

# Curriculum Vitae



## Personal information

Surname(s) / First name(s) Szabó Gabriella Stefánia  
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## Academic training and positions

Dates 1990 – 2002  
Title of qualification awarded PhD in Chemistry  
Name and type of organisation providing education and training «Babeş-Bolyai» University Cluj-Napoca  
Dates 1981 - 1985  
Title of qualification awarded Diploma in Chemistry  
Name and type of organisation providing education and training Faculty of Chemistry, «Babeş-Bolyai» University Cluj-Napoca

## Work experience Teaching/research/industry

Dates 2004-  
Occupation or position held *Lecturer*  
Main activities and responsibilities Courses: Electrochemistry, Thermodynamics, Chemical Kinetics, Colloid Chemistry, Advanced Physical-chemistry, Corrosion Science, Advanced Colloid Chemistry  
Research activities  
Name and address of employer "Babes-Bolyai" University, Dept. of Chemistry and Chemical Engineering of Hungarian Line of Study, Cluj-Napoca, Romania  
"Babes-Bolyai" University, Dept. of Physical Chemistry, Cluj-Napoca, Romania,  
Type of business or sector Education/Teaching  
Dates 1998-2004  
Occupation or position held *Assistant*  
Main activities and responsibilities Practical works in the field of electrochemistry, chemical kinetics, thermodynamics, colloid chemistry  
Name and address of employer "Babes-Bolyai" University, Dept. of Physical Chemistry, Cluj-Napoca, Romania  
Type of business or sector Education  
Dates 1985-1998  
Occupation or position held *Chemistry teacher*  
Main activities and responsibilities Teaching  
Name and address of employer Transport Highschool, Cluj-Napoca  
Alexandru Roman" Highschool, Alesd, Bihor  
Type of business or sector Education

**Personal skills and competences**Mother tongue(s) **Hungarian**

Other language(s)

Self-assessment

Understanding				Speaking				Writing		
Listening		Reading		Spoken interaction		Spoken production				
<b>Romanian</b>	F	excellent	F	excellent	F	excellent	F	excellent	F	excellent
<b>English</b>	E	very well	E	very well	E	well	E	well	E	well
<b>Russian</b>		elementary		elementary		elementary		elementary		elementary

Research stays abroad

University "Eötvös Loránd" Budapest, Hungary (1990-91)  
University "József Attila" Szeged, Hungary (1990)  
University of Debrecen, Hungary (2002, 2007)  
University of Technology and Economics, Budapest, Hungary (2006, 2007, 2013, 2014, 2016, 2017)  
Al Farabi Kazakh National University, Almaty, Kazakhstan (2017, 2018)  
Universite Franch-Comte, Besancon, France (2019)

Affiliations

International Society of Electrochemistry  
Romanian Society of Chemistry  
Erdélyi Magyar Műszaki Tudományos Társaság  
Erdélyi Múzeum Egyesület  
Romanian Society of Electrochemistry

Organizational skills and competences

Head of Department of Chemistry and Chemical Engineering of Hungarian Line of Study, (2014-2020)

Research interests

Corrosion investigation of some organic paints obtained on metallic substrates  
Electrochemical characterization of thin coatings obtained with sol-gel method  
Development of polymer-based anticorrosive coatings  
Study of the Briggs-Rauscher oscillating reaction mechanism, application in antioxidant capacity determination  
Kinetic study of reactions based on kinetic and catalytic polarographic currents

Relevant publications  
(last 10 years)

