Curriculum vitae

PERSONAL INFORMATION

NAME **Gabriela Cârjă**

e-mail: gabriela.carja@academic.tuiasi.ro

PROFESSIONAL POSITION

Professor at Technical University „Gheorghe Asachi" of Iasi

EDUCATION

Mihail Kogalniceanu High School; Mathematical-Physics track; Vaslui 1978-1982;
B.Sc. Faculty of Industrial Chemistry, Polytechnic Institute of Iasi; 1982-1987;
Awarded Ph.D. in **Engineering**
Diploma Series P no. 0001274 on 25.11.1996;
Postdoctoral Studies:
Technical University of Lisboa 1997-1998,
The 35th International Course for the Advanced Research in Chemistry and Chemical Engineering", Tokyo, Japan 1999-2000.

PROFESSIONAL EXPERIENCE

Assistant Professor at "Gheorghe Asachi" Technical University of Iasi	1990-1996
Lecturer at "Gheorghe Asachi" Technical University of Iasi	1997-2002
UNESCO Research Fellow at Tokyo Institute of Technology, Japan	1999-2000
Associate Professor at "Gheorghe Asachi" Technical University of Iasi	2003-2007
Professor at "Gheorghe Asachi" Technical University of Iasi	2008 - to present.

Invited Professor employed under an work-contract at: Tokyo Institute of Technology, **Japan** 2012 and University Blaise Pascal **France** 2013;
Visiting Professor/Researcher at: Tokyo Institute of Technology, **Japan**: 2005, 2007, 2009; 2010, 2013, 2015; 2016 University of Salamanca, **Spain**: 2015; Mexican Petroleum Institute, **Mexico** :2016; ENSCM, National School of Chemistry, under a project of French Environment Agency, Montpellier, **France**, 2003-2004; University of Antwerpen, **Belgium**: 2012, 2027, 2018, 2019, 2023.University of Mahatma Ghandi, Kerala, **India**: 2023. University of Agadir, **Morocco**: 2024. University of Lille, **France**, 2021;
DC Rapporteur of the European Commission in Science and Technology for the domain Materials Science and Physics, 2010-2014;
Member of the **National Council for Scientific Research of Romania** (CNCS), Head of the Commission of Material Science: 2011; 2016, 2020–2024;
Member of the University Ethics and Management Council of Romania (CEMU): 2021–2024;
Expert for European Projects, including Horizon 2020, under official contracts for: **European Innovation Council and SMEs Executive Agency (2023–2024);** the **European Climate, Infrastructure and Environment Executive Agency** (CINEA) (2021–2023); the **European Innovation Council** (EIC) (2016–2020); and the **European Research Executive Agency (REA)** (2016–2024);

AWARDS (SELECTED)

Romanian Academy Award "Gheorghe Spacu", 2009.
Centennial Memorial Award of Tokyo Institute of Technology, **Japan**, 2005.
Medal of Tokyo Institute of Technology, Japan, for the research activity developed at the Japanese university, 2000.
Award of "The 35th International Course for the Advanced Research in Chemistry and Chemical Engineering", Tokyo, J**apan**.
Diploma Award of the European Materials Research Society at International Conference of E-MRS for organizing the Fall Meeting Symposium C: Inorganic nanoarchitectonics: from design and fabrication to sustainable solutions, Warsaw, **Poland,** September 2014.
Award of Excellence of Mahatma Gandhi University, Kerala, **India**, 2023.
Award of Excellence and Gold Medal of PROINVENT International Salon of Inventory and Exhibition 2016, Iasi, **Romania**, for the **Patent Application** "Assembles of nanoparticles of cobalt oxides and layered double hydroxides and their fabrication procedure", (Brevet no: RO132424B1).
Award of Excellence and Gold Medal of PROINVENT International Salon of Inventory and Exhibition 2014 Cluj Napoca, Romania, for the Patent Application"Process for obtaining bio composites based on cellulose acetate and anionic clay", (Brevet no: 126849).
Silver Medal of the International Competition for Inventory Research EUREKA **Brussels**, Belgium 2010, for the **Patent Application** "Process for obtaining bio composites based on cellulose acetate and anionic clay", (Brevet no: 126849).
Gala of the Education Awards, the researcher of the Year-1st Prize, 2009.

