

PERSONAL INFORMATION

CIOBOTARU Ioana-Alina



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 https://www.researchgate.net/profile/Ioana_Alina_Ciobotaru
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Sex Female | | Date of birth 10/06/1989 | Nationality Romanian

WORK EXPERIENCE

September 2018 – to date

Lecturer

University POLITEHNICA of Bucharest, Faculty of Applied Chemistry and Materials Science, Department of Inorganic Chemistry, Physical Chemistry and Electrochemistry, Splaiul Independenței Street, no 313, postcode 060042, Bucharest, www.upb.ro.

- Lecturer for courses and laboratory for bachelor and masters study cycles.
- Mentoring of masters undergraduates in the elaboration of their dissertation and mentoring of the PhD students in the elaboration of their thesis, as a member in the guidance committee for PhD students.
- Dissemination of research results at national and international level.
- Inter-disciplinary activities for increasing the institutional visibility.

Higher education, research

November 2016 – September 2018

Assistant Professor

University POLITEHNICA of Bucharest, Faculty of Applied Chemistry and Materials Science, Department of Inorganic Chemistry, Physical Chemistry and Electrochemistry, Splaiul Independenței Street, no 313, postcode 060042, Bucharest, www.upb.ro.

- Lecturer for laboratory for bachelor and masters study cycles
- Dissemination of research results at national and international level.

Higher education, research

EDUCATION AND TRAINING

2014-2017

PhD degree in Engineering Sciences

University POLITEHNICA of Bucharest, Faculty of Applied Chemistry and Materials Science

6 months scholarship (July 2015 – December 2015) granted within the POSDRU project *Knowledge, innovation and development through doctoral scholarships (CID-Doc)*, contract no POSDRU/187/1.5/S/155536;

- Study of some silane coatings deposited on aluminium substrate;
- Use of modern analysis methods;
- Processing of experimental data and dissemination of results by means of scientific articles.

2012-2014

Master of Science

University POLITEHNICA of Bucharest, Faculty of Applied Chemistry and Materials Science, Master in the Expertise of Chemical Products, Food and Materials

1 year scholarship (2012-2013) within the project "Quality and expertise in elaboration and implementation of the methodology for obtaining and testing competitive products through training within new masters programs with major impact on the labour market", financed through the European Social Fund through the Sectorial Operational Program for the Development of Human Resources 2007-2013, contract no POSDRU/86/1.2/S/56711.

- Exploiting the technical, economic and organizational opportunities for improving the efficiency of activities;
- Apply investigation/testing techniques and find solutions to solve current problems;
- Elaboration of professional studies and reports of expertise.

2008-2012 **Chemical engineer**

University POLITEHNICA of Bucharest, Faculty of Applied Chemistry and Materials Science, Specialisation Environmental Engineering in Chemical and Petrochemical Industry, head of promotion for the specialisation (GPA 9.56/10)

- Specific skills on prevention, control and monitoring of environmental pollutants;
- Capacity to assimilate new techniques and technologies;
- Applications on environmental balance, life cycle assessment and risk assessment.

PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C1	C1
Language certificate provided by the Faculty of Engineering in Foreign Languages					
Spanish	B2	B1	B2	B2	A2

Communication skills

- Fluency in a foreign language;
- Communication skills.

Organisational / managerial skills

- Mentoring of students for their participation at scientific scholarly communication sessions;
- Mentoring of students group in performing practical laboratory works.

Job-related skills

- Ability to work in stressing conditions;
- High ability to integrate in diversified work teams;
- High capacity to prioritise;
- Good capacity to provide quality results even at tight deadlines;
- Ability to manage/lead students groups in safety conditions;
- High capacity for analysis and problem solving.

Digital skills

Computer operating skills (Microsoft Office Word/Excel/PowerPoint) - Professional certificate
Use of dedicated software programs (MathCAD, Origin, VoltaMaster).

