

Name: **GABRIELA CARJA**

### **PERSONAL INFORMATION**

Present academic position: Professor (Department of Chemical Engineering, Technical University "Gheorghe Asachi" of Iasi), Ph. D. adviser in the field of "Chemical Engineering" from 2008. Current address, e-mail, phone: Technical University Gheorghe Asachi of Iasi, Faculty of Chemical Engineering and Environmental Protection, Blvd. D. Mangeron 71, Iasi, RO-700050, Romania.

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### **EDUCATION**

1982-1987 Faculty of Industrial Chemistry, Polytechnic Institute of Iasi.

1990-1996 Ph.D. studies at "Gheorghe Asachi" Technical University of Iasi.

1997-1998 Postdoctoral Fellow Instituto Superior Tecnico, Lisbon, Portugal.

1999-2000 Postgraduate "Course for the Advanced Research in Chemistry and Chemical Engineering", Tokyo, Japan.

1990-1996 Assistant Professor at "Gheorghe Asachi" Technical University of Iasi.

1997-2003 Lecturer at "Gheorghe Asachi" Technical University of Iasi.

2004-2007 Associate Professor at "Gheorghe Asachi" Technical University of Iasi.

2008- Professor of Physical Chemistry at "Gheorghe Asachi" Technical University of Iasi.

### **PROFESSIONAL EXPERIENCE**

**Oxford University** visiting fellow for East-European Countries, September 1997.

Visiting scientist at ENSCM, **Ecole Nationale Supérieure de Chimie de Montpellier**, Lab. Matériaux Catalytiques et Catalyse, Montpellier, France, with a grant of French Environmental Agency EGIDE, France, 2003-2004

**UNESCO research fellow, Tokyo Institute of Technology**, Tokyo, Japan, 1999-2000, Invited researcher, Tokyo Institute of Technology, Japan, September-November 2005, October 2006, June-July 2007, September 2009, June 2010.

Visiting Professor employed at **University Blaise Pascal**, France, June 2013.

Visiting Professor employed at **Tokyo Institute of Technology**, Japan, August-October 2012.

Invited Professor **University of Antwerpen**, Belgium, March 2013, June 2015.

Invited researcher at **University of Salamanca**, Spain, September 2015.

Invited researcher at **Instituto Mexicano del Petroleo**, Mexico-City, Mexico May-June 2016.

**Ph.D. supervisor from 2008.** 9<sup>th</sup> PH.D. thesis (2 in co-tutela), evaluator for 23 PH.D. thesis at national and international level.

### **AWARDS (SELECTED)**

**Award of the Romanian Academy** "Gheorghe Spacu" , 2009.

Education Awards Gala of Dinu Patriciu Foundation - the researcher of the year, the 1st Prize, 2009.

**Centennial Memorial Award of Tokyo Institute of Technology**, Japan, 2005.

**Medal of Tokyo Institute of Technology**, 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** for organizing the International Conference E-MRS Fall Meeting 2014, as the symposium of "Inorganic nanoarchitectonics: from design and fabrication to sustainable solutions", Warsaw, Poland, 2014.

Silver Medal of the International Competition for Inventory Research EUREKA Brussels, Belgium 2010, for the proposal of the invention "Process for obtaining biocomposites based on cellulose acetate and anionic clay", (Brevet no: 126849/2012).

## **EXPERIENCE IN EVALUATING RESEARCH AT NATIONAL AND INTERNATIONAL LEVEL (selected)**

Expert- Evaluator for **FP7 and Horizon 2020** projects.

Expert Evaluator for European-Japanese conjoint research grants 2012-2014.

Expert Evaluator for Norway-Czech conjoint Research grants 2014.

Expert-Evaluator for PNCDI II Projects and CNCSIS projects during 2004-2015.

Evaluator for the 5<sup>th</sup> COST ACTIONS during 2011-2016.

**2010-2014 DC Rapporteur of the European Cooperation in Science and Technology Commission (COST) for the Domain: Physics, Materials and Nanoscience.**

Scientific referee for international journals in the fields of interests (e.g. Applied Catalysis B, Journal of Catalysis, Chemistry of Materials, Chemical Communication, Environmental Science and Technology)

**Member of the National Council of Scientific Research for Higher Education (CNCSIS) 2008-2011.**

Member of the National Council of Scientific Research (CNCS) 2011-2012. Coordinator of Materials Science Commissions.

**Member of CNATDCU**, Material Science Commission, 2010-2012.

## **COMPETENCES IN CHEMICAL ENGINEERING, NANOSCIENCES AND MATERIALS SCIENCE RESEARCH**

Over 120 published papers in international journals; from these, 92 papers in ISI quoted Journals from the field of Chemical Engineering, Nanoscience and Materials Science. With a **HIRSCH Factor** equal of 25 in ISI WEB OF SCIENCE and equal of 27 in Google Scholar.

