

List of Publications: Mónica Burriel

Publications in peer-reviewed journals

1. E. Djurado*, A. Salaün, G. Mignardi, A. Rolle, **M. Burriel**, S. Daviero-Minaud, R.N. Vannier, *Electrostatic Spray Deposition of $\text{Ca}_3\text{Co}_4\text{O}_{9+\delta}$ layers to be used as cathode materials for IT-SOFC*, **Solid State Ionics**, 286, 102–110 (2016)
<http://www.sciencedirect.com/science/article/pii/S0167273815300217>
2. R. K. Sharma, **M. Burriel** and E. Djurado*, *$\text{La}_4\text{Ni}_3\text{O}_{10-\delta}$ as an efficient solid oxide fuel cell cathode: electrochemical properties versus microstructure*, **J. Mater. Chem. A**, 3, 23833–23843 (2015)
<http://pubs.rsc.org/en/Content/ArticleLanding/2015/TA/C5TA07862H>
3. Y. Chen[#], H. Téllez[#], **M. Burriel**[#], F. Yang, N. Tsvetkov, Z. Cai, D. W. McComb, J. A. Kilner*, and B. Yildiz*, *Segregated chemistry and structure on (001) and (100) surfaces of $(\text{La}_{1-x}\text{Sr}_x)_2\text{CoO}_4$ override the crystal anisotropy in oxygen exchange kinetics*, **Chem. Mater.**, 27 (15) 5436–5450 (2015) ([#] these three authors contributed equally)
<http://pubs.acs.org/doi/abs/10.1021/acs.chemmater.5b02292>
4. A.M. Saranya, D. Pla, A. Morata, A. Cavallaro, J. Canales-Vázquez, J.A. Kilner, **M. Burriel*** and A. Tarancón*, *Engineering Mixed Ionic Electronic Conduction in $\text{La}_{0.8}\text{Sr}_{0.2}\text{MnO}_{3+\delta}$ Nanostructures through Fast Grain Boundary Oxygen Diffusivity*, **Adv. Energy Mater.** 5 (11) 1500377 (2015), *work featured in the back cover*
<http://onlinelibrary.wiley.com/doi/10.1002/aenm.201500377/abstract>
5. T. Inprasit, S. Wongkasemjit, S. J. Skinner, **M. Burriel** and P. Limthongkul*, *Effect of Sr substituted $\text{La}_{2-x}\text{Sr}_x\text{NiO}_{4+\delta}$ ($x = 0, 0.2, 0.4, 0.6, \text{ and } 0.8$) on oxygen stoichiometry and oxygen transport properties*, **RSC Adv.**, 5 (4), 2486–2492 (2015)
<http://pubs.rsc.org/en/content/articlelanding/2014/ra/c4ra11672k>
6. A. Tarancón, A. Morata, D. Pla, A.M.Saranya, F.Chiaabrera, I. Garbayo, A. Cavallaro, J. Canales-Vázquez, J.A.Kilner and **M. Burriel**, *Grain boundary engineering to improve ionic conduction in thin films for micro-SOFCs*, **ECS Transactions**, Volume 69 (16) 11–16 (2015)
<http://ecst.ecsdl.org/content/69/16/11.abstract>
7. K.-T. Wu, H. Téllez, J. Druce, **M. Burriel**, T. Ishihara, J.A. Kilner and S. Skinner, *Surface composition of layered Ruddlesden-Popper $\text{La}_{n+1}\text{Ni}_n\text{O}_{3n+1}$ ($n = 1, 2 \text{ and } 3$) epitaxial films*, **ECS Transactions**, Volume 66 (2) 89–93 (2015)
<http://ecst.ecsdl.org/content/66/2/89.abstract>
8. **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_2NiO_4 single crystals*, **Energy Environ. Sci.**, 7, 1, 311–316 (2014)
<http://pubs.rsc.org/En/content/articlelanding/2014/ee/c3ee41622d>
9. J. A. Kilner* and **M. Burriel***, *Materials for Intermediate-Temperature Solid-Oxide Fuel Cells*, **Annu. Rev. Mater. Res.**, 44–1 (2014), *invited review article*
<http://www.annualreviews.org/doi/abs/10.1146/annurev-matsci-070813-113426>
10. J. Druce*, H. Téllez*, **M. Burriel**, M. D. Sharp, L. J. Fawcett, S. N. Cook, D. S. McPhail, T. Ishihara, H. H. Brongersma, and J. A. Kilner, *Surface Termination and Subsurface Restructuring of Perovskite-based Solid Oxide Electrode Materials*, **Energy Environ. Sci.**, 7, 3593–3599 (2014)
<http://pubs.rsc.org/en/Content/ArticleLanding/2014/EE/c4ee01497a>

