List of publications

1. M. Pichler, J. Szlachetko, I. E. Castelli, M. Döbeli, A. Wokaun, D. Pergolesi, T. Lippert, *Determination of conduction and valence band electronic structure of $LaTiO_xN_y$ thin film,* **ChemSusChem** accepted for publication 21st March 2017) DOI: 10.1002/cssc.201601632

2. M. Pichler, H. Téllez, J. Druce, E. Fabbri, M. El Kazzi, M. Döbeli, A. Wokaun, D. Pergolesi, T. Lippert, *Oxynitride thin films as model systems for photocatalysis,* **Advanced Functional Materials**, **invited feature article** (accepted for publication Feb. 13th 2017) DOI: 0.1002/adfm.201605690

3. W. Si, D. Pergolesi, F. Haydous, A. Fluri, A. Wokaun, T. Lippert, Investigating the behavior of various cocatalysts on $LaTaON_2$ photoanode for visible light water splitting, (2017) **Phys.Chem.Chem.Phys.**, 19, 656-662

4. A. Fluri, D. Pergolesi, V. Roddatis, A. Wokaun, T. Lippert, *In situ stress observation in oxide films and how tensile stress influences oxygen ion conduction*, (2016) **Nature Communications**, 7:10692

5. S. E. Temmel, E. Fabbri, D. Pergolesi, T. Lippert, T. J. Schmidt, Investigating the Role of Strain toward the Oxygen Reduction Activity on Model Thin Film Pt Catalysts, (2016) **ACS Catalysis**, 6, 7566−7576

6. S. E. Temmel, E. Fabbri, D. Pergolesi, T. Lippert, T. J. Schmidt, *Tuning the Surface Electrochemistry by Strained Epitaxial Pt Thin Film Model Electrodes Prepared by Pulsed Laser Deposition,* (2016) **Adv. Mater. Interfaces**, 1600222-32

7. L. Mazzei, M. Wolff, D. Pergolesi, J. A. Dura, L. Börjesson, P. Gutfreund, M. Bettinelli, T. Lippert, M. Karlsson, Structure and Conductivity of Epitaxial Thin Films of In-Doped $BaZrO_3$ Based Proton Conductors, (2016) **J. Phys. Chem. C**, 120, 28415−28422

8. M. Pichler, D. Pergolesi, S. Landsmann, V. Chawla, J. Michler, M. Döbeli, A. Wokaun, T. Lippert, *TiN-buffered substrates for photoelectrochemical measurements ofoxynitride thin films*, (2016) **Appl. Surf. Sci**., 369, 67-75

9. J. Chen, D. Stender, M. Pichler, M. Döbeli, D. Pergolesi, C. W. Schneider, A. Wokaun, T. Lippert, *Tracing the plasma interactions for pulsed reactive crossed-beam laser ablation*, (2015) **J. Appl. Phys.**, 118, 165306-6

10. F. Aguesse, V. Roddatis, J. Roqueta, P. García, D. Pergolesi, J. Santiso, J. A. Kilner, *Microstructure and ionic conductivity of LLTO thin films: influence of different substrates and excess lithium in the target*, (2015) **Solid State Ionics**, 272, 1-8

11. D. Pergolesi, V. Roddatis, E. Fabbri, C. W. Schneider, T. Lippert, E. Traversa, J. A. Kilner, *Probing the bulk ionic conductivity by thin film hetero-epitaxial engineering.* (2015) **Sci. Technol. Adv. Mater.**, 16(1) 015001

12. N. H. Perry, D. Pergolesi, S. R. Bishop, H. L. Tuller, *Defect chemistry and surface oxygen exchange kinetics of La-doped $Sr(Ti,Fe)O_{3-\alpha}$ in oxygen-rich atmospheres*, (2015) **Solid State Ionics**, 273, 18-24

13. E. Fabbri, A. Magrasó, D. Pergolesi, *Low temperature solid oxide fuel cells based on proton conducting electrolytes*, (2014) **MRS Bulletin**, 39(09), 792-797 (invited)

14. J. Szlachetko, M. Pichler, D. Pergolesi, J. Sa, T. Lippert, *Determination of conduction and valence band electronic structure of $La_2Ti_2O_7$ thin film*, (2014) **RCS Advances**, 4, 11420–11422

15. D. Pergolesi, M. Fronzi, E. Fabbri, A. Tebano, E. Traversa, *Growth mechanisms of ceria- and zirconia-based epitaxial thin films and hetero-structures grown by pulsed laser deposition,* (2013) **Mater. Renew. Sustain. Energy**, 2(6)

