

ANCA COJOCARU

Lecturer dr.eng.

University "POLITEHNICA" Bucharest

Faculty of Applied Chemistry and Materials Science

Department of Inorganic Chemistry, Physical Chemistry and Electrochemistry



Contact information

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Education and training

Dates	04-10 February 2013
Title of qualification awarded	Certificate awarded
Principal subjects/occupational skills covered	Didactic teaching technical sciences; teaching strategies, principles of effective teaching and learning.
Name and type of organisation providing education and training	Ministry of National Education, project „Quality, innovation, communication in the system of continuous training of teachers in high school” POSDRU87/1.3/S/63709
Level in national or international classification	
Dates	June 2007
Title of qualification awarded	Participation to the Training Seminar "Management and student-centered learning for university teachers
Principal subjects/occupational skills covered	Information regarding student-centered learning
Name and type of organization providing education and training	Romanian Ministry of Education, Research and Technology, project PHARE TVET RO 2004/016
Dates	1996- 2006 1985 - 1990
Title of qualification awarded	PhD diploma in Chemical Engineering; Chemical engineer / Specialization Inorganic Chemistry
Principal subjects/occupational skills covered	Electrochemical methods of investigation, cyclic voltammetry, writing articles, analyzing results, experimental results summarizing
Name and type of organisation providing education and training	University "Politehnica" of Bucharest, Faculty of Applied Chemistry and Materials Science
Level in national or international classification	
Dates	1998-1999
Title of qualification awarded	Postgraduate courses ELCOR
Principal subjects/occupational skills covered	Specialization in electrochemical techniques and in corrosion and corrosion control techniques
Name and type of organisation providing education and training	Polytechnic Institute of Bucharest, Faculty of Chemical Technology
Level in national or international classification	

Professional experience

Dates	Since 1992-present 2002-present, 1994-2002, 1992-1994
Occupation or position held	Lecturer, Assistant lecturer, Teaching assistant
Main activities and responsibilities	Teaching license students of licence and of master courses in electrochemistry, corrosion; laboratory

Name and address of employer	activity in electrochemistry, corrosion, thermodynamics and applied electrochemistry; research activities, paper and presentations for conferences, student sessions, research grants, technical assistance in the laboratories, research guidance to students University "Politehnica" of Bucharest, Faculty of Applied Chemistry and Materials Science, Department of Applied Physical Chemistry and Electrochemistry Polizu Gh. 1-7 Str., 011061 Bucharest, Romania
Type of business or sector	High education / research

Academic and research interests

Research activities in Electrochemistry (batteries, PEM and SOFC type fuel cells, electrochemical methods of investigation, cyclic voltammetry, electrochemical impedance spectroscopy, kinetics of electrode processes), Corrosion and Electrochemical deposition of metals, metal alloys, thermoelectric materials, electrochemical investigations in ionic liquids.

Publications and scientific results: 40 articles published in ISI journals, 80 papers in International Conference Proceedings, 8 books and book chapters.

Teaching activity

<i>Studies</i>	<i>The name of Programme</i>	<i>Code</i>	<i>Course title</i>	<i>Activity type</i>
<i>Bachelor</i>	<i>Bachelor of Science In Chemical Engineering</i>	<i>UPB 11.T.05.0.503</i>	<i>Electrochemistry</i>	<i>Course</i>
	<i>Bachelor of Science In Environmental Engineering</i>	<i>UPB 11.F.05.0.104</i>	<i>Electrochemistry</i>	<i>Course</i>
	<i>Bachelor of Science In Chemical Engineering</i>	<i>UPB 11.S.06.0.514</i>	<i>Corrosion and Corrosion Controle</i>	<i>Course</i>
<i>Master</i>	<i>Master of Science in Polymer Science and Engineering</i>	<i>UPB 11.S.09.0.906</i>	<i>Electroconductive polymers</i>	<i>Course</i>
	<i>Master of Science in Expertise of Chemicals, Food Aand Materials</i>	<i>UPB 11.S.12.0.1109</i>	<i>Control and expertise of accidents in manipulation and transport of chemicals</i>	<i>Course and seminar and</i>

Teaching license students of license and of master courses in electrochemistry, corrosion, Control and expertise of accidents in manipulation and transport of chemicals, Electroconductive polymers; laboratory activity in electrochemistry, corrosion, thermodynamics and applied electrochemistry, laboratory activity in electrochemistry in English license program; research activities, paper and presentations for conferences, student sessions, research grants, technical assistance in the laboratories, research guidance to students.