11. H. Téllez*, A. Aguadero, J. W. Druce, **M. Burriel**, J. A. Kilner, D. S. McPhail, S. Fearn, T. Ishihara, *New Perspectives in Surface Analysis of Energy Materials by combined Time-of-Flight Secondary Ion Mass Spectrometry (ToF-SIMS) and High Sensitivity Low-Energy Ion Scattering (HS-LEIS)*, **J. Anal. Atom. Spec.**, 29, 8, 1361-1370 (2014)
<http://pubs.rsc.org/en/content/articlelanding/2014/ja/c3ja50292a#>
12. F. Yang, Y. Chen, Z. Cai, N. Tsvetkov, **M. Burriel**, H. Tellez, B. Yildiz, J. A. Kilner, D.B. Williams and D.W. McComb, *High Resolution Electron Microscopy Characterization of (La_{0.5}Sr_{0.5})₂Co₄ Thin Film Cathode Materials*. **Microscopy and Microanalysis**, 20 (Suppl. 3), 1912-1913 (2014)
http://journals.cambridge.org/article_S1431927614011295
13. J.M. Bassat*, **M. Burriel***, O. Wahyudi, R. Castaing, M. Ceretti, P. Veber, I. Weill, A. Villesuzanne, J.C. Grenier, W. Paulus, and J.A. Kilner, *Anisotropic oxygen diffusion properties in Pr₂NiO_{4+δ} and Nd₂NiO_{4+δ} single crystals*, **J. Phys. Chem. C.**, 2013, 117 (50), 26466–26472 (2013)
<http://pubs.acs.org/doi/abs/10.1021/jp409057k>
14. J. Zapata, **M. Burriel***, P. García, J. A. Kilner and J. Santiso*, *Anisotropic ¹⁸O tracer diffusion in epitaxial films of GdBaCo₂O_{5+δ} cathode material with different orientations*, **J. Mater. Chem. A**, 1, 7408-7414 (2013)
<http://pubs.rsc.org/en/content/articlelanding/2013/TA/c3ta10749c>
15. N. Ortiz-Vitoriano, I. Ruiz de Larramendi, S.N. Cook, **M. Burriel**, A. Aguadero, J.A. Kilner and T. Rojo*, *The Formation of Performance Enhancing Pseudo-Composites in the Highly Active La_{1-x}Ca_xFe_{0.8}Ni_{0.2}O_{3-δ} System for IT-SOFC Application*, **Adv. Funct. Mater.**, 23 (41) 5131-5139 (2013)
<http://onlinelibrary.wiley.com/doi/10.1002/adfm.201300481/abstract>
16. J.A. Kilner, H. Tellez Lozano, **M. Burriel**, S. Cook, and J. Druce, *The Application Of Ion Beam Analysis To Mass Transport Studies In Mixed Electronic Ionic Conducting Electrodes*, **ECS Transactions**, Volume 57 (1) 1701-1708 (2013)
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17. J. M. Bassat, **M. Burriel**, M. Ceretti, P. Veber, J.C. Grenier, W. Paulus and J.A. Kilner, *Highlights on the anisotropic oxygen transport properties of nickelates with K₂NiF₄-type structure: links with the electrochemical properties of the corresponding IT-SOFC's cathodes*, **ECS Transactions**, Volume 57 (1) 1753-1760 (2013)
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18. V. B. Vert, J. M. Serra, J. A. Kilner, **M. Burriel***, *Enhanced oxygen diffusion in low barium-containing La_{0.2175}Pr_{0.2175}Ba_{0.145}Sr_{0.4}Fe_{0.8}Co_{0.2}O_{3-δ} intermediate temperature solid oxide fuel cell cathodes*, **Journal of Power Sources**, 213, 270-274 (2012)
<http://www.sciencedirect.com/science/article/pii/S0378775312007732>
19. **M. Burriel***, J. Peña-Martínez, R.J. Chater, S. Fearn, A.V. Berenov, S.J. Skinner, J.A. Kilner, *Anisotropic Oxygen Ion Diffusion in Layered PrBaCo₂O_{5+δ}*, **Chem. Mater.**, 24 (3), 613–621 (2012)
<http://pubs.acs.org/doi/abs/10.1021/cm203502s>
20. C. Niedrig*, S. Taufall, **M. Burriel**, W. Menesklo, S.F. Wagner, S. Baumann and E. Ivers-Tiffée, *Thermal Stability of the Cubic Phase in Ba_{0.5}Sr_{0.5}Co_{0.8}Fe_{0.2}O_{3-δ} (BSCF)*, **Solid State Ionics**, 197 (1) 25-31 (2011)
<http://www.sciencedirect.com/science/article/pii/S0167273811003341>

