

## Sergio Brutti – publication list

### International publications: ISI

#### Database Scopus; impact factor from the Journal of Citation Reports.

1. M.Carboni, J.Manzi, A.R.Armstrong, J.Billaud, S.Brunti, R.Younesi. Analysis of the solid electrolyte interphase on hard carbon electrodes in sodium-ion batteries. *ChemElectroChem* (2019) 10.1002/celc.201801621 **IF 4.446**
2. S.Zilio, J.Manzi, A.Fernicola, A.Corazza, S. Brutti. Gas Release Mitigation in LiFePO<sub>4</sub>-Li<sub>4</sub>Ti<sub>5</sub>O<sub>12</sub> Li-ion pouch cells by an H<sub>2</sub>-selective getter. *Electrochimica Acta* 294 (2019) 156 **IF 5.116**
3. A.Gentile, D.Giacco, A.De Bonis, R.Teghil, A.G.Marrani, S. Brutti. Synergistic electro-catalysis of Pd/PdO nanoparticles and Cr(III)-doped NiCo<sub>2</sub>O<sub>4</sub> nanofibres in aprotic Li-O<sub>2</sub> batteries. *Journal of the Electrochemical Society* 165 (2018) A3605 **IF 3.662**
4. M. Agostini, D-H. Lim, S. Brutti, N. Lindahl, J.H. Ahn, B. Scrosati, A. Matic. Free-standing 3D sponged nano-fibre electrodes for ultrahigh-rate energy storage devices. *ACS Applied Materials and Interfaces* 10 (2018) 34140 **IF 8.097**
5. M. AgostiniJ.-Y.Hwang, H.M.Kim, P.Bruni, S.Brunti, F.Croce, A.Matic, Y.-K.Sun. Minimizing the electrolyte volume in Li-S batteries: a step forward to high gravimetric energy density. *Advanced Energy Materials* 8 (2018) 1801560 **IF 21.875**
6. M. Agostini, D.-H. Lim, M. Sadd, J.-Y. Hwang, S. Brutti, J. W. Heo, J. H. Ahn, Y. K. Sun, A. Matic. Rational Design of Low Cost and High Energy Lithium Batteries through Tailored Fluorine-free Electrolyte and Nanostructured S/C Composite. *ChemSusChem.* 11 (2018) 113 **IF 7.411**
7. D.Giacco, A.G.Marrani, S.Brunti. Enhancement of the performance in Li-O<sub>2</sub>cells of a NiCo<sub>2</sub>O<sub>4</sub>based porous positive electrode by Cr(III) doping. *Materials Letters*, 224 (2018) 113 **IF 2.687**
8. S.Brunti, L.Farina, F.Trequattrini, O.Palumbo, P.Reale, L.Silvestri, S.Panero, A.Paolone. Extremely pure Mg<sub>2</sub>FeH<sub>6</sub> as a negative elecrode for lihium batteries. *Energies*, 11 (2018) 1952 **IF 2.676**
9. A.Smaldone, S.Brunti, A. De Bonis, N. Ciarfaglia, A.Santagata, R.Teghil. Iron doped LiCoPO<sub>4</sub>thin films for lithium-ion microbatteries obtained by ns pulsed laser deposition. *Applied Surface Science* 445 (2018) 56 **IF 4.439**

