



ANEXES

LIST OF PUBLISHED AND ELABORATED SCIENTIFIC CONTRIBUTIONS

A. PUBLISHED PAPERS

1. ISI published papers

Cârâc G., Ispas A.

Effect of nano-Al₂O₃ particles and of the Co concentration on the corrosion behaviour of electrodeposited Ni-Co alloys
 Journal of Solid State Electrochemistry, 2012, 16(11), 3457-3465,
<http://link.springer.com/article/10.1007%2Fs10008-012-1909-y>

Rusu (Cosor) D. E., Ispas A., Bund A., Gheorghies C., **Cârâc G.**

Corrosion Tests of Nickel Coatings Prepared from a Watts-Type Bath
 Journal of Coatings Technology and Research, 2012, 9(1), 87-95, DOI: 10.1007/s11998-011-9343-0,
<http://www.springerlink.com/content/q05750887t246180/>

Ramanaviciene A., Minkstimiene A., K., Oztekin Y., **Cârâc G.**, Voronic J., German N., Ramanavicius A.

Visualization of red-ox proteins on the gold surface using enzymatic polypyrrole formation,
 Microchimica Acta, 2011, 175:79-86. DOI 10.1007/s00604-011-0645-9.
http://journals2.scholarsportal.info/details.xqy?uri=/00263672/v175i1-2/79_vorpotgsuepf.xml

Mikoliunaite L., Makaraviciute A., Suchodolskis, A., Ramanaviciene A., Oztekin Y., Stirke, A., Jurkaite G., Ukanis M.,

Cârâc G., Cojocaru P. Ramanavicius A.

Atomic Force Microscopy Study of Living Baker's Yeast Cells
 Advanced Science Letters, 2011, vol. 4, 368-376
http://www.researchgate.net/publication/232715807_Atomic_Force_Microscopy_Study_of_Living_Baker's_Yeast_Cells

Cantaragiu A. M., Cojocaru P., **Cârâc G.**, Gheorghies C., Magagnin L.

Electrocodeposition of Ag/TiO₂ nanocomposite coatings in cyanide free electrolytes
 Transactions of the Institute of Metal Finishing, 2011, vol. 89(1) 39-43
<http://www.ingentaconnect.com/content/maney/imf/2011/00000089/00000001>

Hagioglu P., Gheorghies C., **Cârâc G.**

Accelerated corrosion behavior of Cu-Zn tombac used in production of patrimony goods
 Environmental Engineering and Management Journal, 2011, 10(2)199-203. <http://omicron.ch.tuiasi.ro/EEMJ/>

Cojocaru P., Leserria, A., Magagnina L., Vázquezb M., **Cârâc G.**

Electrodeposition of Ni/ Co and Ni Magnetic Nanowires using Allumina Template
 ECS Transactions, 2011, 33 (34)43-49 (The 217th ECS Meeting ECS, Las Vegas, NV, October 4, 2010)
http://ecst.ecsdl.org/cgi/collection/electrochemical_chemical_deposition-etching?page=6

Cantaragiu A.-M., **Cârâc G.**, Gheorghies C.

Electrochemical study of AISI 316L Stainless Steel in different nanoparticle suspensions
 Journal of Optoelectronics and Advanced Materials 2010, 12(11) 2391 – 2399

Rusu, D. E., Cojocaru, P., Magagnin, L., Gheorghies, C., **Cârâc, G.**

Study of Ni-TiO₂ nanocomposite coating prepared by electrochemical deposition
 Journal of Optoelectronics and Advanced Materials 2010, 12(11) 2419 – 2422

Stoica M., Bruma M., **Cârâc G***.

Electrochemical study of AISI 304 SS at disinfectants with fungi
 Materials and Corrosion, 61(9999), 12, 2010, 1017-1025, ISSN: 0947-5117.
<http://onlinelibrary.wiley.com/doi/10.1002/maco.v61.12/issuetoc#jumpTo>

Cantaragiu, A.M., Cojocaru, P., Magagnin, L., **Cârăc, G.**, Gheorghies, C.

