

## CURRICULUM VITAE

**Gabriela CARJA** is professor of Physical-Chemistry, Department of Chemical Engineering, Technical University "Gheorghe Asachi" of Iasi, Faculty of Chemical Engineering and Environmental Protection "Cristofor Simionescu", Blvd. Dimitrie Mangeron no 71, Iasi, RO-700050, Romania. e-mail: [gcarja@ch.tuiasi.ro](mailto:gcarja@ch.tuiasi.ro); tel: +40 232278680 ext. 2270.



### **EDUCATION and EMPLOYMENT**

Professor at "Gheorghe Asachi" Technical University of Iasi	2008-
Associate Professor at "Gheorghe Asachi" Technical University of Iasi	2003-2007
Lecturer at "Gheorghe Asachi" Technical University of Iasi	1997-2002
UNESCO research fellow at Tokyo Institute of Technology, Japan	1999-2000
Postdoctoral fellow at Instituto Superior Tecnico, Lisboa, Portugal	1997-1998
Ph.D. studies at "Gheorghe Asachi" Technical University of Iasi	1991-1996
Assistant Professor at "Gheorghe Asachi" Technical University of Iasi	1990-1996
B.Sc. Faculty of Industrial Chemistry, Polytechnic Institute of Iasi	1982-1987
Ph/D. Supervisor since 2008.	

### **PROFESSIONAL EXPERIENCE (selected)**

Member of the National Council for Scientific Research: 2008 (CNCSIS), 2012 (CNCS), 2016(CNCS), 2020(CNCS), 2021-2023. (CNCS).

Head of the Commission of Materials Science of the National Council for Scientific Research: 2011, 2016, 2020, 2023.

Member of the University Ethics and Management Council (CEMU) 2017, 2022, 2023.

Rapporteur of the European Commission in Science and Technology (COST) for the domain Materials Science and Physics, 2010-2014.

Expert of the Research Executive Agency of European Commission for FP6-FP7 and Horizon 2020 projects, under an expert contract: 2004, 2007, 2016, 2020.

Expert of Research Executive Agency of EU Commission ( REA ) 2023-2024.

Invited Professor at Mahatma Gandhi University, Kerala, India, February-March, 2023.

Invited researcher speaker, University of Lille, France, October 2021.

Invited researcher, University of Antwerp, Belgium, June 2016, September 2018, September 2019.

Invited scientist, Mexican Petroleum Institute (IMP), Mexico, May-June 2016.

Invited Professor, under an employment contract, at Tokyo Institute of Technology, Tokyo, Japan, August -October 2012.

Invited Professor, under an employment contract, at Blaise Pascal University, Clermont-Ferrand, France, June-July 2013.

Visiting Researcher at Tokyo Institute of Technology, Japan, September-November 2005, October 2006, June-July 2007, June 2009, September 2010 March 2014; University of Pretoria, South Africa, May 2009; University of Salamanca, Spain, September 2016; University of Antwerp, Belgium, March 2013, June 2015.

Visiting scientist, ENSCM, National School of Chemistry, Montpellier Laboratory of Catalytic Materials and Catalyze, under a project of French Environment and Energy Management Agency, Montpellier, France, 2003-2004.

UNESCO research fellow at Tokyo Institute of Technology, Japan, 1999-2000.

### **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.

Diploma award of "The 35th International Course for the Advanced Research in Chemistry and Chemical Engineering", Tokyo, Japan.

Diploma Award of the European Materials Research Society at International Conference of E-MRS Fall Meeting Symposium: Inorganic nanoarchitectonics: from design and fabrication to sustainable solutions, Warsaw, Poland, September 2014.

Award of Excellence of Mahatma Gandhi University, Kerala, India.

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).

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-1<sup>st</sup> Prize, 2009.

Certificate of Appreciation, Mahatma Gandhi University, Kottayam, Kerala India, 2023.