Driving licence

Category B, without any fine or penalty

ADDITIONAL INFORMATION

Publications

Books and book chapters

- Anca Cojocaru, Ioana Maior, Simona Căprărescu, **Ioana-Alina Ciobotaru**, Dănuț-Ionel Văireanu, *Electrochemistry applied in economic engineering (Electrochimia aplicată în ingineria economică)*, 2015, Ed. Electra, ISBN: 978-606-507-081-3;
- Danut-Ionel Vaireanu, Anca Cojocaru, Ioana Maior, **Ioana-Alina Ciobotaru**, *Food packaging interactions in metal cans, Reference Module in Food Science*, Elsevier, 2018, ISBN 9780081005965 <https://doi.org/10.1016/B978-0-08-100596-5.22398-6>

Articles

- **Ioana-Alina Ciobotaru**, Florin-Mihai Benga, Irina-Elena Ciobotaru, Danut-Ionel Vaireanu, *Overcoming Practical Barriers in Reconditioning Li-Polymer Batteries*, Revista de Chimie, vol. 71, no. 4, 2020, p. 366-372;
 - **Ioana-Alina Ciobotaru**, Irina-Elena Ciobotaru, Danut-Ionel Vaireanu, *Electrochemical production of active chlorine using platinised platinum electrodes*, Technium: Romanian Journal of Applied Sciences and Technology, vol. 2:Proceedings of the Technium Conference 2020, 2020, pp. 12-16, ISSN: 2668-778X;
 - Oana-Claudia Ciobotea-Barbu, **Ioana-Alina Ciobotaru**, Anca Cojocaru, Florin-Mihai Benga, Danut-Ionel Vaireanu*, *SEM, EDS and electrical capacitance study on electrodeposited Ni-Cu layers*, Revista de Chimie, vol. 70, no. 9, 2019, p. 3210-3212;
 - Oana-Claudia Ciobotea-Barbu, **Ioana-Alina Ciobotaru**, Danut-Ionel Vaireanu*, D.G. Dumitras, Calin Nicolae, *XRD, Raman and SEM surface analysis on Ni-Cu electrodeposited layers*, Journal of Optoelectronics and Advanced Materials, vol. 21, nr. 7-8, 2019, p. 536-540;
 - Oana-Claudia Ciobotea-Barbu, **Ioana-Alina Ciobotaru**, Anca Cojocaru, Florin-Mihai Benga, Danut-Ionel Vaireanu*, *Practical Considerations Regarding the Electrodeposition of Ni-Cu Layers as Potential Supercapacitors Plates*, Revista de Chimie, vol. 70, no. 7, 2019, pp. 2335-2339;
 - Oana Claudia Ciobotea-Barbu, **Ioana-Alina Ciobotaru***, Florin-Mihai Benga, Danut-Ionel Vaireanu, *The influence of the deposition parameters on the properties of Ni-Cu deposition*, Revista de Chimie, vol. 70, no. 1, 2019, pp. 45-49;
 - **Ioana-Alina Ciobotaru**, Oana-Claudia Ciobotea-Barbu, Danut-Ionel Vaireanu, *Considerations regarding the optimization procedure of the electrodeposition of nickel-copper films used for supercapacitors and/or rechargeable batteries plates*, Bulletin of Romanian Chemical Engineering Society, vol. 6, no. 1, 2019, p. 56-64, ISSN 2360-4697;
 - **Ioana-Alina Ciobotaru**, Oana Claudia Ciobotea-Barbu, Florin-Mihai Benga, Danut-Ionel Vaireanu*, *Characterisation of reinforced BTSE films deposited on anodized aluminium substrate*, Revista de Chimie, vol. 69, no. 11, 2018, pp. 2964-2968;
 - Florin-Mihai Benga, Danut-Ionel Văireanu, **Ioana-Alina Ciobotaru***, Irina-Elena Ciobotaru, *A novel jump-start system based on reconditioned li-polymer batteries*, Revista de Chimie, vol. 69, no. 4, 2018, pp. 351-353;
 - **Ioana-Alina Ciobotaru**, Irina-Elena Ciobotaru, Dănuț-Ionel Văireanu*, Florin-Mihai Benga, *Food-packaging interactions investigated by electrochemical impedance spectroscopy*, Journal of Food Process Engineering, vol. 41, no. 1, 2018, e12615. <https://doi.org/10.1111/jfpe.12615>;