10. Marco Carboni, Andrea Giacomo Marrani, Riccardo Spezia and Sergio Brutti. Degradation of LiTfO/TEGME and LiTfO/DME Electrolytes in Li-O<sub>2</sub> Batteries. *Journal of The Electrochemical Society* 165 (2018) A118-A125 **IF 3.662**
11. S.Tosti, A. Santucci, A. Pietropaolo, S. Brutti, O. Palumbo, F. Trequattrini, A. Paolone. Hydrogen sorption properties of V85Ni15. *International Journal of Hydrogen Energy* 43 (2018) 2817 **IF 4.229**
12. Agostini, M., Brutti, S., Navarra, M.A., Panero, S., Reale, P., Matic, A., Scrosati, B. A high-power and fast charging Li-ion battery with outstanding cycle-life. *Scientific Reports*, 7 (2017) 1104. **IF 4.259**
13. Silvestri, L., Navarra, M.A., Brutti, S., Reale, P. Failure mechanism of NaAlH<sub>4</sub> negative electrodes in lithium cells. *Electrochimica Acta*, 253 (2017) 218-226. **IF 4.798**
14. Giacco, D., Carboni, M., Brutti, S., Marrani, A.G. Noticeable Role of TFSI- Anion in the Carbon Cathode Degradation of Li-O<sub>2</sub> Cells. *ACS Applied Materials and Interfaces*, 9 (2017) 31710-31720. **IF 7.504**
15. Farina, L., Brutti, S., Trequattrini, F., Palumbo, O., Gatto, S., Reale, P., Silvestri, L., Panero, S., Paolone, A. An extensive study of the Mg–Fe–H material obtained by reactive ball milling of MgH<sub>2</sub> and Fe in a molar ratio 3:1. *International Journal of Hydrogen Energy*, 42 (2017) 22333-22341 **IF 3.582**
16. Agostini, M., Matic, A., Panero, S., Croce, F., Gunnella, R., Reale, P., Brutti, S. A mixed mechanochemical-ceramic solid-state synthesis as simple and cost effective route to high-performance LiNi<sub>0.5</sub>Mn<sub>1.5</sub>O<sub>4</sub> spinels. *Electrochimica Acta*, 235 (2017) 262-269. **IF 4.798**
17. Brutti, S., Meggiolaro, D., Paolone, A., Reale, P. Magnesium hydride as negative electrode active material in lithium cells: A review. *Materials Today Energy*, 3 (2017) 53-59. **IF unassigned**
18. Brutti, S., Manzi, J., Meggiolaro, D., Vitucci, F.M., Trequattrini, F., Paolone, A., Palumbo, O. Interplay between local structure and transport properties in iron-doped LiCoPO<sub>4</sub> olivines. *Journal of Materials Chemistry A*, 5 (2017) 14020-14030. **IF 8.867**
19. Silvestri, L., Paolone, A., Cirrincione, L., Stallworth, P., Greenbaum, S., Panero, S., Brutti, S., Reale, P. NaAlH<sub>4</sub> nanoconfinement in a mesoporous carbon for application in lithium ion batteries. *Journal of the Electrochemical Society*, 164 (2017) A1120-A1125. **IF 3.259**

20. Agostini, M., Lim, D.H., Sadd, M., Fasciani, C., Navarra, M.A., Panero, S., Brutti, S., Matic, A., Scrosati, B. Stabilizing the Performance of High-Capacity Sulfur Composite Electrodes by a New Gel Polymer Electrolyte Configuration. *ChemSusChem*, 10 (2017) 3490-3496. **IF 7.226**
21. Manzi, J., Brutti, S. Surface chemistry on LiCoPO<sub>4</sub> electrodes in lithium cells: SEI formation and self-discharge. *Electrochimica Acta*, 222 (2016) 1839-1846. **IF 4.798**
22. Carboni, M., Marrani, A.G., Spezia, R., Brutti, S. 1,2-Dimethoxyethane Degradation Thermodynamics in Li-O<sub>2</sub> Redox Environments. *Chemistry - A European Journal*, 22 (2016) 17188-17203. **IF 5.317**
23. Ulissi, U., Zimmermann, J., Brutti, S., Hassoun, J. Investigation of the electrochemical features of carbon-coated TiO<sub>2</sub> anode for application in lithium-ion battery using high voltage LiNi0.5Mn1.5O<sub>4</sub> spinel cathode. *Electrochimica Acta*, 201 (2016) 158-164. **IF 4.798**
24. Agostini, M., Brutti, S., Hassoun, J. High Voltage Li-Ion Battery Using Exfoliated Graphite/Graphene Nanosheets Anode. *ACS Applied Materials and Interfaces*, 8 (2016) 10850-10857 **IF 7.504**
25. Vitucci, F.M., Paolone, A., Palumbo, O., Greco, G., Lombardo, L., Köntje, M., Latini, A., Panero, S., Brutti, S. High-Temperature Structural Evolution of the Disordered LiMn<sub>1.5</sub>Ni<sub>0.5</sub>O<sub>4</sub>. *Journal of the American Ceramic Society*, 99 (2016) 1815-1822. **IF 2.841**
26. Meggiolaro, D., Farina, L., Silvestri, L., Panero, S., Brutti, S., Reale, P. Lightweight borohydrides electro-activity in lithium cells. *Energies*, 9 (2016) 238. **IF 2.262**
27. Sgambetterra, M., Brutti, S., Allodi, V., Mariotto, G., Panero, S., Navarra, M.A. Critical filler concentration in sulfated titania-added nafion™ membranes for fuel cell applications. *Energies*, 9 (2016) 272. **IF 2.262**
28. Allodi, V., Brutti, S., Giarola, M., Sgambetterra, M., Navarra, M.A., Panero, S., Mariotto, G. Structural and spectroscopic characterization of A nanosized sulfated TiO<sub>2</sub> Filler and of nanocomposite nafion membranes. *Polymers*, 8 (2016) 68. **IF 3.364**
29. Cirrincione, L., Silvestri, L., Mallia, C., Stallworth, P.E., Greenbaum, S., Brutti, S., Panero, S., Reale, P. Investigation of the effects of mechanochemical treatment on NaAlH<sub>4</sub> based anode materials for Li-ion batteries. *Journal of the Electrochemical Society*, 163 (2016) A2628-A2635. **IF 3.259**
30. Cattaneo, A.S., Ferrara, C., Villa, D.C., Angioni, S., Milanese, C., Capsoni, D., Grandi, S., Mustarelli, P., Allodi, V., Mariotto, G., Brutti, S., Quartarone, E. SBA-15 mesoporous silica highly functionalized