SCIENTIFIC RESULTS

PROJECT MANAGEMENT EXPERIENCE
Research Projects obtained by competition
(SELECTED):
International Level:
Project Leader of Research Grant of **French Environmental Agency (EGIDE),** 2003-2004. Project Title: **Novel Catalysts for DENOx Processes.** Affiliation: Ecole Nationale Supérieure de Chimie, Laboratoire de Matériaux Catalytiques et Catalyse, Montpellier, France.
Project Coordinator of **UNESCO Research Grant** offered by Tokyo Institute of Technology, Japan, 1999-2000. Project Title: **Studies on the Physical Properties of Newly Designed Mesoporous Anionic Clays.** Affiliation: Niiyama-Aida Laboratory, Department of Chemical Engineering, Tokyo, Japan.
Project Leader of **Bilateral Research Grant with Tshwane University of Technology, South Africa**, 2009-2011. Financed by UEFISCDI Romania, Project Title: **Nanostructured Materials with High Adsorption Capacities for the Removal and Recovery of Heavy Metals from Industrial Wastewater**.
Collaborative project in the Laboratory of FIAT Research Center Milan, Italy inside **FP7 Project;** Title: **Integrating European research infrastructures for micro-nano fabrication of functional structures and devices out of a knowledge-based multimaterials' repertoire. Grant agreement ID: 226460 EUMINAFAB FP7 Project of EU; http://www.euminafab.eu**
DC Raporteur of European COST Action MP0603 (MicroCARS)-**Chemical imaging by means of CARS microscopy and COST action MP0803-Plasmonic components and devices** (2008-2012).

National Level (SELECTED):
Project Coordinator of 9 National Research Projects inside PN I, CEEX, PN-II-P2-2.1-PED, PN-II-PARTENERIAT PN-II-CAPACITIES competitions.
Project Leader
Exploratory research project PN-II-ID-PCE-2012-2016-4-0057; Title: Self-assemblies of nanoparticles of metal oxides-layered double hydroxides as novel formulations for photocatalytic applications.
PN-II- 4: **Partnership in Priority Areas NATOEPA 71020/2007-2011**; Title: Nanoastructured Ansambles with controlled structural organization type LDH and their applications in Environmental Protection.
PN-II-CAPACITIES 134/2007-2009 LACAFIA: Title: Enlarging the competencies of the Physical-Chemical Characterization Laboratory by advanced experimental techniques used for studying the applications of nanostructured clays. **The funds from this project were used to establish a new, state-of-the-art laboratory, which I currently lead: the Laboratory of Materials Nanoarchitectonics at „Gheorghe Asachi" Technical University of Iasi**: http://www.cercetare.icpm.tuiasi.ro/IDEI/gcarja/foto_ldh/index.php?id=realizari_en

Member of 5 Research Projects: CEEX 69/2006; PN-III-P2-2.1-PED-2016-0473; CEEX 14/2005; CEEX 61/2006; ; PN-III-P2-2.1-PED-2016-0257; http://www.cercetare.icpm.tuiasi.ro/proiecte/contracte%202008.pdf

Authored/co-authored for 127 scientific publications in journals indexed in the Web of Science (WoS) database, out of a total of 139 research papers.
Additionally, I am the author/co-author of 10 books/chapters published by recognized publishing houses, including 7 textbooks for student courses and 3 research monographs published internationally (USA).
Holder of 3 patents.
Approximately 70% of my published research articles have appeared in high-impact journals indexed in the Q1 category of scientific publications.
I am the primary author (first or corresponding) of nearly 75 % of my published articles.

SCIENTOMETRIC INDICATORS

H-index 37 from 3564 Citations (Google Scholar); 30 from 2400 Citations (WEB of Science); 33 (SCOPUS); I10-index 77 (Google Scholar);

SCIENTIFIC PUBLICATIONS

Authored/co-authored for 127 scientific publications in journals indexed in the Web of Science (WoS) database, out of a total of 139 research papers.
Additionally, I am the author/co-author of 10 books/chapters published by recognized publishing houses, including 7 textbooks for student courses and 3 research monographs published internationally (USA).
Holder of 3 patents.
Approximately 70% of my published research articles have appeared in high-impact journals indexed in the Q1 category of scientific publications.
I am the primary author (first or corresponding) of nearly 75 % of my published articles.