 - **Ioana-Alina Ciobotaru**, Oana-Claudia Ciobotea Barbu, Anca Cojocaru, Ioana Maior, Florin-Mihai Benga, Danut-Ionel Vaireanu, *Electrochemical studies on reinforced BTSE coatings deposited on anodized aluminium*, Bulletin of Romanian Chemical Engineering Society, vol. 5, no. 1, 2018, pp.75-82, ISSN 2360-4697;
 - Ioana Maior, Anca Cojocaru, Gabriela-Elena Badea, Ioana-Maria Nicola, **Ioana-Alina Ciobotaru**, Andrada-Elena Alecu, *Anticorrosion protective coatings by adsorbed natural extract inhibitor for mild steel corrosion in neutral solutions*, Analele Universității din Oradea - Fascicula Chimie, vol. XXV(25), 2018, pp. 23-28, ISSN: 1224-7626;
 - **Ioana-Alina Ciobotaru**, Oana Claudia Ciobotea-Barbu, Dănuț-Ionel Văireanu*, Irina-Elena Ciobotaru, *The influence of the curing temperature on the properties of some silane films*, Revista de Chimie, vol. 68, no. 7, 2017, pp. 1413-1418;
 - **Ioana-Alina Ciobotaru**, Ioana Maior*, Dănuț-Ionel Văireanu, Anca Cojocaru, Simona Căprărescu, Irina-Elena Ciobotaru, *The determination of the optimum hydrolysis time for silane films deposition*, Applied Surface Science, no. 371, 2016, pp. 275-280;
 - **Ioana-Alina Ciobotaru**, Florin-Mihai Benga, Oana Claudia Barbu, George Costin Lazar, Claudiu Campureanu, Traian Rus, Danut-Ionel Vaireanu, *Conductivity cell constant revisited*, Bulletin of Romanian Chemical Engineering Society, vol. 3, no. 1, 2016, pp. 35-47, ISSN 2360-4697;
 - Ioana Maior, **Ioana-Alina Ciobotaru***, Simona Căprărescu, Anca Cojocaru, Dănuț-Ionel Văireanu, *Electrochemical studies on modified organo-silanes composite coatings for aluminium corrosion inhibition*, Studia UBB Chemia, vol. LX, no. 3, 2015, pp. 87-98,
 - **Ioana-Alina Ciobotaru**, Danut-Ionel Văireanu, Ioana Maior, Anca Cojocaru, Simona Căprărescu, *Electrochemical techniques as a useful aid for deposition and characterisation of silane coatings*, Bulletin of Romanian Chemical Engineering Society, vol. 2, no. 1, 2015, pp. 56-64, ISSN 2360-4697;
 - Irina-Elena Ciobotaru, **Ioana-Alina Ciobotaru***, Dănuț-Ionel Văireanu, *Solar powered PEM electrolyser used as ozone generator for tertiary water treatment*, UPB Scientific Bulletin, series B, vol. 76, no. 4, 2014, pp. 27-33, ISSN 1454-2331;
 - **Ioana-Alina Ciobotaru**, Dănuț-Ionel Văireanu, *Considerations regarding a novel coefficient for electrochemical impedance spectroscopy data validation*, Bulletin of Romanian Chemical Engineering Society, vol. 1, no. 2, 2014, pp. 123-134, ISSN 2360-4697.
- Presentations at workshops and conferences
- **Ioana-Alina Ciobotaru**, Florin-Mihai Benga, Danut-Ionel Vaireanu, *Advantages and disadvantages of rechargeable batteries reconditioning versus recycling*, **Symposium of the Young Chemical Engineers (SICHEM), 17-18 septembrie 2020, București, Romania**
 - Ioana Maior, Ioana-Maria Nicola, **Ioana-Alina Ciobotaru**, Anca Cojocaru, Oana Cristina Parvulescu, *The influence of the operating parameters on the applications of the titanium passivation process by anodizing*, Symposium of the Young Chemical Engineers (SICHEM), 17-18 septembrie 2020, București, Romania;