with propylsulfonic pendants: A thorough physico-chemical characterization. *Microporous and Mesoporous Materials*, 219 (2016) 219-229. **IF 3.615**

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32. Silvestri, L., Farina, L., Meggiolaro, D., Panero, S., Padella, F., Brutti, S., Reale, P. Reactivity of Sodium Alanates in Lithium Batteries. *Journal of Physical Chemistry C*, 119 (2015) 28766-28775. **IF 4.509**
33. Manzi, J., Curcio, M., Brutti, S. Structural and morphological tuning of LiCoPO<sub>4</sub> materials synthesized by solvo-thermal methods for Li-cell applications. *Nanomaterials*, 5 (2015) 2212-2230. **IF 2.690**
34. Di Lecce, D., Manzi, J., Vitucci, F.M., De Bonis, A., Panero, S., Brutti, S. Effect of the iron doping in LiCoPO<sub>4</sub> cathode materials for lithium cells. *Electrochimica Acta*, 185 (2015) 17-27. **IF 4.803**
35. Manzi, J., Vitucci, F.M., Paolone, A., Trequattrini, F., Di Lecce, D., Panero, S., Brutti, S. Analysis of the self-discharge process in LiCoPO<sub>4</sub> electrodes: Bulks. *Electrochimica Acta*, 179 (2015) 604-610. **IF 4.803**
36. Carboni, M., Brutti, S., Marrani, A.G. Surface Reactivity of a Carbonaceous Cathode in a Lithium Triflate/Ether Electrolyte-Based Li-O<sub>2</sub> Cell. *ACS Applied Materials and Interfaces*, 7 (2015) 21751-21762. **IF 7.145**
37. Silvestri, L., Forgia, S., Farina, L., Meggiolaro, D., Panero, S., LaBarbera, A., Brutti, S., Reale, P. Lithium Alanates as Negative Electrodes in Lithium-Ion Batteries. *ChemElectroChem*, 2 (2015) 877-886. **IF 3.506**
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41. Di Lecce, D., Brutti, S., Panero, S., Hassoun, J. A new Sn-C/LiFe0.1Co0.9PO<sub>4</sub> full lithium-ion cell with ionic liquid-based electrolyte. Materials Letters, 139 (2015) 329-332. **IF 2.437**
42. Palumbo, O., Brutti, S., Trequattrini, F., Sarker, S., Dolan, M., Chandra, D., Paolone, A. Temperature dependence of the elastic modulus of (Ni0.6Nb0.4)1-xZrx membranes: Effects of thermal treatments and hydrogenation. Energies, 8 (2015) 3944-3954. . **IF 2.077**
43. Carboni, M., Spezia, R., Brutti, S. Perfluoroalkyl-fluorophosphate anions for high voltage electrolytes in lithium cells: DFT study. Journal of Physical Chemistry C, 118 (2014) 24221-24230. **IF 4.772**
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45. Vitucci, F.M., Palumbo, O., Paolone, A., Cantelli, R., Brutti, S., Panero, S. Dynamics of Mn<sup>3+</sup> in off-stoichiometric LiMn1.5Ni 0.5O<sub>4</sub>. Journal of Alloys and Compounds, 604 (2014) 83-86. **IF 2.999**
46. Scipioni, R., Gazzoli, D., Teocoli, F., Palumbo, O., Paolone, A., Ibris, N., Brutti, S., Navarra, M.A. Preparation and characterization of nanocomposite polymer membranes containing functionalized SnO<sub>2</sub> additives. Membranes, 4 (2014) 123-142. **IF unassigned**
47. Brutti, S., Scipioni, R., Navarra, M.A., Panero, S., Allodi, V., Giarola, M., Mariotto, G. SnO<sub>2</sub>-Nafion® nanocomposite polymer electrolytes for fuel cell applications. International Journal of Nanotechnology, 11 (2014) 882-896. **IF 0.618**
48. Greco, G., Brutti, S., Vitucci, F.M., Lombardo, L., Köntje, M., Savoini, A., Paolone, A., Panero, S. Investigation of the chemical disorder of LiNi0.5Mn1.5O<sub>4</sub> lattice by means of extended X-ray absorption fine structure spectroscopy. Journal of Physical Chemistry C, 118 (2014) 26471-26478. **IF 4.772**
49. Meggiolaro, D., Gigli, G., Paolone, A., Vitucci, F., Brutti, S. Incorporation of lithium by MgH<sub>2</sub>: An ab initio study. Journal of Physical Chemistry C, 117 (2013) 22467-22477. **IF 4.835**