Electrophoretic synthesis and characterization of bioactive HAp/TiO₂ thin films coated on stainless steel

Journal of Optoelectronics and Advanced Materials 2010, 12 (4) 913-918, INOE Publishing House, ISSN: 1454-4164.

Stoica, M., Cârăc, G., Apetrei, C., Cantaragiu, A.-M.

Electrochemical study of stainless steel surfaces in biodegradable biocides

Journal of Optoelectronics and Advanced Materials 2010, 12 (4) 919-922, INOE Publishing House, ISSN: 1454-4164

Rusu D. E., Ispas A., Bund A., Gheorghies C., **Cârăc G.**

Microstructure and corrosion resistance for the electrodeposited nickel from watts baths

Journal of Optoelectronics and Advanced Materials 2010, 12(6)1372 – 1377, INOE Publishing House, ISSN: 1454-4164

Stoica M., **Cârăc, G.**, Nicolau A., Tofan C.

The importance of finishing for the integrity of Stainless Steel surfaces during sanitation treatments

Journal of Environmental Protection and Ecology, vol. 11 (2010). ISSN: 1311-5065.

Bruma M., Stoica M., **Cârăc G.**, Alexe P.

AISI 430 stainless steel behaviour at different disinfectants

Romanian Journal of Food Science, 2010, 1(1) 39-44.

Cojocaru P., Muscolino F., Magagnin L., Vázquez M. Badini-Confalonier G., **Cârăc G.**

Electrodeposition of Ni/Co and Ni Magnetic Nanowires using Allumina Template

The 216th ECS Meeting ECS, Vienna, Austria, October 4 - October 9, 2009

ECS Transactions, 2010, 25 (27) 147-153, CODEN: ECSTF8, ISSN-1938-5862 (print),

http://www.ecsd.org/new_ECST

Thiemig D., Cantaragiu A.M., Schachschal S., Bund, A., Pich A., **Cârăc G.**, Gheorghies C.

Electrocodeposition of hydroxyapatite nanoparticles with zinc-iron alloys

Surface & Coatings Technology 2009, 203 (10-11)1488-1493

<http://www.sciencedirect.com/science/article/pii/S0257897208010566>

Stoica M., **Cârăc G.**, Tofan C., Constantin O. E., Enache G.

Effect of fungal suspensions in NaDCC disinfectant on the corrosion behaviour AISI 304 stainless steel

Journal of Agroalimentary Processes and Technologies, 15 (4), 2009, p. 543-546, 4 pg. Ed. Agroprint, ISSN 1453-1399.

BDI Index: IFIS – International Food Information Service (www.Foodsciencecentral.com); CAS – Chemical Abstracts Service (www.cas.org; [CAS ref; 163659](#)); CABI – Publishing Website Serials Cited Submission (www.cabi.org)

Iticescu, C., Murearescu, M., **Cârăc, G.**

Influence of Nd₂O₃ in Copper and Copper Composite Coatings obtained by Electroless Plating

Anale Universității București, Chimie 2009; 18(1):51-57

http://gw-chimie.math.unibuc.ro/anunivch/analele_univ_chimie.html CPlusSM coverage by CASCODEN: ANUBEU

Gheorghies C., Hui D., **Cârăc G.**, Stasi I. V.

Doping Effect on Texture Degree of a Composite Layer

World Journal of Engineering, 2008, 5(4), 620-621

Iticescu, C., Mitoseriu, O., **Cârăc, G.**, Lampke, Th.

Electrochemical deposition of composite coatings in copper matrix with TiO₂ nanoparticles

Revue Roumaine de Chimie, 2008, 53(1) 43–47

Cârăc, G., Iticescu C., Benea, L., Lampke, Th., Steinhauser S.

The effect of nano-Al₂O₃ dispersed phase in nickel matrix electrocodeposited

Revue Roumaine de Chimie, 2007, 52(11)1057–1062

http://revroum.getion.ro/wp-content/uploads/2007/RRCh_11_2007/Art%2007.pdf

Cârăc G., Bund, A., Thiemig D.