21. J. Santiso* and **M. Burriel**, *Deposition and characterisation of epitaxial oxide thin films for SOFCs*, **J. Solid State Electrochem.**, 15 (5) 985-1006 (2011), invited review article
<http://link.springer.com/article/10.1007%2Fs10008-010-1214-6>
22. **M. Burriel***, M. Casas-Cabanas, J. Zapata, H. Tan, J. Verbeeck, C. Solís, J. Roqueta, S.J. Skinner, J.A. Kilner, G. Van Tendeloo and J. Santiso, *Influence of the microstructure on the high temperature transport properties of $\text{GdBaCo}_2\text{O}_{5.5+\delta}$ epitaxial films*, **Chem. Mater.**, 22 (19), 5512–5520 (2010)
<http://pubs.acs.org/doi/abs/10.1021/cm101423z>
23. A. Cavallaro, **M. Burriel**, J. Roqueta, A. Apostolidis, A. Bernardi, A. Tarancón, R. Srinivasan, S. N. Cook, H.L. Fraser, J.A. Kilner, D.W. McComb, J. Santiso*, *Electronic nature of the enhanced conductivity in YSZ-STO multilayers deposited by PLD*, **Solid State Ionics**, 181 [13-14], 592-601 (2010), Solid State Ionics 2010 Best Paper Award
<http://www.sciencedirect.com/science/article/pii/S0167273810001323>
24. **M. Burriel***, C. Niedrig, S.F. Wagner, W. Menesklou, J. Santiso and E. Ivers-Tiffée, *BSCF epitaxial thin films: Electrical transport and oxygen surface exchange*, **Solid State Ionics**, 181 [13-14], 602-608 (2010)
<http://www.sciencedirect.com/science/article/pii/S0167273810001232>
25. A. Tarancón*, **M. Burriel***, J. Santiso, S.J. Skinner and J.A. Kilner*, *Advances in layered oxide cathodes for intermediate temperature solid oxide fuel cells*, **J. Mater. Chem.** 20, 3799-3813 (2010), invited review article
<http://pubs.rsc.org/en/Content/ArticleLanding/2010/JM/b922430k>
26. **M. Burriel**, J. Santiso, M. Rossell, G. Van Tendeloo, A. Figueras and G. Garcia*, *Enhancing Total Conductivity of $\text{La}_2\text{NiO}_{4+\delta}$ Epitaxial Thin Films by Reducing Thickness*, **J. Phys. Chem. C** 112, 10982-10987 (2008)
<http://pubs.acs.org/doi/abs/10.1021/jp7101622>
27. G. Garcia*, **M. Burriel**, J. Santiso and N. Bonanos, *Electrical conductivity and oxygen exchange kinetics of $\text{La}_2\text{NiO}_{4+\delta}$ thin films grown by Chemical Vapour Deposition*, **J. Electrochem. Soc.** 155, 28-32 (2008)
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28. **M. Burriel**, G. Garcia, J. Santiso*, J. A. Kilner, R. J. Chater and S. J. Skinner, *Anisotropic oxygen diffusion properties in epitaxial thin films of $\text{La}_2\text{NiO}_{4+\delta}$* , **J. Mater. Chem.** 18, 416-422 (2008), selected as “hot article” by J. Mater. Chem.
<http://pubs.rsc.org/en/Content/ArticleLanding/2008/JM/b711341b>
29. **M. Burriel**, G. Garcia, M. Rossell, A. Figueras, G. Van Tendeloo, J. Santiso*, *Enhanced high-temperature electronic transport properties in nanostructured epitaxial thin films of the $\text{La}_{n+1}\text{Ni}_n\text{O}_{3n+1}$ Ruddlesden-Popper series ($n = 1, 2, 3, \infty$)*, **Chem. Mater.** 19, 4056-4062 (2007)
<http://pubs.acs.org/doi/abs/10.1021/cm070804e>
30. A.N. Hansson*, **M. Burriel**, G. Garcia, S. Linderöth, M.A.J. Somers, *Oxidation of Fe-22Cr Coated with Co_3O_4 : Microstructure Evolution and the Effect of Growth Stresses*, **Oxid. Met.** 68, 23-36 (2007)
<http://link.springer.com/article/10.1007%2Fs11085-007-9060-3>