- **Ioana-Alina Ciobotaru**, Irina-Elena Ciobotaru, Danut-Ionel Vaireanu, *Electrochemical production of active chlorine using platinised platinum electrodes*, ID 2048, Technium Conference 2019, Constanța, Romania, ISBN: 978-973-0-30915-7.
- Anca Cojocaru, Ioana Maior, **Ioana-Alina Ciobotaru**, Alexandra Cojocaru-Greblea, Danut-Ionel Vaireanu, *Eco-friendly corrosion inhibitors for steel in NaCl medium*, 21th Romanian International Conference on Chemistry and Chemical Engineering, 4-7 septembrie 2019, Constanța - Mamaia, Romania;
- Oana-Claudia Ciobotea-Barbu, **Ioana-Alina Ciobotaru**, Danut-Ionel Vaireanu, Calin Nicolae, *XRD, Raman and SEM surface analysis on Ni-Cu electrodeposited layers*, 4th International Workshop on Materials under Extreme Conditions SUPERMAT, 14th-16th of November 2018, Bucharest, Romania;
- **Ioana-Alina Ciobotaru**, Oana-Claudia Ciobotea Barbu, Anca Cojocaru, Ioana Maior, Florin-Mihai Benga, Danut-Ionel Vaireanu, *Electrochemical studies on reinforced BTSE coatings deposited on anodized aluminium*, Symposium of the Young Chemical Engineers (SICHEM), 6th-7th of September 2018, Bucharest, Romania;
- Florin-Mihai Benga, **Ioana-Alina Ciobotaru**, Irina-Elena Ciobotaru, Danut-Ionel Vaireanu, *A reconditioning procedure of some Li-pol batteries*, Symposium of the Young Chemical Engineers (SICHEM), 6th-7th of September 2018, Bucharest, Romania;
- Anca Cojocaru, **Alina Ioana Ciobotaru**, Madalina Alexandra Toma, Florin Mariano Patriche, Ionut Cristian Radu, Catalin Zaharia, Ioana Maior, *Electrochemical characterization of graphite/polyester composite*, Symposium of the Young Chemical Engineers (SICHEM), 6th-7th of September 2018, Bucharest, Romania;
- Ioana Maior, Anca Cojocaru, Danut-Ionel Vaireanu, **Ioana-Alina Ciobotaru**, Oana Cristina Parvulescu, *Green corrosion inhibitor for mild steel in neutral and acid solutions*, Symposium of the Young Chemical Engineers (SICHEM), 6th-7th of September 2018, Bucharest, Romania;
- Oana-Claudia Ciobotea Barbu, **Ioana-Alina Ciobotaru**, Danut-Ionel Vaireanu, Daniel Bîrgăoanu, *The influence of the electrodeposition parameters on the properties of Ni-Cu deposits*, Smart Specialization and Advanced Materials for Extreme Conditions, 20th-22nd of November 2017, Bucharest, Romania;
- **Ioana-Alina Ciobotaru**, Oana-Claudia Ciobotea Barbu, Florin-Mihai Benga, Ioana Maior, Danut-Ionel Vaireanu, Irina-Elena Ciobotaru, *The effect of substrate anodisation on deposited BTSE silane films*, 20th Romanian International Conference on Chemistry and Chemical Engineering (RICCCE), 6th-9th of September 2017, Poiana Brasov, Romania;
- Florin-Mihai Benga, Danut-Ionel Vaireanu, **Ioana-Alina Ciobotaru**, Anca Cojocaru, Irina-Elena Ciobotaru, *A novel use for reconditioned Li-polymer rechargeable batteries*, 20th Romanian International Conference on Chemistry and Chemical Engineering (RICCCE), 6th-9th of September 2017, Poiana Brasov, Romania;
- Ioana Maior, Anca Cojocaru, Dănuț-Ionel Văireanu, **Ioana-Alina Ciobotaru**, *Juglans Regia extract as green corrosion inhibitor for mild steel*, 20th Romanian International Conference on Chemistry and Chemical Engineering (RICCCE), 6th-9th of September 2017, Poiana Brasov, Romania;
- **Ioana-Alina Ciobotaru**, Florin-Mihai Benga, Oana Claudia Barbu, George Costin Lazăr, Claudiu Cămpureanu, Traian Rus, Dănuț-Ionel Văireanu, *Conductivity cell constant revisited*, Symposium of the Young Chemical Engineers (SICHEM), 8th-9th of September 2016, Bucharest, Romania;
- **Ioana-Alina Ciobotaru**, Dănuț-Ionel Văireanu, Ioana Maior, Anca Cojocaru, Simona Caprărescu, *Electrochemical techniques as a useful aid for deposition and characterisation of silane coatings*, 19th Romanian International Conference on Chemistry and Chemical Engineering (RICCCE), 2nd-5th of September 2015, Sibiu, Romania;
- **Ioana-Alina Ciobotaru**, Dănuț-Ionel Văireanu, Ioana Maior, Anca Cojocaru, Simona Caprărescu, *The determination of the optimum hydrolysis time of silanes for the silanization process*, 19th Romanian International Conference on Chemistry and Chemical Engineering (RICCCE), 2nd-5th of September 2015, Sibiu, Romania;
- Anca Cojocaru, Ioana Maior, G. E. Badea, **Ioana-Alina Ciobotaru**, Simona Căprărescu, Dănuț-Ionel Văireanu, *Comparative Evaluation of Natural and Commercial Scale Inhibitors*, 19th Romanian International Conference on Chemistry and Chemical Engineering (RICCCE), 2nd-5th of September 2015, Sibiu, Romania;
- Oana Mădălina Fronoiu, Ioana Maior, **Ioana-Alina Ciobotaru**, Horia Iovu, Dănuț-Ionel Văireanu, Simona Căprărescu, *A study on Epoxy-Silane-Nanoparticles Hybrid Coatings. Evaluation of the Corrosion Protection Properties*, 19th Romanian International Conference on Chemistry and Chemical Engineering (RICCCE), 2nd-5th of September 2015, Sibiu, Romania;