**10 representative papers** obtained by cooperation at international and national level and published in highly quoted ISI journals, in recent years:

1. Darie M., Seftel EM., Mertens M., Ciocarlan RG., Cool P., **Carja G\***. (2019) APPLIED CLAY SCIENCE, 182, 105250, (Elsevier Press, I. F. 3.89), Harvesting solar light on a tandem of Pt or Pt-Ag nanoparticles on layered double hydroxides photocatalysts for p-nitrophenol degradation in water.

2. **Carja G\***., Grosu E., Muresanu M., Lutic D. (2017) CATALYSIS SCIENCE and TECHNOLOGY, 7 (22), 5402-5412, (Royal Society of Chemistry Press, I.F. 5.726), 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. **Carja G\***., Gilea D., Cool P., Seftel E.M. (2018) CHEMCATCHEM, 10 (7), 1598-1606, (Wiley Press, I.F. 4.803), In-situ synthesis of Bi<sub>2</sub>O<sub>3</sub> nanoparticles on ZnMeLDHs (Me:Al/Cr) frameworks for the photocatalytic O<sub>2</sub> evolutions from water under solar-light activation.

4. Mikami G., Grosu E.F., Kawamura S. Yoshida Y., **Carja G\***, Izumi Y. (2016) APPLIED CATALYSIS B ENVIRONMENTAL, 199, 260-271, (Elsevier Press, I. F. 14.229), Harnessing self-supported Au nanoparticles on layered double hydroxides comprising Zn and Al for enhanced phenols decomposition under solar light.
5. **Carja G\***, Grosu E. F., Petrarean C., Nechita N. (2015) NANORESEARCH; 8 (11) pp. 3512-3523 (Springer Press, I.F. 8.893), Self-assemblies of plasmonic gold/layered double hydroxides with highly efficient antiviral effect against the hepatitis B virus.
6. Seftel E.M., Puscasu M.C., Mertens M; Cool P.; **Carja, G\***. (2015) APPLIED CATALYSIS B-ENVIRONMENTAL, 164, pp 251-260, (Elsevier Press, I.F. 14.229), Fabrication of CeO<sub>2</sub>/LDH self-assemblies with enhanced photocatalytic performance: A case study on ZnSn-LDH matrix.
7. Kawamura S., Puscasu MC., Yoshida Y., Izumi Y., **Carja, G\***. (2015) APPLIED CATALYSIS A, 504, 238-247, (Elsevier Press, I. F. 4.67), Tailoring assemblies of plasmonic silver/gold and zinc-gallium layered double hydroxides for photocatalytic conversion of carbon dioxide using UV-visible light.
8. **Carja G\***, Dartu L., Okada K., Fortunato E., (2013) CHEMICAL ENGINEERING JOURNAL, 222 pp. 60-66 (ELSEVIER PRESS, I.F. 8.355), Nanoparticles of copper oxide on layered double hydroxides and the derived solid solutions as wide spectrum active nano-photocatalysts.
9. **Carja, G\***, Birsanu, M., Okada, K., Garcia, H., (2013) JOURNAL OF MATERIALS CHEMISTRY A, 1, (32) pp: 9092-9098, (Royal Society Press, I.F. 10.737), Composite plasmonic gold/layered double hydroxides and derived mixed oxides as novel photocatalysts for hydrogen generation under solar irradiation.
10. **Carja G\***, Nakajima, A., Dranca, S., Dranca C., Okada K. TiO<sub>2</sub>/ZnLDH as a Self-Assembled Nanocomposite with Photoresponsive Properties JOURNAL OF PHYSICAL CHEMISTRY C (American Chemical Society Press) 2010 vol. 114 Issue: 35 pp: 14722-14728.

## RESEARCH DIRECTIONS

Synthesis, physical-chemical characterization and self-organizations of nanoparticles and nanostructured assemblies.

Applications of nanostructured assemblies and nanocomposites in chemical engineering processes (CO<sub>2</sub> reduction, Water splitting).

Nanocatalysts for applications in environmental catalysis.

Plasmonic nanostructures and novel photoresponsive materials.

## RESEARCH THEMES/GRANTS

new products and original technologies: 3.

research themes with industrial companies – 5 (3 as responsible or director, and 2 as member of the research group).

national grants: 14 (and 9 as a project director).

international research grants: 2 under cooperation with industrial partners: 1 in cooperation with FIAT Centre of Research, Torino, Italy under a FP7 grant, 1 in cooperation with French Environmental Agency, EGIDE.