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51. Unur, E., Brutti, S., Panero, S., Scrosati, B. Nanoporous carbons from hydrothermally treated biomass as anode materials for lithium ion batteries. *Microporous and Mesoporous Materials*, 174 (2013) 25-33. **IF 3.209**
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54. Gentili, V., Brutti, S., Hardwick, L.J., Armstrong, A.R., Panero, S., Bruce, P.G. Lithium insertion into anatase nanotubes. *Chemistry of Materials*, 24 (2012) 4468-4476 **IF 8.238**
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67. G. Balducci, S. Brutti, A. Ciccioli, G. Gigli, A. Palenzona, M- Pani. Energetics and thermodynamic stability of the mixed valence ytterbium germanides. *JOURNAL OF PHYSICAL CHEMISTRY B.* 111, 5132-5139 (2007) **IF 4.086**
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72. Franco Bonino, Sergio Brutti, Michele Piana, Sergio Natale, Bruno Scrosati, Lileta Gherghel and Klaus Muller. Structural and electrochemical studies of a hexaphenylbenzene pyrolyzed soft carbon as anode material in lithium batteries *ELECTROCHIM ACTA*, 51, 3407-3412 (2006) **IF 2.955**
73. Sergio Brutti, Giovanni Balducci, Guido Gigli, Andrea Ciccioli, Pietro Manfrinetti and Andrea Palenzona. Thermodynamic and kinetic aspects of the decomposition of MgB<sub>2</sub> in vacuum: implications in the optimization of the synthesis conditions *J CRYST GROWTH*, 289, 578-586 (2006) **IF 1.809**
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77. Sergio Brutti, T Terai, M Yamawaki, M Yasumoto, G Balducci, A Ciccioli and G Gigli. Mass spectrometric investigation of gaseous YbH, YbO and YbOH molecules *RAPID COMMUN MASS SP*, 19, 2251 - 2258 (2005) **IF 3.087**
78. Sergio Brutti, Giovanni Balducci, Andrea Ciccioli and Guido Gigli. Thermodynamic assessment of the Yb-Si system *CALPHAD*, 29, 254 - 261 (2005) **IF 1.344**
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80. Franco Bonino, Sergio Brutti, Priscilla Reale, Bruno Scrosati, Lileta Gherghel, Jon Wu, Klaus Mullen, A disordered carbon as novel anode material in Lithium-Ion cells, *ADVANCED MATERIALS*, 17, 743-746 (2005) **IF 9.107**
81. Franco Bonino, Sergio Brutti, Michele Piana, Bruno Scrosati, Luigi Brambilla, Giorgio Fustella, Chiara Castiglioni, Giuseppe Zerbi, Daniela Zane, Thierry Renouard, Claude Mathis, Pyrolyzed Hexakis(p-bromophenyl)benzene as anode material for Li batteries, *JOURNAL OF THE ELECTROCHEMICAL SOCIETY*, 152 A2023-A2029 (2005) **IF 2.190**
82. Sergio Brutti, Andrea Ciccioli, Giovanni Balducci, Guido Gigli, Pietro Manfrinetti and Andrea Palenzona. Thermochemistry of Ytterbium Silicides *INTERMETALLICS*, 11, 1153 - 1159 (2003) **IF 1.619**
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84. Andrea Palenzona, Pietro Manfrinetti, Sergio Brutti and Giovanni Balducci. The phase diagram of the Yb-Si system *J ALLOY COMPD*, 348(1-2), 100 - 104 (2003) **IF 1.08**
85. Sergio Brutti, Andrea Ciccioli, Giovanni Balducci, Guido Gigli, Gabriella Borzone, R Raggio and R Ferro. Thermodynamics of the Ni-Yb system *J PHASE EQUILIB*, 23(1), 51 - 56 (2002) **IF 0.536**
86. Sergio Brutti, Andrea Ciccioli, Giovanni Balducci, Guido Gigli, Pietro Manfrinetti and Pietro Palenzona. Vaporization thermodynamics of MgB<sub>2</sub> and MgB<sub>4</sub> *APPL PHYS LETT*, 80(16), 2892 - 2894 (2002) **IF 4.027**
87. A Ciccioli, JV Rau, G Balducci, S Brutti, NN Chilingarov, G Gigli, S Nunziante Cesaro and LN Sidorov. Mass spectrometric determination of the dissociation energy of Mn<sub>2</sub>F<sub>6</sub> *RAPID COMMUN MASS SP*, 16, 1526 - 1530 (2002) **IF 2.372**
88. Sergio Brutti, Marcello Colapietro, Giovanni Balducci, Luisa Barba, Pietro Manfrinetti and Andrea Palenzona. Synchrotron powder diffraction Rietveld refinement of MgB<sub>20</sub> crystal structure *INTERMETALLICS*, 10(8), 811 - 817 (2002) **IF 1.338**
89. Sergio Brutti, Andrea Ciccioli, Giovanni Balducci, Guido Gigli, Pietro Manfrinetti and Myrta Napolitano. Thermodynamic stabilities of intermediate phases in the Ca-Si system *J ALLOY COMPD*, 317-318, 525 - 531 (2001) **IF 0.953**

