

Dr. Camélia MATEI GHIMBEU

CNRS Researcher

Institut de Science des Matériaux de Mulhouse (IS2M)

French Research Network on Electrochemical Energy Storage (RS2E)

Scientific coordinator “Carbon and Hybrid Materials” group

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EDUCATION

- 2015** **Research Habilitation- HDR, Material Chemistry**, University of Haut-Alsace
Development of novel carbon hybrid materials for energy storage and environment
- 2007** **Ph.D «European» label**, University of Metz and TU Delft, The Netherlands
Synthesis and characterization of metal oxide semiconductor films for gas sensors
- 2005** **Master, Renewable Energy Systems**, Transylvania University, Romania
Electrostatic spray deposition of tungsten trioxide (TU Delft, The Netherlands)
- 2003** **Bachelor, Physics and Chemistry**, Transylvania University, Romania
Extraction of lithium from δ -lithium manganese oxide spinel (Socrates-Erasmus grant)

RESEARCH CAREER

10/2011 - present: **CNRS Researcher**, IS2M, Mulhouse, France

Design of carbon hybrid materials for energy storage/environmental applications

06/2008 - 09/2011: **Postdoctoral fellowships**, IS2M, Mulhouse, France

Activated carbon and graphite electrodes for Li-ion supercapacitors (ANR HipasCap)

Carbon brushes and collectors for car fuel pumps (Industrial project, Carbone Lorraine)

2018: Member of Scientific Council, RS2E

2017: Elected Member of Laboratory Council, IS2M (UMR 7361 CNRS-UHA)

2017: Editorial Boarding, “Journal of Carbon Research, C”, MDPI

2016: Member of Scientific Council, IS2M (UMR 7361, CNRS-UHA)

AWARDS

2019 : Award « Guy Ourisson », Cercle Gutenberg

2018 : Award for researcher with exceptional contribution to the research (PEDR)

2018 : Award « Division de Chimie du Solide », Société Chimique de France

2017 : CNRS Bronze Medal

2014 : Award for researcher with excellent scientific level (PES)

2002 : Bourse Socrates-Erasmus, Bachelor internship (6 months TU-Delft, Holland)

SUPERVISION/TEACHING ACTIVITIES

10 Post-doctorants, **8** PhD students, **3** engineers, **20** undergraduate students

Master 2 Courses: “Carbon materials for Energy”, University of Haute Alsace

RESEARCH PROJECTS TRACK

9 international/European projects (Horizon 2020, PHC, JSPS)
10 national projects (ANR, RS2E, UHA, Region Alsace, DGA)
2 industrial projects (Heracles, ONET Technologies)
2 internal projects (IS2M, UHA)

RESEARCH SKILLS AND TOPICS

- Synthesis/modification/characterization of carbon-based materials with controlled features (texture, structure, surface chemistry, NPs size/distribution/location)
- Green synthesis of nanostructured carbon-based materials
- Confinement of metal-based nanoparticles in carbon materials
- Study of carbon synthesis mechanisms and interactions of carbon-environment
- Correlation between synthesis parameters-carbon characteristics- carbon performances
- Carbon materials for energy storage (batteries/ supercapacitors) and water/air depollution

SCIENTIFIC RECORDS

- **Facteur H: 27**; Nombre total de citations: **2256** (*source google scholar at 15/12/2019*)
- **88** articles, **4** book chapters, **2** industrial reports.
- **148** international and national communications.
- **10** seminars; **2** patents; **5** CNRS Press release.

Selected articles :

1. C Bousige, C Matei Ghimbeu, C Vix-Guterl, R J.-M. Pellenq, B Coasne* et al., *Realistic molecular model of kerogen's nanostructure*, **Nature Materials** 15 (2016) 576-582
2. M Sopronyi, F Sima, C Voulot, L. Delmotte, A. Bahouka, C Matei Ghimbeu*, *Direct synthesis of graphitic mesoporous carbon from green phenolic resins exposed to subsequent UV and IR laser irradiations*, **Scientific Reports** 6 (2016) 39617
3. B Zhang, C Matei Ghimbeu, C Laberty, C Vix-Guterl and J-M Tarascon*, *Correlation between microstructure and Na storage behavior in hard carbon*, **Adv Energ Mater** 6 (2016) 61501588
4. G Moussa, C Matei Ghimbeu*, P-L Taberna, P Simon, C. Vix-Guterl, *Relationship between the carbon nano-onions (CNOs) surface chemistry/defects and their capacitance in aqueous and organic electrolytes*, **Carbon** 105 (2016) 268-277
5. C Matei Ghimbeu*, L Vidal, L. Delmotte, J-M Le Meins, C Vix-Guterl, *Catalyst-free soft-template synthesis of ordered mesoporous carbon tailored by phloroglucinol/glyoxylic acid environmentally friendly precursors*, **Green Chem.**, 16 (2014) 3079-3088
6. A Jahel, C Matei Ghimbeu*, L Monconduit, C Vix-Guterl, *Confined ultrasmall SnO₂ particles in micro/mesoporous carbon as an extremely long cycle-life anode material for Li-ion batteries*, **Adv. Energ. Mater.**, 4 (2014)1400025
7. C. Matei Ghimbeu*, C. Zlotea, R.Gadiou, F.Cuevas, M. Latroche, C. Vix-Guterl, *Understanding the mechanism of hydrogen uptake at low pressure in carbon/palladium nanostructured composites*, **J. Mater. Chem.**, 21 (2011) 17765-17775