

Curriculum Vitae



Personal information

Surname(s) / First name(s) **Szabó Gabriella Stefánia**
Address(es) 11 Arany Janos Str., 400028 Cluj-Napoca, ROMANIA
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Fax(es)

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	2024-
Occupation or position held	<i>Associate Professor</i>
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	“Babeş-Bolyai” University, Dept. of Chemistry and Chemical Engineering of Hungarian Line of Study, Cluj-Napoca, Romania “Babeş-Bolyai” University, Dept. of Physical Chemistry, Cluj-Napoca, Romania,
Type of business or sector	Education/Teaching
Dates	2004-2024
Occupation or position held	<i>Lecturer</i>
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	“Babeş-Bolyai” University, Dept. of Chemistry and Chemical Engineering of Hungarian Line of Study, Cluj-Napoca, Romania “Babeş-Bolyai” University, Dept. of Physical Chemistry, Cluj-Napoca, Romania,
Type of business or sector	Education/Teaching
Dates	1998-2004

Occupation or position held	<i>Assistant Professor</i>
Main activities and responsibilities	Practical works in the field of electrochemistry, chemical kinetics, thermodynamics, colloid chemistry
Name and address of employer	"Babeş-Bolyai" University, Dept. of Physical Chemistry, Cluj-Napoca, Romania
Type of business or sector	Education
Dates	1985-1998
Occupation or position held	<i>Chemistry teacher</i>
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

Romanian

English

Russian

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
excellent	excellent	excellent	excellent	excellent
very well	very well	well	well	well
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, 2019, 2023, 2024, 2025)
 Al Farabi Kazakh National University, Almaty, Kazakhstan (2017, 2018)
 Universite Franch-Comte, Besancon, France (2019)

Affiliations

International Society of Electrochemistry
 Romanian Society of Chemistry
 Transylvanian Hungarian Technical Scientific Society
 Transylvanian Museum Society
 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 5 years)**