16. N. H. Perry, D. Pergolesi, K. Sasaki, S. R. Bishop, H. L Tuller, *Influence of Donor Doping on Cathode Performance:(La, Sr)(Ti, Fe) $O_{3-\delta}$ Case Study, (2013)* **ECS Transactions** 57(1), 1719-1723

17. D. Pergolesi, E. Fabbri, S. Cook, V. Roddatis, E. Traversa, J. A. Kilner, *Tensile Lattice Distortion Does Not Affect Oxygen Transport in Yttria-Stabilized Zirconia-CeO_2 Heterointerfaces*. (2012) **ACS Nano**, 6(12), 10524-10534

18. A. Tebano, E. Fabbri, D. Pergolesi, G. Balestrino, E. Traversa, *Room Temperature Giant Persistent Photoconductivity in $SrTiO_3/LaAlO_3$ Heterostructures.* (2012) **ACS Nano**, 6(2), 1278-1283

19. E. Fabbri, L. Bi, D. Pergolesi, E. Traversa, *Towards the next generation of solid oxide fuel cells operating below 600° C with chemically stable proton conducting electrolytes*, (2012) **Advanced Materials,** 24 (2), 195-208

20. J.L.M. Rupp, P. Reinhard, D. Pergolesi, T. Ryll, R. Tölke, E. Traversa, *Electric-field-induced current-voltage characteristics in electronic conducting perovskite thin films,* (2012) **Appl. Phys. Lett.**, (100) 1, 012101.

21. E. Fabbri, L. Bi, D. Pergolesi, E. Traversa, *High performance composite cathode with tailored mixed conductivity for intermediate temperature solid oxide fuel cells using proton conducting electrolytes*, (2011) **Energy and Environmental Science**. 4 (12), 4984-4993

22. E. Fabbri, L. Bi, H. Tanaka, D. Pergolesi, E. Traversa, *Chemically stable Pr and Y Co-doped barium zirconate electrolytes with high proton conductivity for intermediate-temperature solid oxide fuel cells*, (2011) **Advanced Functional Materials**, 21 (1), pp. 158-166.

23. E. Fabbri, L. Bi, J.L.M. Rupp, D. Pergolesi, E. Traversa, *Electrode tailoring improves the intermediate temperature performance of solid oxide fuel cells based on a Y and Pr co-doped barium zirconate proton conducting electrolyte*, (2011) **RSC Advances**, 1 (7), 1183-1186.

24. E. Fabbri, I. Markus, D. Pergolesi, E. Traversa, *Tailoring mixed proton-electronic conductivity of $BaZrO_3$ by Y and Pr co-doping for cathode application in protonic SOFCs*, (2011) **Solid State Ionics,** 202 (1), 30-35.

25. E. Fabbri, D. Pergolesi, E. Traversa, "*Development of chemically-stable proton conducting BZY electrolytes for SOFC at WPI-MANA, NIMS"*, **Journal of fuel Cell Technology**, 10 (2011) 30-34.

26. D. Pergolesi, A. Tebano, E. Fabbri, S. Licoccia, G. Balestrino, E. Traversa, *Pulsed laser deposition of superlettices based on ceria and zirconia*. (2011) **ECS Transaction**, 35 (1) 1125-1130.

27. E. Fabbri, I. Markus, L. Bi, D. Pergolesi, E. Traversa, *Exploring mixed protonic/electronic conducting oxides as cathode materials for intermediate temperature SOFCs based on proton conducting electrolytes.* (2011) **ECS Transaction** 35 (1) 2305-2311.

28. D. Schaeffer, et al. *The MARE project: A new ^{187}Re neutrino mass experiment with sub eV sensitivity.* (2011) **Nuclear Physics B** - Proceedings Supplements 221, 394.

29. E. Fabbri, D. Pergolesi, E. Traversa, *Materials challenges toward proton-conducting oxide fuel cells: A critical review*, (2010) **Chemical Society Reviews**, 39 (11), pp. 4355-4369.

30. D. Pergolesi, E. Fabbri, A. D'Epifanio, E. Di Bartolomeo, A. Tebano, S. Sanna, S. Licoccia, G. Balestrino, E. Traversa, *High proton conduction in grain-boundary-free yttrium-doped barium zirconate films grown by pulsed laser deposition*. (2010) **Nature Materials**, 9 (10), pp. 846-852.

31. D. Pergolesi, E. Fabbri, E. Traversa, *Chemically stable anode-supported solid oxide fuel cells based on Y-doped barium zirconate thin films having improved performance*. (2010) **Electrochemistry Communications,** 12 (7), pp. 977-980.