31. **M. Burriel**, G. Garcia*, J. Santiso, A. N. Hansson, S. Linderöth, A. Figueras, *Co₃O₄ protective coatings prepared by pulsed injection metal-organic chemical vapour deposition*, **Thin Solid Films** 473, 98-103 (2005)
<http://www.sciencedirect.com/science/article/pii/S0040609004011782>
32. **M. Burriel**, G. Garcia*, J. Santiso, A. Abrutis, Z. Saltyte and A. Figueras, *Growth kinetics, composition and morphology of Co₃O₄ thin films prepared by the Pulsed Liquid Injection MOCVD*, **Chem. Vapor Depos.** 11, 106-111 (2005)
<http://onlinelibrary.wiley.com/doi/10.1002/cvde.200406320/abstract>

Books and book chapters

- S. J. Skinner and **M. Burriel**, book chapter: (invited), Solid Oxide and Molten Electrolyte Fuel Cells, in book: *Advanced Materials for a Sustainable Energy Future*, Wiley, in press
- **Mónica Burriel López**, *Epitaxial Thin Films of Lanthanum Nickel Oxides. Deposition by PI-MOCVD, Structural Characterization and High Temperature Transport Properties*, Verlag Dr. Müller (2008) ISBN 978-3-8364-7497-9

Publications in conference proceedings

1. J. M. Bassat, **M. Burriel**, R. Castaing, O. Wahyudi, P. Veber, I. Weill, M. Zaghrioui, M. Cerreti, A. Villesuzanne, W. Paulus, J. C. Grenier and J. A. Kilner, *Anisotropy of the oxygen diffusion in Ln₂NiO_{4+δ} (Ln=La, Nd, Pr) single crystals*, **Proceedings of the 10th European SOFC Forum**, Lucerne, Switzerland, 2012.
2. J. A. Kilner, **M. Burriel**, S. Cook, H. Tellez, M. Sharp and J. Druce, *LEIS of Oxide Air Electrode Surfaces*, **Proceedings of the 10th European SOFC Forum**, Lucerne, Switzerland, 2012.
3. **M. Burriel**, S. Wilkins, J. Hill, M. Ryan, S.J. Skinner and J.A. Kilner, *Study of the surface structure of Sr doped La₂NiO₄ single crystal*, **Proceedings of the 9th European SOFC Forum**, Lucerne, Switzerland, 2010.
4. **M. Burriel**, M. Casas-Cabanas, J. Zapata, H. Tan, J. Verbeeck, C. Solís, J. Roqueta, S.J. Skinner, J.A. Kilner, G. Van Tendeloo and J. Santiso, *Microstructure and Transport Properties of GdBaCo₂O_{5+δ} Epitaxial Thin Films*, **Proceedings of the 9th European SOFC Forum**, Lucerne, Switzerland, 2010.
5. **M. Burriel**, G. Garcia, J. Santiso, J. A. Kilner, R. J. Chater and S. J. Skinner, *Oxygen Transport in Epitaxial Thin Films of La₂NiO_{4+δ}*, **Proceedings of the 7th European SOFC Forum**, Lucerne, Switzerland, 2006.
6. **M. Burriel**, G. Garcia, M.D. Rossell, and J. Santiso, *Propiedades de transporte a alta temperatura de capas delgadas de níquelatos de lantano preparadas mediante MOCVD*, **Proceedings of the 2nd National Congress of Fuel Cells**, CONAPPICE, Madrid, Spain, 2006.
7. **M. Burriel**, C. Solís, G. Garcia, M. D. Rossell, M. Casas-Cabanas, G. Van Tendeloo, S. J. Skinner, J. A. Kilner, J. Santiso, *Influencia de la microestructura en el transporte electrónico de películas delgadas de conductores mixtos de estructura laminar*, **Proceedings of the 3rd National Congress of Fuel Cells**, CONAPPICE, Zaragoza, Spain, 2008.