, 26 September –1 October, 2010, Nice, France, An impedimetric immunosensor based on functionalized magnetic nanoparticles on gold surface for the detection of ochratoxin A - N. Jaffrezic-Renault, L.-G. Zamfir, Irina Geană, C. Bala, L. Rotariu, Sondes Bourigua, Abdelhamid Errachid (poster).
 16. 45th International Conference on Microelectronics, Devices and Materials, MIDEM, 9–11 September 2009, Postojna, Slovenia, Carbon nanotubes / ionic liquid composite materials for amperometric biosensing of pesticides - L. Rotariu, L.-G. Zamfir, Adina Arvinte, C. Bala (poster).
 17. Biosensors 2010, 26–28 May 2010, Glasgow, United Kingdom.16. Thick-film electrochemical sensor for thiocholine detection - L.-G. Zamfir, L. Rotariu, A. Arvinte, C. Bala, Ciprian, Ionescu, Paul Svasta (poster).
 18. 9th Workshop on (Bio)sensors and Bioanalytical microtechniques in environmental and clinical analysis, 14–17 June 2009, Montréal, Québec, Canada, CNT/ionic liquid composite materials for monitoring enzyme reactions catalysed by acetylcholinesterase, poster, L. Rotariu, C. Bala, L.-G. Zamfir, A. Arvinte,
- B. National
1. Conferința națională a școlilor doctorale din Consorțiul Universitaria, Ediția I, 1–3 November 2018, Iași, Romania, Dezvoltarea unei metode imunoanalitice pentru detecția analogilor grelinei (Development of an immunoanalytic method for the detection of ghrelin analogues, oral presentation, G. M. Dănilă, M. Puiu, L.-G. Zamfir, C. Bala,
 2. 8th session of the Student Scientific Communications (Sesiunea de comunicări științifice studențești ediția a VIII-a), Faculty of Chemistry, University of Bucharest, 18 May 2012, Bucharest, Romania.Functionalized magnetic particles as tools in the development of ochratoxin a immunosensors, oral presentation, L.-G. Zamfir, L. Rotariu, N. Jaffrezic-Renault, C. Bala,
 3. "New Trends in Materials Science", Workshop ID: POSDRU/89/1.5, Academia Română (Romanian Academy), 28–31 March 2012, Bucharest, Romania, Biosensor based on carbon nanotubes/ionic liquids nanocomposite materials for fast and sensitive detection of acetylcholinesterase inhibitors, poster, L.-G. Zamfir, L. Rotariu, C. Bala,

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12.04.2022