Electrocodeposition and characterization of cobalt lanthanide oxides composite coatings

Surface & Coatings Technology, 2007, 202 (2), 403-411

<http://www.sciencedirect.com/science/article/pii/S0257897207006202>

Gheorghies, C., **Cârăc, G.**, Stasi I.V

Preparation and Structural Characterisation of Nickel/Alumina nano-Particles Composite Coatings

Journal of Optoelectronics and Advanced Materials, 8 (3), 2006, p.1234-1237, Bucharest, ISSN 1454-4164

Gheorghies C., **Cârâc G.**, Stasi I. V.

Preparation and structural characterization of nickel/alumina nano-particles composite coatings,
Journal of Optoelectronics and Advanced Materials, 2006, 8(3) 1234-1237

Cârâc, G., Benea, L., Iticescu, C., Lampke, Th.; Steinhauser, S.; Wielage, B.

Codeposition of Cerium Oxide with Nickel and Cobalt Correlation between Microstructure and Microhardness

Surface Engineering, vol. 20, No. 5, 2005, S. 353-359, DOI: <http://dx.doi.org/10.1179/026708404X1134>
<http://www.sciencedirect.com/science/article/pii/S026708404X1134>

Benea, L., **Cârâc, G.**

Obtaining of composite coatings by metal electrodeposition using disperse particles

Cercetări Metalurgice și de Nod Materiale (Romanian- English) 1997), 5(2) 20-40
CODEN: CMEMEW ISSN: 1221-5503. Journal written in English-Romanian.
CAN 127:240195 AN 1997:566442 CAPLUS (Copyright 2005 ACS on SciFinder (R)).

2. BDI published papers (selective)

Zăpodeanu I., Burlacu M., Ionel G., Radu A., Stanciu C., **Cârâc G.**, Dinica R., Dumitru P., Aniculaesei G.

Increase of paper security rate in order to prevent counterfeit and forgery,

14th Intern. Symposium on Cellulose Chemistry and Technology, Iassy, Romania, Sept. 8-10, 2010

Dinică, R., Furdui, B., **Cârâc, G.**, Stanciu C.

Fluorescent N-Heterocycles Via One Pot Tandem Reactions

5-eme Colloque Franco-Roumain de chimie Applique (COFRoCA), Bacău, 22-26 June 2008

ISBN:973-8392-36-5, indexare: CAN 143:266794, AN 2004:1043739, CAPLUS

Georgescu, L. P., **Cârâc, G.**

Study on the Interdependence between Human Activities and Soil Quality on the Nearby Zone of Danube River

Field Screening Europe 2001 Conference; Karlsruhe-Germany, Mai 14-16, 2001, Int. Conf., Kluwer Acad. Publishers, ISBN 1-4020-0739-6, 2002, p. 21-27,

CODEN: 69EBSA Conference written in English. CAN 140:64355 AN 2003:477334 CAPLUS (Copyright 2005 ACS on SciFinder (R))

3. Papers published in CNCSIS recognized journals (selective)

Popa, P., **Cârâc, G.**, Cojocaru, P.

Comparative electrochemical study on Ni and Ni-Co alloys

The Annals of the "Dunarea de Jos" University of Galati, Fascicle II - Mathematics, Physics, Chemistry, Informatics (CD-ROM)YEAR III (XXXII) 2009, Proc. 1st Intern. Symp. on Applied Physics – Materials Science, Environment and Health (ISAP1), Galati, Nov.28th-29th, ISSN 2066-712, 2009, p. 189-195

Cosor (Rusu) D. E., Ispas A., Bund A., **Cârâc G.**, Gheorghies C.

A study on Ni electrodeposited from a Watts bath

The Annals of the "Dunarea de Jos" University of Galati, Fascicle II - Mathematics, Physics, Chemistry, Informatics (CD-ROM)YEAR III (XXXII) 2009, Proc. 1st Intern. Symp. on Applied Physics – Materials Science, Environment and Health (ISAP1), Galati, Nov.28th-29th, ISSN 2066-712, 2009, p. 371-375

Iticescu C., **Cârâc, G.**, Mitoseriu O.