32. E. Fabbri, D. Pergolesi, E. Traversa, *Ionic conductivity in oxide heterostructures: The role of interfaces,* (2010) **Sci. Technol. Adv. Mater.**, 11 (5), 054503-054512

33. E. Fabbri, D. Pergolesi, E. Traversa, *Electrode materials: A challenge for the exploitation of protonic solid oxide fuel cells*. (2010) **Sci. Technol. Adv. Mater.**, 11 (4) 044301-044310

34. E. Fabbri, D. Pergolesi, S. Licoccia, E. Traversa, *Does the increase in Y-dopant concentration improves the proton conductivity of* $BaZr_{1-x}Y_xO_{3-\delta}$ *fuel cell electrolytes?* (2010) **Solid State Ionics**, 181 (21-22), pp. 1043-1051.

35. J.S. Ahn, M.A. Camaratta, D. Pergolesi, K.T. Lee, H. Yoon, D.W. Jung, E. Traversa, E.D., Wachsman, *Development of high performance ceria/bismuth oxide bilayered electrolyte SOFCs for lower temperature operation*. (2010) **Journal of the Electrochemical Society**, 157 (3), pp. B376-382.

36. E. Fabbri, D. Pergolesi, A. D'Epifanio, E. Di Bartolomeo, G. Balestrino, S. Licoccia, E. Traversa, *Improving the performance of high temperature protonic conductor (HTPC) electrolytes for solid oxide fuel cell (SOFC) applications*. (2010) **Key Engineering Materials**, 421-422, pp. 336-339.

37. S. Sanna, V. Esposito, D. Pergolesi, A. Orsini, A. Tebano, S. Licoccia, G. Balestrino, E. Traversa, *Fabrication and electrochemical properties of epitaxial samarium-doped ceria films on* $SrTiO_3$*-buffered MgO substrates*. (2009) **Advanced Functional Materials**, 19 (11), pp. 1713-1719.

38. E. Fabbri, D. Pergolesi, S. Licoccia, E. Traversa, E., *Exploring highly yttrium doped barium zirconate proton conductor electrolytes for application in intermediate temperature solid oxide fuel cells (IT-SOFCs)*, (2009) **ECS Transactions**, 25 (2 PART 2), pp. 1745-1752.

39. J.S. Ahn, D. Pergolesi, M.A. Camaratta, J. Yoon, B.W. Lee, K.T. Lee, D.W. Jung, E. Traversa, E.D. Wachsman, *High-performance bilayered electrolyte intermediate temperature solid oxide fuel cells*. (2009) **Electrochemistry Communications**, 11 (7), pp. 1504-1507.

40. E. Fabbri, D. Pergolesi, A. D'Epifanio, E. Di Bartolomeo, G. Balestrino, S. Licoccia, E. Traversa, *Design and fabrication of a chemically-stable proton conductor bilayer electrolyte for intermediate temperature solid oxide fuel cells (IT-SOFCs)*. (2008) **Energy and Environmental Science**, 1 (3), pp. 355-359.

41. L Ferrari, F. Gatti, D. Pergolesi, M. Gomes, D. Bagliani, R. Valle, S. Dussoni, L. Piro, L. Colasanti, C. Macculi, C., Barbera, M., Perinati, E., *Study of microcalorimeters for astrophysics applications*. (2008) **Journal of Low Temperature Physics**, 151 (1-2 PART 1), pp. 271-276.

42. D. Pergolesi, V. Esposito, A. Tebano, P.G. Medaglia, S. Sanna, S. Licoccia, G. Balestrino, E. Traversa, *Ceria-based thin film hetero-structure growth and characterization for SOFC applications*. (2007) **ECS Transactions**, 7 (1 PART 1), pp. 891-898.

43. E. Andreotti, et al., *MARE, Microcalorimeter Arrays for a Rhenium Experiment: A detector overview*. (2007) **Nuclear Instruments and Methods in Physics Research A**, 572 (1), pp. 208-210.

44. L. Ferrari, S. Dussoni, F. Gatti, D. Pergolesi, M. Gomes, R. Valle, L. Piro, L. Colasanti, M.F. Toniolo, G. Torrioli, P. Bastia, *Development of TES microcalorimeters for future X-ray missions*, (2006) **Proceedings of SPIE**, 6266 II, art. no. 62662M.