Electrochemical methods of investigation, electrochemical impedance spectroscopy, cyclic voltammetry, writing articles, analyzing results, experimental results summarizing.

Guidance several research groups of students to conduct research work at scientific sessions of the faculty or students sessions in other universities.

Publication (selective):

Books

- D.I. Vaireanu, **A. Cojocaru**, D. Constantinescu, T. Badea, M. Nicola, "Electrochimie, Corozione si Tehnologia Proceselor Electrochimice" (Electrochemistry, Corrosion and technology of electrochemical processes, laboratory practical note book), Ed. Andor Tipo srl, Bucuresti, 1999
- D. I. Văireanu, **A. Cojocaru**, I. Maior, D. Constantinescu, Aplicații practice de electrochimie și știința materialelor, Ed. Printech, București, 2000
- **A. Cojocaru**, I. Maior, Studii și aplicații de corozione și dizolvare anodică a metalelor, Editura ELECTRA, București, 2010,

- I.Maior, **A. Cojocaru**, „Principii și aplicații ale conversiei și stocării electrochimice a energiei”, Ed. ELECTRA, București, 2010

Articles (selection)

- **A. Cojocaru**, G.E.Badea, I.Maior, P.Cret, T.Badea, Kinetics of the Hydrogen Evolution Reaction on 18Cr-10Ni Stainless Steel in Seawater. I. Influence of Potential Revue, Roumain de Chimie, 2009, 54(1), pp. 49–54
- **A. Cojocaru**, S.Costovici, L.Anicai, T.Visan, P.Cojocaru, L.Magagnin, PL.Cavallotti, Deposizione di una lega Nichel-Stagno da soluzioni ioniche a base di cloruro di colina-urea (Nickel-tin alloy deposition from choline chloride-urea ionic liquids), Galvanotecnica e nuove finiture, 19(60) / 3 / 2009, 140-146
- F.Golgovici; **A. Cojocaru**, M.Nedelcu, T.Visan, Cathodic Deposition of Components in BiSbTe Ternary Compounds as Thermoelectric Films Using Choline-Chloride-Based Ionic Liquids, J. of electronic materials, 39, 9, 2079-2084, 2010
- A.M.Popescu, V.Constantin, **A. Cojocaru**, M.Olteanu, Electrochemical Behaviour of Copper (II) Chloride in Choline Chloride-urea Deep Eutectic Solvent, Revista de Chimie (Bucuresti), 62, 2, 2011, 206-211
- D.-I. Vaireanu, S.Caprarescu, **A. Cojocaru**, I.Maior Revitalisation of Sealed Lead Acid Rechargeable Batteries, Science and Technology of Environmental Protection, 12, 1, 2005, 50-56.
- **A. Cojocaru**, I.Maior, D-I.Vaireanu, G.Badea, S.Caprarescu, Aniline Electrooxidation on Semiconductor Electrodes and Electrochemical Behavior of Polyaniline Obtained Films, Analele Univ. din Oradea, fasc. Chimie, Vol. XIV, 2007, 80-84
- D.-I.Vaireanu, **A. Cojocaru**, I.Maior, S.Caprarescu, Practical Considerations Regarding the Measurement of Ionic Conductivity by EIS in Conductive Polymers, Chem. Bull. "POLITEHNICA" Univ. of Timisoara, Series Chemistry and Environmental Engineering, Volume 53(67), 1-2, 2008, 258-261
- D.-I.Vaireanu, **A. Cojocaru**, I.Maior, S.Caprarescu, A.Ionescu, V.Radu, Considerations on Reducing the Experimental Duration of Electrochemical Impedance Spectroscopy Measurements used for the Evaluation of Ionic Conductivity in Polymer Electrolyte Membrane Electrolysers and Fuel Cells, Key Engineering Materials, 415, 2009, 61-64
- **A. Cojocaru**, I.Maior, D.-I.Vaireanu, I.Lingvay, C.Lingvay, S.Caprarescu, Estimation of Inhibition Efficiency for Carbon Steel Corrosion in Acid Media by Using Natural Plant Extracts, Revista de Chimie, 60, 11, 2009, 1175-1180.
- **A. Cojocaru**, I.Maior, I.Lingvay, C.Lingvay, S.Căprărescu, D.-I.Văireanu, Carbon Steel Corrosion Inhibition by Plant Extract Based Green Inhibitors, Studia Universitatis Babeș-Bolyai Chemia, Cluj Napoca, Anul LIV, 1 Special Issue, 2009, 41-54
- F.Golgovici, **A. Cojocaru**, L.Anicai, T.Visan, Surface characterization of BiSbTe thermoelectric films electrodeposited from chlorides aqueous solutions and choline chloride based ionic liquids, Mater. Chem. Phys., 126, 3, 2011, 700-706
- **A. Cojocaru**; M.Sima, Electrochemical Investigation of the Deposition/Dissolution of Selenium in Choline Chloride with Urea or Ethylene Glycol Ionic Liquids, Rev. Chim. (Bucharest), 63, 2, 217-223, 2012
- C.Agapescu, **A. Cojocaru***, F.Golgovici, A. C. Manea, A.Cotarta, Electrochemical Studies of BiTeSe Films Deposition from Ionic Liquids Based on Choline Chloride with Ethylene Glycol, Malonic Acid and Oxalic Acid, Rev. Chim. (Bucharest), 63, 9, 2012, 911-920
- C.Agapescu, **A. Cojocaru***, A.Cotarta, T.Visan, Characterization And Corrosion Behavior Of Bitese Thin Films Grown By Electrodeposition From Choline Chloride –Oxalic Acid Ionic Liquid, Chalcogenide Letters, 9, 10, 2012, 403 - 411
- C.Agapescu, **A. Cojocaru***, A.Cotarta, T.Visan, Electrodeposition of bismuth, tellurium, and bismuth telluride thin films from choline chloride–oxalic acid ionic liquid, J Appl Electrochem., 2013, 43, 309-321

