



## Dr Mónica Burriel

08.05.78, Spanish; Married, 3 children

CNRS Research Scientist (CR1, now CRCN)

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## Professional career

Since Feb 2017	<b>CNRS Research Scientist (CRCN)</b> Laboratoire des Matériaux et du Génie Physique (LMGP), Grenoble, France
Mar 2015 – Jan 2017	<b>ACHN Research Fellow (Accueil de Chercheurs de Haut Niveau)</b> Laboratoire des Matériaux et du Génie Physique (LMGP), Grenoble, France
May 2016 – Nov 2016	<b>Maternity leave</b> (6 months)
Jan 2014 – Feb 2015	<b>Juan de la Cierva Research Fellow</b> Catalonia Institute for Energy Research (IREC), Barcelona, Spain
Feb 2009 – Dec 2013	<b>Intra-European Marie Curie Fellow and Post-Doctoral Research Assoc.</b> Department of Materials, Imperial College London, UK
Oct 2011 – Apr 2012	<b>Maternity leave</b> (6 months)
Sep 2009 – Feb 2010	<b>Maternity leave</b> (4 months)
Feb 2008 – Jan 2009	<b>Post-Doctoral Research Associate</b> University of Karlsruhe, Germany
Jun 2007 – Jan 2008	<b>Post-Doctoral Research Associate</b> Nanoscience and Nanotechnology Research Centre (CIN2), Bellaterra, Spain
Sep 2002 - Dec 2002	<b>Research Assistant</b> Lab. Investigación de Tecnologías de la Combustión, Zaragoza, Spain

## Higher Education

2021:	<b>Habilitation à Diriger des Recherches (HDR)</b> Université Grenoble Alpes. Ecole Doctorale : Ingénierie-matériaux mécanique énergétique environnement procédés production (I-MEP2), Grenoble. (13/04/2021)
2007:	<b>PhD in Materials Science</b> (European thesis), awarded Excellent ' <i>Cum Laude</i> ' Materials Science Institute of Barcelona - Autonomous University of Barcelona
2004:	<b>Master's Degree in Materials Science</b> ; ICMA3 - Autonomous University of Barcelona
2004:	"Pedagogic aptitude certificate (CAP)" - Autonomous University of Barcelona
2002:	<b>Chemical Engineering Degree</b> , Engineering School, University of Zaragoza, Spain.

## Research Activity and Interests

- Oxide thin films by chemical deposition techniques (MOCVD and ALD)
- Perovskite and perovskite related thin films
- Ionic and electronic transport of functional oxides
- Oxygen surface exchange properties (by IEDP and ECR)
- Electrodes and electrolytes for solid oxide cells (SOFCs and SOECs)
- Oxides for memristive devices (resistive switching and neuromorphic computing)

## Publications

63 peer-reviewed articles, 2480 Citations, h-index 26, source: Scopus (29/08/2022)

## Research Supervision

- Supervisor of 7 postdocs, 10 PhDs , 13 Masters/Engineering students and 1 Engineer

## Management Positions

- **Member of the French National Committee for Scientific Research (CoNRS)**, Section 15, from 09/2021
- **Leader of research axis "Oxides for Nanoionic Devices"**, within the NanoMAT team, LMGP, from 2018
- **Member of the "Conseil du Laboratoire"**, LMGP laboratory, from 2021
- **Materials Department Postdoc Representative**, Imperial College London, 2010-2011

## Research Funding

PI, Supervisor or CNRS partner leader of a total of 11 local, national and international projects (including 2 H2020-FET Proactive Projects); Total of **2.7 M€** for LMGP laboratory during the last 5 years