- **Ioana-Alina Ciobotaru**, Irina-Elena Ciobotaru, Dănuț-Ionel Văireanu, *A Novel Descriptor to Evaluate the Potential Interactions Between Food Additives and Coating Materials using Electrochemical Impedance Spectroscopy*, Scientific Conference of the Doctoral Schools of “Dunărea de Jos” University of Galați (CSSD UDJG) 4th-5th of June 2015, Galați, Romania – presentation awarded with the second prize at section 4;
- Căprărescu Simona, Ianchis Raluca, Radu Anita-Laura, Purcar Violeta, Alexandrescu Elvira, Sârbu Andrei, Miron Alexandra Raluca, Văireanu Dănuț Ionel, Cojocaru Anca, Maior Ioana, **Ciobotaru Ioana Alina**, *Preparation, characterization and application of modified commercial organoclay polymer membranes for removal of indigo carmine*, Priorities of Chemistry for a Sustainable Development (PRIOCHEM) - 11th Edition, 29th – 30th of October 2015, Bucharest, Romania;
- Oana Cristina Pârvolescu, Violeta Alexandra Ion, Tănase Dobre, Narcis Duțeanu, **Ioana-Alina Ciobotaru**, *Temperature swing adsorption of n-hexane onto fixed-bed activated carbon*, 42nd Conference of Slovak Society of Chemical Engineering, 25th-29th of May 2015, Tatranské Matliare, Slovak Republic;
- Ali A. A. Al Janabi, Tănase Dobre, Oana Cristina Pârvolescu, Violeta Alexandra Ion, **Ioana Alina Ciobotaru**, *Rheological characterization of cellulose-TEOS casting solution*, 42nd Conference of Slovak Society of Chemical Engineering, 25th-29th of May 2015, Tatranské Matliare, Slovak Republic.