45. D. Pergolesi, L. Gastaldo, F. Gatti, M. Ribeiro Gomes, P. Repetto, S. Dussoni, R. Valle, *MANU-2: A second generation experiment for calorimetric neutrino mass determination with superconducting Re*, (2006) **Nuclear Instruments and Methods in Physics Research A**, 559 (2), pp. 349-351.

46. F. Gatti, L. Piro, D. Pergolesi, L. Colasanti, L. Gastaldo, M. Gomes, P. Repetto, *TES microcalorimeter development for future Italian X-ray astronomy missions*, (2006) **Nuclear Instruments and Methods in Physics Research A**, 559 (2), pp. 605-607.

47. D. Schaeffer, et al., The MARE project: A new ^{187}Re neutrino mass experiment with sub eV sensitivity, (2006) **NEUTRINO 2006** - Proceedings of the 22nd International Conference on Neutrino Physics and Astrophysics, pp. 475

48. L. Gastaldo, G. Gallinaro, F. Gatti, D. Pergolesi, M. Gomes, P. Repetto, S. Dussoni, R. Valle, P. Manfrinetti, A. Chincarini, *Study of the δ-Al/Ag superconducting alloy for TES applications*, (2006) **Nuclear Instruments and Methods in Physics Research A**, 559 (2), pp. 465-467.

49. A. Monfardini, et al., *The microcalorimeter arrays for a rhenium experiment (MARE): A next-generation calorimetric neutrino mass experiment*, (2006) **Nuclear Instruments and Methods in Physics Research A**, 559 (2), pp. 346-348.

50. G. Gatti, G. Gallinaro, D. Pergolesi, L. Gastaldo, S. Dussoni, R.Valle, *A second generation experiment for direct neutrino mass measurement via ^{187}Re β-decay*, (2005) **Nuclear Physics B** - Proceedings Supplements, 143 (1-3 SPEC. ISS.), p. 541.

51. C. Maurizio, D. Pergolesi, F. Gatti, F. D'Acapito, M. Razeti, A. Balerna, S. Mobilio, *Application of a TES micro-calorimeter as high-energy resolution detector for hard X-rays at a synchrotron beam line*, (2004) **Nuclear Instruments and Methods in Physics Research A**, 520 (1-3), pp. 610-612.

52. L. Piro, et al., *X-ray survey with microcalorimeters: From GRB in the far universe to diffuse emission in our Galaxy*, (2004) **Nuclear Instruments and Methods in Physics Research A**, 520 (1-3), pp. 376-378.

53. L Gastaldo, P. Manfrinetti, F. Gatti, G. Gallinaro, D. Pergolesi, M. Gomes, M. Razeti, S. Dussoni, P. Repetto, R. Valle, *Superconducting absorber for ^{163}Ho electron capture decay measurement*, (2004) **Nuclear Instruments and Methods in Physics Research A**, 520 (1-3), pp. 224-226.

54. D. Pergolesi, F. Gatti, L. Gastaldo, M. Gomes, S. Dussoni, R. Valle, P. Repetto, D. Marré, E. Bellingeri, *Development of iridium TES by pulsed laser deposition with a Nd:YAG laser* (2004) **Nuclear Instruments and Methods in Physics Research A**, 520 (1-3), pp. 311-313.

55. P. Repetto, S. Dussoni, F. Gatti, D. Pergolesi, L. Gastaldo, R. Valle, M. Gomes, *Fabrication of field effect transistor based on carbon nanotubes*, (2004) **Nuclear Instruments and Methods in Physics Research A**, 520 (1-3), pp. 599-601.

56. F. Gatti, D. Pergolesi, M. Razeti, F. d'Acapito, C. Maurizio, A. Balerna, S. Mobilio, (2003) **Syncrotron Radiation News**, 16(4), 46.

57. D. Pergolesi, F. Gatti, M. Razeti, F. D'Acapito, S. Mobilio, F. Gonella, and C. Maurizio, *Comparison between BEFS and EXAFS analysis for microcrystalline study of rhenium metal*, **AIP Conf. Proc. 2002**, 605, pp. 367-370.

58. W. Seidel, et al., *The CRESST Dark Matter Search*, (2000) **Physics of Atomic Nuclei**, 63 (7), pp. 1242-1248.

59. M. Sisti, et al., *CRESST dark matter experiment: Status and perspectives* (2000) **Nuclear Instruments and Methods in Physics Research A**, 444 (1), pp. 312-314.

60. M. Bravin, t al., *Simultaneous measurement of phonons and scintillation light for active background rejection in the CRESST experiment*. (2000) **Nuclear Instruments and Methods in Physics Research A**, 444 (1), pp. 323-326.