REPREZENTATIVE SCIENTIFIC PUBLICATIONS

10 SELECTIONS

1.Diana Gilea, Elena M Seftel, Tim Van Everbroeck, Gabriel Ababei, Pegie Cool, Gabriela Carja (**corresponding author**)
CATALYSIS TODAY (ELSEVIER PRESS) I.F. 5.2; vol 425 (2024) p. 114342.
NO reduction with CO on metal nanoparticles/layered double hydroxides heterostructures obtained via the structural memory effect
Yiming Huang, Zhe Liu, Arixin Bo, Xiao Tang, Wayde Martens, Liangzhi Kou, Yuantong Gu, Gabriela Carja, Huaiyong Zhu, Sarina Sarina
JOURNAL OF COLLOID AND INTERFACE SCIENCE (ELSEVIER PRESS) I.F. 9.4; vol 608/3 (2022) p. 2358.
Highly efficient arsenic removal by In-layer sulphur of layered double hydroxide.
2. Gabriela Carja, Elena Florentina Grosu, Mihaela Mureseanu, Doina Lutic (**first author**)
CATALYSIS SCIENCE and TECHNOLOGY (ROYAL SOCIETY CHEMISTRY PRESS) I.F. 6.4; 7 (22) (2017) p. 5402.
A family of solar light responsive photocatalysts obtained using Zn 2+ Me 3+(Me= Al/Ga) LDHs doped with Ga_2O_3 and In_2O_3 and their derived mixed oxides: a case study of phenol/4-nitrophenol decomposition.
3. Diana Gilea, Teodora Radu, Mihaela Mureseanu, Gabriela Carja (**corresponding author**)
APPLIED SURFACE SCIENCE (ELSEVIER PRESS) I.F. 6.3; vol. 444 (2018) p. 407.
Plasmonic photocatalysts based on silver nanoparticles–layered double hydroxides for efficient removal of toxic compounds using solar light.
4. Gaku Mikami, Elena Grosu, Shogo Kawamura, Yusuke Yoshida, Gabriela Carja (**corresponding author**) Yasuo Izumi
APPLIED CATALYSIS B ENVIRONMENTAL (ELSEVIER PRESS), I. F. 20.2; vol. 199 (2016) p. 260.
Harnessing self-supported Au nanoparticles on layered double hydroxides comprising Zn and Al for enhanced phenols decomposition under solar light.
5. Gabriela Carja (**corresponding author**), Elena Grosu, Cristina Petrarean, Norica Nechita
NANORESEARCH (SPRINGER PRESS) I. F. 9.5; vol. 8, 11 (2015) p. 3512.
Self-assemblies of plasmonic gold/layered double hydroxides with highly efficient antiviral effect.
6. Gabriela Carja (**corresponding author**), Mihaela Birsanu, Kiyoshi. Okada, Hemenergildo Garcia
JOURNAL MATERIALS CHEMISTRY A (ROYAL SOCIETY PRESS) I.F. 10.7; vol. 1, 32 (2013) p. 9092.
Composite plasmonic gold/layered double hydroxides and derived mixed oxides as novel photocatalysts for hydrogen generation under solar irradiation.