Influence of CeO₂ on the Electroless Deposition of the Copper Coatings,

Bulletin of the Polytechnic Institute of Iassy, Tomul LI (LV),

Fascicle 3, ISSN 1453-1690, p. 149-154

Iticescu C., **Cârâc G.**, Mitoseriu O.

Electroless Plating Using Particles in the Electrolyte

The 3rd Conference of the Faculty of Chemistry, Bulletin of the Polytechnic Institute of Iassy, Tom XLIX (LIII),

Fascicle 5, Chemistry and Industrial Chemistry, p. 201-206

Iticescu C., **Cârâc G.**, Mitoseriu O.

The Optimization of Parameters in Copper Coatings Obtained by Electroless Plating

The 11th Conference on Physical Chemistry, Timișoara, Romania, 3-5 Sept. 2003, Annals of West University of Timisoara, Series Chemistry, ISSN 1224-9513, vol. 12, no.3, p. 569-575

Cârâc G., Iticescu C., Mitoseriu O.

The Effect of Concentration of Embedded Particles in Electrodeposited Cu-CeO₂ Composite Coatings

The 11th Conference on Physical Chemistry, Timisoara, 3-5 Sept.2003,

Annals of West University of Timisoara, Series Chemistry, 2003, 12(3) 475-485, ISSN 1224-9513

- Florea T., Zara M., Nicolau A., **Cârâc G.**, Vasile A.
Potential Risk at Food Pachaging Using Cellulosic Materials,
 The Annals of „Dunarea de Jos”, University of Galati, Fasc. VI, Tehnologia Produselor Alimentare, ISSN 122-4574, p. 72-79
- C. Iticescu, O. Mitoşeriu, **Cârâc, G.**,
Preparation and Investigation of Cu-CeO₂ Composite Coatings,
 The Annals of „Dunarea de Jos”, University of Galati, Fasc. IX, Metallurgy and Material Science, 2004, 1, 5-10, ISSN 1453-083 X, 43
- Cârâc, G.**, Mitoşeriu, O., Milanova, M., Todorovský D.
Lanthanide Compounds in the Electroplating Processes
 The Annals of Dunarea de Jos, University of Galati, Fascicle IX, Metallurgy and Material Science, 1997, 35-39; ISSN 1453-083 X, 43
- Cârâc G.**, Mitoşeriu O., Potecaşu F., Mitoşeriu L.
Structural Aspects of Cobalt-Ceria Composite Coatings Obtained by Electrodeposition
 The Annals of “Dunărea de Jos”, University of Galati, Fasc. IX, Metallurgy and Material Science, 1997, 39-43, ISSN 1453-083 X, 43