Research projects (selection)

Over 33 National and International Research Contracts (some of them with multi-annual budgets) as researcher / member of the research team.

The contracts have different topics “New system of evaluation, control and monitoring of corrosion and deposits formed on heat exchange surfaces of boilers in the biomass-coal co-combustion” (INOVARE 2007-2010 64/2007); “Nanostructured composite materials for solid oxide fuel cells with catalytic activity in the direct oxidation processes of hydrocarbon fuel type” CEEEX 2006-2008, 267/2006); “Environmentally friendly ionic liquids with applications in electrochemical surface treatments of high performance” (PNCDI 2 Parteneriate 2007-2010, 31-066); “Electrodeposition of thermoelectric films based on p- and n-type doped Bi₂Te₃ and fabrication of mini thermoelectric generators” (Capacități Modul III 189/1, 2009-2010); “Research of materials and advanced equipment for generating hydrogen for use in transportation systems and fuel storage” (CEEEX 2006-2008, X2C19/2006); “Material with hybrid structure for thermoelectric devices” (Parteneriate 72-155, 2009-2011)

Other information

Prize of Rev. Chim. editorial board for the most cited paper published in 2007 (R.Popescu, A.Cojocaru, A.C.Manea, Electrochemical impedance studies of titanium and steel in biological media, Revista de Chimie (Bucuresti), 58, 6, 2007, 507-514).

Member of the organizing committee of The Third Regional Symposium on Electrochemistry: South-East Europe, RSE-SEE3 May 13-17, 2012, Bucharest, ROMANIA

Member of various professional national and international societies: International Society of Electrochemistry, Romanian Society of Chemistry, Romanian Society of Electrochemistry.

Member of the Scientific Committee for Annals of the University of Oradea, Fascicle Chemistry, and reviewer for different scientific journals (Industrial and Engineering Chemistry Research, Chemical Engineering Communications, Surface and Interface Analysis, J of Appl Electrochem.).

Member of Faculty's Academic Council; since september 2012

Member of the local organizing committee of 18th Romanian International Conference on Chemistry and Chemical Engineering – RICCCE 18

English and French Languages speaking, writing and understanding, having language proficiency certificate for both English and French issued by the Department of Modern Languages from "Politehnica University of Bucharest since 2007.

Knowledge of software packages MsOffice, ZView, ChemWin, Adobe, Origin, etc., internet, email (Outlook, Pegasus Mail, WebMail, Zimbra).