7. Gabriela Carja (**corresponding author**), Laura Dartu, Kiyoshi Okada, Elvira Fortunato
CHEMICAL ENGINEERING JOURNAL (ELSEVIER PRESS) I.F. 13.3; vol. 222 (2013) p. 60.
Nanoparticles of copper oxide on layered double hydroxides and the derived solid solutions as wide spectrum active nano-photocatalysts.
8. Elena Seftel, Magda Puscasu, Myriam Mertens, Pegie Cool, Gabriela Carja (**corresponding author**)
APPLIED CATALYSIS B ENVIRONMENTAL (ELSEVIER PRESS), I. F. 20.2; vol. 150 (2014) p. 157.
Assemblies of nanoparticles of CeO2-ZnTi-LDHs and derived mixed oxides as novel photocatalytic systems for phenol degradation.
9. **Gabriela Carja (corresponding author), Yoshikazu Kameshima, Kiyoshi Okada, Changalla Madhusoodana**
APPLIED CATALYSIS B ENVIRONMENTAL (ELSEVIER PRESS), I. F. 20.2; vol. 73/1–2, 24 (2007) p. 60.
Mn–Ce/ZSM5 as a new superior catalyst for NO reduction.
10. **Sogo Kawamura, Magda Cornelia Puscasu, Y Yoshida, Yasuo Izumi, Gabriela Carja (corresponding author) APPLIED CATALYSIS A: General (ELSEVIER PRESS) I.F. 5.702; vol. 504 (2015) p.238.**
Tailoring assemblies of plasmonic silver/gold and zinc–gallium layered double hydroxides for photocatalytic conversion of carbon dioxide using UV–visible light.

HIGH IMPACT SCIENTIFIC JOURNALS THAT CITE MY WORK highlighting the interdisciplinarity of the published research (10 SELECTIONS)

CHEMICAL REVIEWS IF = 60.622; vol.119, 6 (2019), p.3962. Article title: Catalysts for selective photoreduction of CO2 into solar fuels.
ACS CATALYSIS IF = 13.084; 6, vol. 11 (2016), p.7485. Article title: Recent advances in heterogeneous photocatalytic CO2 conversion to solar fuels.
CHEMICAL SOCIETY REVIEWS IF = 54.56; vol. 48 (2019) p. 5310. Article title: Surface strategies for catalytic CO2 reduction: from two-dimensional materials to nanoclusters to single atoms.
ADVANCED ENERGY MATERIALS IF = 29.37; vol. 6/6 (2016), 1501974. Article title: Layered double hydroxide nanostructured photocatalysts for renewable energy production.
ADVANCED FUNCTIONAL MATERIALS IF = 18.81; vol. 29/31 (2019), 190182. Article title: Critical aspects and recent advances in structural engineering of photocatalysts for sunlight-driven photocatalytic reduction of CO2 into fuels.
CHEMICAL SOCIETY REVIEWS IF = 54.56; vol. 48 (2019) p. 205. Article title: From CO2 methanation to ambitious long-chain hydrocarbons: alternative fuels paving the path to sustainability.
MATERIALS HORIZONS IF = 13.26; vol. 7 (2020) p. 715. Article title: Functionalized layered double hydroxides for innovative applications.
APPLIED CATALYSIS B, ENVIRONMENTAL IF = 24.319; vol. 231 (2018) p. 299. Article title: Niobium oxide confined by ceria nanotubes as a novel SCR catalyst with excellent resistance to potassium, phosphorus, and lead.
NANO TODAY IF = 20.722; vol. 40, (2021) 101267. Article title: Antiviral nanoparticles for sanitizing surfaces: A roadmap to self-sterilizing against COVID-19.
ADVANCED MATERIALS IF = 30.849; vol. 33/ 14 (2021) 2005424. Article title: Recent progress on biomaterials fighting against viruses.

PATENTED WORK

Patent no: RO132424B1/2019 Title Assembles of nanoparticles of cobalt oxides and layered double hydroxides and their fabrication procedure.
Patent no:126849/2007 Title: Process for obtaining bio composites based on cellulose acetate and anionic clay.

INTERNATIONAL COLLABORATIONS (SELECTED)

University of Antwerpen Belgium (Professor Pegie Cool) Ph.D. supervised in co-tutella
University of Lille France (Professor Renato Froidevaux) Ph.D supervised in co-tutella
University of Chiba Japan (Professor Yasuo Izumi) co-joined research and publications
University Ibn Zohr (Professor M. Chiban) co-joined research and publications, Ph.D. supervised in co-tutella
University of Queensland Australia (Professor Huai yong Zhu) co-joined research and publications
Tokyo Institute of Technology Japan (Professor Kiyoshi Okada) co-joined research and publications.
University Nova de Lisboa, Portugal (Professor Elvira Fortunato) co-joined research and publications, Ph.D. supervised in