1. **G. Szabó**, T.-R. Ovari, S. Székely, G. Katona, P. Márton, Z. Hórvölgyi, L.M.J. Muresan, An eco-friendly corrosion protective coating for zinc based on phytic acid-modified silica, *Journal of Solid State Electrochemistry*, (2025), 1-14 <https://doi.org/10.1007/s10008-025-06422-x>
2. Ovari, TR; Brănzanic, AMV; G. Katona, **G. Szabó**, Muresan, LM: New eco-friendly corrosion inhibitor for zinc based on expired Detralex drug. Adsorption, electrochemical and computational studies, *Materials Today Communication*, (2025), 46, 112739, <https://doi.org/10.1016/j.mtcomm.2025.112739>
3. Both, J.; **Szabó, G.S.**; Ciorîță, A.; Muresan, L.M.: Silver Linings: Electrochemical Characterization of TiO₂ Sol-Gel Coating on Ti6Al4V with AgNO₃ for Antibacterial Excellence. *Coatings* (2024), 14 (12), 1532, <https://doi.org/10.3390/coatings14121532>
4. P. Márton, L. Áder, D. M. Kemény, A. Rácz, D. Kovács, N. Nagy, **G.S. Szabó**, Z. Hórvölgyi: Chitosan-surfactant composite nanocoatings on glass and zinc surfaces prepared from aqueous solutions, *Molecules* (2024), 29(13), 3111; <https://doi.org/10.3390/molecules29133111>
5. T.-R. Ovari, B. Trufan, G. Katona, **G. Szabó**, L. M. Muresan Correlations between the anti-corrosion properties and the photocatalytic behavior of epoxy coatings incorporating modified graphene oxide deposited on a zinc substrate, *RSC Advances*, (2024), 14, 10826, <https://doi.org/10.1039/d4ra00413b>
6. P. Márton, B. Szolnoki, N. Nagy, A. Deák, D. Zámbo, **G.S. Szabó**, Z. Hórvölgyi: Wetting and swelling behaviour of N-acetylated thin chitosan coatings in aqueous media, *Heliyon*, (2024), 10 (1) e23201 <https://doi.org/10.1016/j.heliyon.2023.e23201>
7. Buier, R.; **Szabó, G.S.**; Katona, G.; Muntean, N.; Muresan, L.M. Influence of pH on the Inhibiting Characteristics of Cresol Red Incorporated in Chitosan Coatings on Zinc. *Metals* (2023), 13,1958. <https://doi.org/10.3390/met13121958>
8. T.-R. Ovari, T. Toth, G. Katona, **G. Szabó**, L. M. Muresan: Epoxy Coatings Doped with (3-Aminopropyl)triethoxysilane-Modified Silica Nanoparticles for Anti-Corrosion Protection of Zinc, *Coatings*, (2023), 13(11), 1844; <https://doi.org/10.3390/coatings13111844>
9. P. Márton, O. T. Nagy, D. Kovács, B. Szolnoki, J. Madarász, N. Nagy, **G. S. Szabó**, Z. Hórvölgyi: Barrier behaviour of partially N-acetylated chitosan layers in aqueous media, *International Journal of Biological Macromolecules*, (2023) 123336, <https://doi.org/10.1016/j.ijbiomac.2023.123336>
10. J. Both, A.-P. Fülöp, **G. Szabó**, G. Katona, A. Ciorîță, L. M. Muresan: Effect of the preparation method on the properties of Eugenol-doped TiO₂ coating on Ti substrate, *Gels*, 2023, <https://doi.org/10.3390/gels9080668>
11. T.-R. Ovari, Á.F. Szőke, G. Katona, **G.S. Szabó**, L.M. Muresan: Temporary Anti-Corrosive Double Layer on Zinc Substrate Based on Chitosan Hydrogel and Epoxy Resin, *Gels*, 2023, 9(5), 361; <https://doi.org/10.3390/gels9050361>
12. T.R. Ovari, G. Katona, M. Coros, **G. Szabó**, L. M. Muresan: Corrosion behaviour of zinc coated with composite silica layers incorporating poly(amidoamine)-modified graphene oxide, *Journal of Solid state Electrochemistry*, 2022, <https://doi.org/10.1007/s10008-022-05358-w>
13. Both, J; **Szabó, GS**, Muresan, L. M: Study on the corrosion inhibition efficiency of aluminum tripolyphosphate on zinc substrate, *Studia UBB Chemia*, (2022), 67 (4) p. 261-272, <https://doi.org/10.24193/subbchem.2022.4.17>
14. Both, J; Mezei, R., **Szabó, GS**, Muresan, L. M., Electrochemical investigation of the corrosion inhibiting effect of organic paints doped with benzotriazole coated on steel substrates, *Protection of metals and Physical Chemistry of Surfaces*, 2022, 58 (4) p 822-833, <https://doi.org/10.1134/S2070205122040086>
15. **Szabó, G.S**, Csiki, E., Szőke, Á.F., Muntean, N, Determination of the antioxidant activity of different types of coffee by means of Briggs-Rauscher analytical method, *Studia UBB Chemia*, (2022), 67 (3) p. 7-16, <https://doi.org/10.24193/subbchem.2022.3.01>
16. **Szabó, G.S.**, Szabó, R., Szabó, L., A review of the mitigating methods against the energy conversion decrease in solar panels, *Energies*, 2022, 15(18), 6558, 20, <https://doi.org/10.3390/en15186558>
17. Á.F. Szőke, **G. Szabó**, G. Katona, G. Bliet, LM Muresan: Correlations between the Chitosan Solution Viscosity and the Anticorrosive Protection Efficiency of Indigo Carmine-impregnated Chitosan Coatings on Zinc, *Protection of metals and Physical Chemistry of Surfaces*, (2022), 58 (3) p:574-584; <https://doi.org/10.1134/S2070205122030224>
18. Both, J; **Szabó, GS**; Katona, G; Muresan, LM Muresan: Anti-corrosive Polystyrene Coatings Modified with Tannic Acid on Zinc and Steel Substrates. *Journal of Electrochemical Science and Engineering*, (2022) 12 (4) p 721-730, <https://doi.org/10.5599/jese.1293>
19. J. Both, **G. Szabó**, G. Katona, L. M. Muresan: Tannic acid reinforced sol-gel silica coatings for corrosion protection of zinc substrates, *Material Chemistry and Physics*, (2022) 282 125912 p 1-11, <https://doi.org/10.1016/j.matchemphys.2022.125912>
20. T.R. Ovari, G. Katona, **G. Szabó**, L. M. Muresan: Electrochemical evaluation of the relationship between the thermal treatment and the protective properties of thin silica coatings on zinc substrates, *Studia UBB Chemia*, (2022), 67 (1) p. 227-243, <https://doi.org/10.24193/subbchem.2022.1.15>
21. L. Szabó, **G-S. Szabó**, R. Szabó: Usage of graphene in power systems. A survey. *11th International Conference on Electrical Power Drive Systems, ICEPDS*, 2020 Proceedings, (2020), 9249296, <https://doi.org/10.1109/ICEPDS47235.2020.9249296>
22. Á.F. Szőke, **Szabó, Z.** Hórvölgyi, E. Albert, L.A.G. Végh, L. Zimányi, M. Muresan: Accumulation of 2-Acetyl amino-5-mercapto-1,3,4-thiadiazole in chitosan coatings for improved anticorrosive effect on zinc. *International Journal of Biological Macromolecules* (2020), 142, p 423-431; <https://doi.org/10.1016/j.ijbiomac.2019.09.114>
23. 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, <https://doi.org/10.24193/subbchem.2020.3.05>