4. Papers published in works of the international symposiums (selective)

- Cârâc G.**, Dinica R., Stanciu C., Zapodeanu I.
 Electrochemical study of a novel series of heterocyclic compounds of pyridine,
 South-East Europe Sava Center, Belgrade, Serbia, RSE-SEE, June 6 to 10, 2010, poster OEH P-07.
- R. Dinica, B. Furdui, **G. Cârâc**, I. Zapodeanu, A. Birladeanu,
Synthese de Nouvelles sels Quaternaires de Pyridine et leur études Electrochimiques,
 Sixième Colloque, Franco Roumain de Chimie Appliquée, COFrRoCA 2010 , Orleans, France, 7-10 juillet 2010,
www.univ-orleans.fr/cofrroca2010
- R. Dinica, B. Furdui, C. Stanciu, **G. Cârâc**,
 Propriétés Electrochimiques d'une Série d'accepteurs d'électrons basé sur nHeterocycles,
 Sixième Colloque, Franco Roumain de Chimie Appliquée, COFrRoCA 2010, Orleans, France, 7-10 juillet 2010,
www.univ-orleans.fr/cofrroca2010
- G. Cârâc**, Benea L., C. Iticescu, Th. Lampke and S. Steinhäuser (2003);
Correlation between Structure and Resulting Wear and Corrosion Resistance of Functionally Modified Surfaces by Codeposition of Cerium Oxide with Nickel and Cobalt,
 The EUROCORR Conference, Budapest- Hungary, 28 Sept.-2 Oct.2003, Session WP17, Abstract 282 (paper accepted for oral presentation, published in proceeding).
- Banu,A., **Cârâc, G.**, Calota, A., 2006,
Comparative electrochemical study in cobalt and cobalt molybdenum coatings,
 Nonconventional Technology, Review, nr. 1, ISSN 1454-3087; p. 25-30, 6 pg.
- Banu,A., **Cârâc, G.**, Marcu M., 2005,
Electrochemical and corrosion behavior of Ni-ZrO₂ electrodeposited layers
 Nonconventional Technology, Review, nr. 3, ISSN 1454-3087; p. 85-88; 4 pg.
- Cârâc G.**, Mitoşeriu, O.,
Obtinerea a copereirilor compozite Co-CeO₂,
 Tehnologii Calitate, Maşini, Materiale 25 (TCMM), Ecologie-Acoperiri Metalice-Coroziune, 1997, Ed. Teh., ISBN 973-31-113-9, 1997,
 p. 125-130
- Cârâc, G.**, Schneider, W. Mitoşeriu, O., Plieth, W.
Structural Aspects of Electrodesited Cobalt-Ceria Composite Coatings,
 Jahrestagung 1998, der G.D.Ch. Fachgruppe Angewandte Electrochemie und 4. Electrochemisches Grundlagensymposium, 30th Sept.-2th Oct., Frankfurt am Main, Germany, Abstract, 50, (2000), Monographie Bd.18, Proceedings of the "Metalle in der Elektrochemie", ISBN 3-924 763-85-2, p. 110-116, 6 pg.
CODEN: GDCHAI Journal written in English. CAN 138:228348, AN 2002:960810 CAPLUS (Copyright 2005 ACS on SciFinder (R))
- Mitoseriu, O.; Drugescu, E.; Benea, L.; Levcovici, S.; Potecas, F.; Constantinescu, S.; **Cârâc, G.**; Mitoseriu, L.
Composite coatings obtained by codeposition during copper, cobalt and iron electroplating,
 Surface Modification Technologies XI, Proceed. of the Intern. Conference.
 11th, Paris, Sept. 8-10, 1997 (1998), Meeting Date 1997, p. 417-422, 6 pg. (Publisher: Institute of Materials, London, UK).
CODEN: 66MAA8 Conference written in English. CAN 129:251640 AN 1998:495326 CAPLUS (Copyright 2005 ACS on SciFinder (R))
- Mitewa, M.; **Cârâc, G.**; Milanova, M.; Todorovsky, D.
Synthesis of lanthanoid complexes with saturated N6-macrocycl hexacyclene
 Bulg. Godishnik na Sofiiskiya Universitet "Sv. Kliment Ohridski", Khimicheski Fakultet (1999), vol. date 1997, 89, p. 35-38, 4 pg.
CODEN: GSKFAL ISSN: 0584-0317. Journal written in English. CAN 133:37276 AN 2000:301197 CAPLUS (Copyright 2005 ACS on SciFinder (R))

5. Posters (representative)

Dinică, R, Furdui B, **Cârăc G.**, Bârlădeanu A, Stanciu, C.

Synthesis of novel Fluorescent Precursors starting from substituted pyridines via microwave irradiation,

First Symposium on Microwave Assisted Organic and Peptide Synthesis, 4-5 June, Montpellier, France, p.25

Dinică, R, Furdui B, **Cârăc G.**, Stanciu, C.

Synthesis of novel Fluorescent Precursors starting from substituted pyridines via microwave irradiation,

First Symposium on Microwave Assisted Organic and Peptide Synthesis, 4-5 June, Montpellier, France, p. 24

Cârăc G., Bund A., Wuensche F., Lampke Th., Steinhäuser S.

Electroplating with Al₂O₃ and SiO₂ nano-particles from a pyrophosphate bath

Mehrlandandertagung mit 42.Jahrestagung der DGO, Dresden, 22-24 Septem. 2004, Annual DGO Meeting, Dresden, Germany P45.

