

## PERSONAL INFORMATION

**Name: GABRIELA CARJA**

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.

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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, under a Soros Foundation grant, September, Oxford, London, 1997.

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

UNESCO research fellow, Tokyo Institute of Technology, Tokyo, Japan, 1999-2000, 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 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. I have been directed 11<sup>th</sup> PH.D. thesis (2 in co-tutella) and I have been evaluated 23 PH.D. thesis.

## AWARDS (SELECTED)

Gheorghe Spacu" Award of the Romanian Academy, 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, Symposium C: Inorganic nanoarchitectonics: from design and fabrication to sustainable solutions, Warsaw, Poland, 2014.

#### AWARDS FOR PATENTED AND INVENTORY RESEARCH

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 authors: G. Ciobanu, G. Carja.

Gold Medal and Excellence Diploma Award of the International Exhibition of Inventions, Cluj Napoca 2014.

Gold Medal of the International Exhibition of Inventions EUROINVENT, Iasi 2012.

#### EDITORIAL ACTIVITY

Member of the Editorial Board of SOJ CHROMATOGRAPHIC SCIENCE SYMBIOSIS, USA, ISSN 2471-3627.

Member of the Editorial Advisory Board of the Bulletin of the Polytechnic Institute from Iasi, Chemistry and Chemical Engineering Section, ISSN: 0254 – 7104.

Advisory Editor of Clay Science, Journal of the Clay Science Society of Japan, online ISSN: 2186-3563 print ISSN: 0470-6455.

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

Expert for Horizon 2020 – INEA Calls H2020-LC-SC3-2020-NZE-RES-CC Energy Domain, 2019, 2020.

Expert- Evaluator for FP7 and Horizon 2020 grants (People).

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.

Rapporteur of 5 European COST ACTIONS during 2011-2016.

2010-2014, DC Rapporteur of European Cooperation in Science and Technology Commission (COST) representing Romania in 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)

Head of the nanostructured layered materials laboratory, Technical University Gheorghe Asachi of Iasi

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

Member of 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 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., Mureseanu 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  $Zn_2+Me_3+(Me= Al/Ga)$  LDHs doped with  $Ga_2O_3$  and  $In_2O_3$  and their derived mixed oxides: a case study of phenol/4-nitrophenol decomposition.
3. **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  $Bi_2O_3$  nanoparticles on  $ZnMeLDHs$  (Me:Al/Cr) frameworks for the photocatalytic  $O_2$  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  $CeO_2/LDH$  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.

Indice Hirsch 27 (Google Scholar).

#### SCIENTIFIC COMPETENCES AND 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 researchgroup)
- national grants: 14 (11 as project director)
- international research grants: 5 (2 under cooperation with industrial partners: 1 in cooperation with FIAT Center of Research, Torino, Italy under a FP7 grant, 1 in cooperation with French Environmental Agency, EGIDE).

Gabriela Carja

27.09.2020