Research and development projects
– gained by competition
Patent application

- PN-III-P1-1.1-PRECISI-2016-11624 *Awarding of research results – articles – 2016*
- PN-III-P1-1.1-PRECISI-2018-23498 *Awarding of research results – articles – 2018*

Memberships

Member of the committee for promoting the faculty
Member of the admission committee at the University POLITEHNICA of Bucharest
Member of the Romanian Society of Chemistry
Member of the Romanian Society of Chemical Engineering
Associate/collaborative member of the Romanian Committee for History and Philosophy of Science and Technology, Division of History of Technology of the Romanian Academy
Member of the guiding committee for PhD students within the Department of Inorganic Chemistry, Physical Chemistry and Electrochemistry

Graduated Courses

- 2008-2011: Programme of psycho-pedagogical studies, level 1 (2008-2011) and level 2 (2016-2017)
 - July 2015 – December 2015: participation at courses for acquiring knowledge on the improvement of the capacity for publication, management of research projects and gender equality, equal chances and respect of diversity within the project “Quality and expertise in elaboration and implementation of the methodology for obtaining and testing competitive products through training within new masters programs with major impact on the labour market”, financed through the European Social Fund through the Sectorial Operational Program for the Development of Human Resources 2007-2013, contract no POSDRU/86/1.2/S/56711
 - Training course: 1st Electrochemical processing methodologies and corrosion protection for device and systems miniaturization (e-MINDS) Training school: Basic electrochemistry tutorial: from electrodes to corrosion, Overview of the microsystems, Electrodeposited nanomaterials: properties and stability, Brno, Czech Republic, 11-15 April 2016
 - Training course: 2nd Electrochemical processing methodologies and corrosion protection for device and systems miniaturization (e-MINDS) Training school: Codeposition: alloys, semiconductors and composites, Lab techniques in the electrodeposition research, Study of electrodeposits: composition, structure and morphology, Schwäbisch Gmünd, Germany, 2-6 April 2017
 - Training course: 3rd Electrochemical processing methodologies and corrosion protection for device and systems miniaturization (e-MINDS) Training school: Organic and bio-organic functionalization of electrodes, Deposition modes and bath formulation, Numerical simulations in electrochemistry, Siófok, Hungary, 26-30 March 2018.

Research activity

The main research interests are in the following areas:

- Anticorrosion protection provided by coatings deposition, more precisely, in the field of synthesis and characterisation of the anticorrosive properties of some silane films deposited on an aluminium substrate. This was initiated during the Masters studies and continued in depth during the PhD studies, which refer to some methods for improving the anticorrosive properties of the silane films by means of doping with various particles and applying a pre-treatment of the metallic substrate by anodisation.
 - Development of a method for the reuse of some lithium-polymer batteries consisting of the evaluation of the capacity of the batteries, that are no longer suitable for their initial purpose and the testing of a reconditioning method, to enable their use in other applications.
 - Electrochemical deposition of some metallic films (nickel-copper alloys) with potential applications in energy storage devices such as supercapacitors and the structural, morphological and electrochemical characterisation of these films by means of modern techniques (scanning electron microscopy, electrochemical impedance spectroscopy, energy dispersive X-ray spectroscopy).
 - Investigation of some possible interactions between food products and their packaging materials using electrochemical techniques.