B. BREVETS

Security paper and methods, for its obtaining No.: a200901013/2010

C. GRANTS

- International GRANTS (representative)

Coordinator

Bilateral Cooperation Project ROM 01/014 (2002-2004).

Electrochemical and chemical investigations of the co-deposition of small particles (SiC, CeO₂, Al₂O₃, nanodiamonds) with copper, nickel, cobalt, zinc and gold matrices

Cârăc Geta (principal investigator) and Siegfried Steinhäuser, Germany - Romania

SONDERFORSCHUNGSBEREICH 609, Grant individual in projectul Elektromagnetische Strömungsbeeinflussung in Metallurgie, Kristallzüchtung und Elektrochemie (Electromagnetic influence on convection in metallurgy, crystal growth and electrochemistry); Dresden University of Technology, Institute of Physical Chemistry and Electrochemistry; August 2005.

Grant individual STSM (Short Term Scientific Mission) G. Cârăc,

COST-ONLINE_STSM-D33-2446, (February), Host's Name and Institution: Arunas Ramanavicius, Vilnius University, Lithuania

Grant individual STSM (Short Term Scientific Mission) G. Cârăc, Nanostructured composite coatings obtained by electrodeposition-processing and properties characterization, Trento University-Italy (August 2005)

2000-2013: responsible Erasmus/Socrates Germany, Technical University Dresden,

2004-2013: responsible Erasmus/Socrates Germany Chemnitz University of Technology

2008-2013: responsible Erasmus/Socrates Lithuania, Vilnius University

2001-2002: responsible Erasmus/Socrates Spain, University from Barcelona

- National projects

Coordinator

2009: PCE-IDEI, project no 2290, **G. Cârăc - Manager**

Obtaining of electrodeposited nickel nanowires in nanoporous structures of nanocelule anodized aluminum oxide.

2000-2002 ORIZONT Grant no 537 **G. Cârăc** and al. (secondary investigator).

Paper and Carton Microbiological Criteria for Food Industry (paper for packing, filter fibrous composites for alimentary liquids

2007, Impact ELESINAN, no 589/2007, **G. Cârăc**,

Electrochemistry for nanostructures systems, for studies of chemical and biochemical processes, no founded

Member

2011-2014, PN-II-ID-PCE-2011-3-0226: „Access to new bioactive molecules by development of original biocatalysts for reactions like click-chemistry”,

2007-2010: Research Grant, CNMP PNII, Nr.71 -126/62D7/18.09.2007, name FILFLOSEC, partner 1 University „Dunărea de Jos”,

Integrated system for security of value marks and documents, realized in the process of obtaining and printing of support paper, CNMP, UDJ 2006-2007: Regional centre for monitoring and research of environment quality „Dunărea de Jos” University, Galați; CEEX IV no. 299/18.09.2006

D. OTHER SCIENTIFIC CONTRIBUTIONS

Stoica, M., Bahrim, G., **Cârâc, G.**

Capitol: *Factors that Influence the Electric Field Effects on Fungal Cells*

In Science against microbial pathogens: communicating current research and technological advances

A. Méndez-Vilas (Ed.), Publisher: Formatex Research Center, vol.2. 291-302, ISBN (13): 978-84-939843-1-1

www.formatex.org/microbiology3/chapters1.html

Stoica, M., Alexe P., Dinică, R., **Cârâc, G.**

Capitol: *Electrochemical Behaviour of AISI 304 Stainless Steel Immersed in Mixtures Consisting by Biocide and Fungal Suspensions*
in: The Food Industry / Book 2, Ed: In-Tech, Croatia, ISBN 979-953-307-709-2.

Other professional activities

1. I have supervised at the undergraduate students with an average of 4-6 students per academic year (from 1996-present: 35).
2. I was member of the faculty board, adjunct of the head of department of chemistry (2002-2004).
3. I developed few teaching materials (in Romanian language), including 7 university handbooks and many practicals.
4. I have a good experience in the development of the researches contract with industries partner for environmental needs.

01/2012