#### **MEMBER IN THE COMMITTEE OF INTERNATIONAL CONFERENCES AND INVITED EDITOR (10 selection)**

The International Conference on Photonics, Optics and Laser Technology, March 2015, Berlin, Germany.

ADVPHOTOCAT-E, The Second International workshop for Advances on Photocatalysis, July 2017, Heraklion, Greece.

European Materials Research Society- Fall Meeting, Symposium C, September 2014, Warsaw, Poland.

International Conference on Semiconductors Optoelectronics and Nanostructures, August 2019, Barcelona, Spain.

10th global Nanotechnology Congress and Expo, November 2020, Frankfurt, Germany.

International Conference on Multidisciplinary Global, Issues in Social Sciences & Business and Economics, January 2018, Bangkok, Thailand.

EUROCLAY, June 2019, Paris, France.

Advisory Editor Clay Science – Journal of the Clay Science Society of Japan.

Guest Editor of Applied Clay Science (ELSEVIER PRESS), IF 5.467, special issue of the conference of EUROCLAY 2019.

Guest Editor of Nanomaterials (MDPI PRESS), IF 5.075, special issue „Nanoparticles and their heterostructures for pollutant removal”.

#### **MAIN FIELDS OF RESEARCH**

Heterostructured nanomaterials; nanomaterials applications in environmental engineering; plasmonic and light-responsive nanostructures; nanocatalysis; management, evaluation and monitoring of scientific research.

#### **SCIENTIFIC RESULTS RECORDS**

PUBLICATIONS - ISI JOURNALS: 107; number of citations 2671; 3 patented works.

**HIRSCH-INDEX 34** (according to Google Scholar).

11 Research Projects (2 International).

#### **REPRESENTATIVE PUBLICATIONS (10 selection)**

1. Mihaela Mureseanu, Nicoleta Cioatera, Gabriela Carja (corresponding author).

[NANOMATERIALS I.F. 5.719](#), 13 (6); (2023) p. 981.

Fe-Ce/Layered Double Hydroxide Heterostructures and Their Derived Oxides: Electrochemical Characterization and Light-Driven Catalysis for the Degradation of Phenol from Water

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. 9.965](#); vol 608/3 (2022) p. 2358.

High efficient arsenic removal by In-layer sulphur of layered double hydroxide.

2. Gabriela Carja, Elena Florentina Grosu, Mihaela Mureseanu, Doina Lutic

[CATALYSIS SCIENCE and TECHNOLOGY \(ROYAL SOCIETY CHEMISTRY PRESS\) I.F. 6.177](#); 7 (22) (2017) p. 5402.

A family of solar light responsive photocatalysts obtained using Zn<sup>2+</sup> Me<sup>3+</sup> (Me= Al/Ga) LDHs doped with Ga<sub>2</sub>O<sub>3</sub> and In<sub>2</sub>O<sub>3</sub> 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. 7.307](#); 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. 24.319](#); 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. 9.237](#); 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. 14.511](#); 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. 16.743](#); 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. 24.319](#); vol. 150 (2014) p. 157.

Assemblies of nanoparticles of CeO<sub>2</sub>-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. 24.319](#); 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 (10 selection)**

CHEMICAL REVIEWS IF = 60.622; vol.119, 6 (2019), p.3962. Article title: Catalysts for selective photoreduction of CO<sub>2</sub> into solar fuels.

ACS CATALYSIS IF = 13.084; 6, vol. 11 (2016), p.7485. Article title: Recent advances in heterogeneous photocatalytic CO<sub>2</sub> conversion to solar fuels.

CHEMICAL SOCIETY REVIEWS IF = 54.56; vol. 48 (2019) p. 5310. Article title: Surface strategies for catalytic CO<sub>2</sub> 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 CO<sub>2</sub> into fuels.

CHEMICAL SOCIETY REVIEWS IF = 54.56; vol. 48 (2019) p. 205. Article title: From CO<sub>2</sub> 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.

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