- 2021 – 2025: **H2020-FET Proactive Project**; Role: **CNRS partner leader**
- 2021 - 2024: **Funding for PhD thesis**; Role: **Applicant and PhD co-supervisor**
- 2021 - 2022: **Funding for Postdoc**; Role: **Applicant and postdoc co-supervisor**
- 2020 - 2021: **MIT-France Seed Fund Award**; Role: **French Principal Investigator (PI)**
- 2019 - 2022: **Initiatives de Recherche Stratégiques (IRS) Project**; Role: **PI**
- 2019 - 2022: **Funding for PhD thesis**; Role: **Applicant and PhD co-supervisor**
- 2018 – 2023: **H2020-FET Proactive Project**; Role: **WP leader and CNRS partner leader**
- 2018 - 2021: **ANR Grant, PRCI Bilateral Project**; Role: **French PI**
- 2017 - 2019: **Marie Skłodowska-Curie Fellowship**; Role: **Supervisor**
- 2016 - 2018: **International Program for Scientific Cooperation (PICS)**; Role: **PI**
- 2016 - 2019: **ANR Grant, Appel à Projets Générique 2015** ; Role: **Postdoc and PhD co-supervisor**
- 2015 - 2018: **Funding for PhD thesis**; Role: **Applicant and PhD co-supervisor**
- 2015 - 2019: **Accueil de Chercheurs de Haut Niveau (@RAction) ANR Grant**; Role: **PI**

## National and International profile

- Jury Member of 11 PhD thesis
- International evaluator of 8 PhD thesis
- National and International evaluator of research grants:
  - Project panel evaluator, Andalusian R&D projects, 19 projects (phase 1) + 10 projects (phase 2)
  - External expert: 12 projects for international research calls:  
DFG, NOW, NSF, ANR, ACS, EPSRC, ETH Zürich, Research Council Romania
- Work selected for the **ESRF Highlights 2020 annual booklet**
- **29 invited talks:**  
**1 keynote & 19 invited in international conferences & workshops; 3 national meetings and 6 seminars**
- **Symposium Organizer:** ICE-2019, E-MRS 2018 Spring Meeting; E-MRS 2016 Spring Meeting; SSI-23 2022

## Relevant Publications

1. A. Stangl\*, A. Riaz, L. Rapenne, J. M. Caicedo, J. de Dios Sirvent, F. Baiutti, C. Jiménez, A. Tarancón, M. Mermoux, **M. Burriel\***, [Tailored nano-columnar La<sub>2</sub>NiO<sub>4</sub> cathodes for improved electrode performance](#), **J. Mater. Chem. A** (2022), 10, 2528 (2022)
2. R. Rodriguez-Lamas, C. Pirovano, A. Stangl, D. Pla, R. Jónsson, L. Rapenne, E. Sarigiannidou, N. Nuns, H. Roussel, O. Chaix-Pluchery, M. Boudard, C. Jiménez, R.-N. Vannier, **M. Burriel\***, [Epitaxial LaMnO<sub>3</sub> films with remarkably fast oxygen transport properties at low temperature](#), **J. Mater. Chem. A** 9, 12721 (2021)
3. A. Stangl, D. Muñoz-Rojas, **M. Burriel\***, [In situ and operando characterisation techniques for solid oxide electrochemical cells: recent advances](#), **Journal of Physics: Energy**, 3, 012001 (2021) invited topical review
4. K. Maas, E. Villepreux, D. Cooper, E. Salas-Colera, J. Rubio-Zuazo, German R. Castro, O. Renault, C. Jiménez, H. Roussel, X. Mescot, Q. Rafhay, M. Boudard and **M. Burriel\***, [Tuning Memristivity by Varying the Oxygen Content in a Mixed Ionic–Electronic Conductor](#), **Adv. Funct. Mater.** 30 (17), 1909942 (2020) Article highlighted in the **ESRF Highlights 2020 annual booklet**.
5. **M. Burriel\***, S. Wilkins, J. P. Hill, M. A. Muñoz-Márquez, H. H. Brongersma, J. A. Kilner, M. P. Ryan, and S. J. Skinner, [Absence of Ni on the outer surface of Sr doped La<sub>2</sub>NiO<sub>4</sub> single crystals](#), **Energy Environ. Sci.** 7, 1, 311-316 (2014)