1. P. Márton, E. Albert, N. Nagy, B. Tegze, G. S. Szabó, Z. Hórvölgyi: Chemically modified chitosan coatings: wetting and electrochemical studies, *Studia UBB Chemia*, (2020) 65 (3), p. 63-79, DOI:10.24193/subchem.2020.3.05.
2. Á. F. Szőke, G. Szabó, Z. Hórvölgyi, E. Albert, L. A. G. Végh, L. Zimányi, M. Muresan: Improved anticorrosive effect of 2-Acetylamino-5-mercapto-1,3,4-thiadiazole on zinc by accumulation in chitosan coatings. *International Journal of Biological Macromolecules* (2020), 142, p 423-431; doi.org/10.1016/j.ijbiomac.2019.09.114
3. Á. F. Szőke, G. Szabó, Z. Simó, Z. Hórvölgyi, E. Albert, L. M. Muresan: Chitosan coatings ionically cross-linked with ammonium paratungstate as anticorrosive coatings for zinc, *European Polymer Journal* (2019), 118, p. 205-212, DOI: 10.1016/j.eurpolymj.2019.05.057
4. G. Szabó, E. Albert, J. Both, L. Kócs, Gy. Sáfrán, A. Szőke, Z. Hórvölgyi, L. M. Muresan: Influence of embedded inhibitors on the corrosion resistance of zinc coated with mesoporous silica layers, *Surfaces and Interfaces*, (2019) 15, p. 216–223, doi.org/10.1016/j.surfin.2019.03.007
5. Á. F. Szőke, G. S. Szabó, Z. Hórvölgyi, E. Albert, L. Gaina, L. M. Muresan: Eco-friendly indigo carmine-loaded chitosan coatings for improved anticorrosion protection of zinc substrates, *Carbohydrate Polymers* (2019) 215, p. 63–72, doi.org/10.1016/j.carbpol.2019.03.077
6. R. Barabás, N. Muntean, G. Szabó, K. Maurer, L. Bizo: Preparation and Characterizations of New Biomaterials by Anthocyanins Adsorption on Hydroxyapatite-Based Materials, *Studia UBB Chemia*, (2017) 62 (4) II, p. 253-268
7. N. Cotolan, S. Varvara, E. Albert, G. Szabó, Z. Hórvölgyi, L.-M. Muresan: Evaluation of corrosion inhibition performance of silica sol-gel layers deposited on galvanised steel, *Corrosion Engineering, Science and Technology*, DOI: 10.1080/1478422X.2015.1120404, (2016), 51(5), p. 373-382
8. E. Albert, N. Cotolan, N. Nagy, Gy. Sáfrán, G. Szabó, L. Muresan, Z. Hórvölgyi: Mesoporous silica coatings with improved corrosion protection properties, *Microporous and Mesoporous Materials* (2015), 206, p. 102-113
9. G. Szabó, E. Albert, Z. Hórvölgyi, L. Muresan: Protective TiO<sub>2</sub> coatings prepared by sol-gel method on Zinc, *Studia UBB Chemia*, (2015) 60 (3),
10. G. Turdean, G. Szabó: Determination of nitrite in meat products samples by square-wave voltammetry at a new single walled carbon nanotubes - myoglobin modified electrode, *Food Chemistry*, (2015), p. 325-330 DOI: 10.1016/j.foodchem.2015.01.106; Reference: FOCH17058
11. N. Muntean, G. Szabó: Commonly used raw fruit and vegetable juices overall antioxidant activity determination by means of Briggs-Rauscher reaction, *Studia UBB Chemia*, (2015) 60 (3),
12. E. Volentiru, G. Szabó, Z. Hórvölgyi, L.M. Muresan: Silica sol – gel protective coatings against corrosion of zinc substrates, *Periodica Polytechnica Ser. Chem*, (2014) 58(Sup), p. 61-66
13. N. Muntean, –G. Szabo :The Antioxidant Activity of Tea Infusions Tested by Means of Briggs-Rauscher Oscillatory Reaction, *Studia UBB Chemia*, (2013), 58 (2), p. 175 – 183
14. Bogya, E. S.-Czikó, M.- Szabó, G.- Barabás, R.: The red beetroot extract antioxidant activity and adsorption kinetics onto hydroxyapatite-based materials, *J. Iran. Chem. Soc.*, (2013) 10 (3), p. 491–503
15. Varvari, L.-Szabo, G.- Nicoara, A.: E. Kinetic investigation in Trolox-DPPH system, *Studia UBB Chemia*, (2010), 55 (2) TOM I, p. 189 – 197
16. Muntean, N.-Baldea, I.- Szabó, G.- Noszticzus, Z.: Antioxidant capacity determination by the Briggs-Rauscher oscillating reaction in flow system *Studia UBB Chemia* (2010) 55 (1) p. 121–132
17. Muntean, N.-Szabó, G.-Wittmann, M.-Lawson, T. .-Fülöp J.–Noszticzus, Z Onel, L.: Reaction Routes Leading to CO<sub>2</sub> and CO in the Briggs–Rauscher Oscillator: Analogies between the Oscillatory BR and BZ Reactions, *J. Phys. Chem. A*. (2009) 113 (32), 9102-9108
18. Lawson, T.,-Fülöp J.,-Wittmann, M.,-Noszticzus, Z.-Muntean, N.-Szabó, G.-Onel, L.: Iodomalonic Acid as an “Anti” Inhibitor in the Resorcinol Inhibited Briggs-Rauscher Reaction, *J. Phys. Chem. A*. (2009) 113, 14095-14098.

## Grants and projects

1. Coordinative complexes with biological active ligands, CNCSIS 300, period 1999-2002
2. Novel methods for the determination of Cu, Pb, Cd and Zn in natural waters, period 2001-2002, Sapientia Research Foundation
3. Study of the aggregation and the chromotropic behaviors of merocinamic, cinnamic dyes and analogs with potential applications in nanotechnology. CNCSIS 1347, period 2006-2008
4. Nonlinear dynamics in chemistry and environmental science- Romanian-Hungarian Scientific and technological bilateral cooperation agreement between the Technical University of Budapest (Hungary), "Al. I. Cuza" Iasi and "Babes-Bolyai" University of Cluj-Napoca (Romania) C18001/09.01.2006., period 2006-2007
5. Sensors and equipment for quality control of food products (SENSALIM), contract PN II nr. 71-098/18, period 2007-2010
6. European Science Foundation (ESF) Research Networking Programme: Functional dynamics in Complex Chemical and Biological Systems. (<http://funcdyn.org/>), period 2007-2011
7. Sol-gel protective coatings on metallic surfaces: preparation and characterization (SOLGELCOR) Romanian-Hungarian Scientific and technological bilateral cooperation agreement between the Technical University of Budapest (Hungary) and "Babes-Bolyai" University of Cluj-Napoca (Romania) PN-II-CT-RO-H-2012-1, period 2013-2014