## List of Publications (international): not ISI

90. Sergio Brutti, Stefania Panero, Annalisa Paolone, Sara Gatto, Daniele Meggiolaro, Francesco M. Vitucci, Jessica Manzi, David Munaò, Laura Silvestri, Luca Farina, and Priscilla Reale. Hydrides as High Capacity Anodes in Lithium Cells: An Italian “Futuro in Ricerca di Base FIRB-2010” Project. Challenges 8 (2017) 8

## List of Publications: Conference Proceedings

91. Luca Farina, David Munao, Laura Silvestri, Stefania Panero, Daniele Meggiolaro, Sergio Brutti, Aurelio La Barbera and Priscilla Reale. Electrochemical activity of lightweight borohydrides in lithium cells. Proceedings of the 2015 IEEE 15th International Conference on Environmental and Electrical Engineering CFP1551I-CDR ISBN 978-1-4799-7992-9 (2015) doi: 10.1109/EEEIC.2015.7165450 pages 1827-1832
92. Daniela Ferro, Sergio Brutti, David R. Loeff, A. Celauro. Characterization and thermodynamic interpretation of ancient gold refining processes based on a Dioscorides recipe. CONFERENCE PROCEEDINGS of the YOCOCU - Contribute and role of youth in conservation of cultural heritage. 24-26 May 2010, Palermo (Italy), ISBN 9788897484011, Italian Association of Conservation Scientists, Roma, 2011 (Italy).
93. Le Duigou, A., Borgard, J.-M., Larousse, B., Doizi, D., Werkoff, F., Allen, R., Ewan, B.C., Priestman, G.H., Devonshire, R., Elder, R., Minocha, M., Ramos, V., Cerri, G., Salvini, C., Giovannelli, A., De Maria, G., Brutti, S., Cognale, C., Roeb, M., Monnerie, N., Schmitz, M., Noglik, A., Sattler, C., Orden Martinez, A., De Lorenzo Manzano, D., Cedillo Rojas, J., Dechelotte, S., Baudouin, O. HYTHEC : Aims and first assessments of an EC funded project on massive scale hydrogen production via thermochemical cycles; Proceedings of the 16th World Hydrogen Energy Conference 2006, WHEC 2006, 3, pp. 2031-2041. ISBN: 9781622765409
94. Ambra Giovannelli, Sergio Brutti, Claudio Cognale. Solar H<sub>2</sub> thermochemical production and storage systems. CONFERENCE PROCEEDINGS of the HYSYDays – 1st World Congress of Young Scientists on Hydrogen Energy Systems, Torino, Italy, 2005; ISBN 1-56700-230-7, Begell House Inc., New York, 2006, US.
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## **List of Publications: Book Chapters**

96. Sergio Brutti, Stefania Panero. Recent advances in the development of LiCoPO<sub>4</sub> as high voltage cathode material for Li-ion batteries. Book chapter in "Nanotechnology for Sustainable Energy", ACS Symposium Series, Vol. 1140 (2013) Chapter 4, pp 67–99
97. Sergio Brutti, j.Manzi, Daniele Meggiolaro, Francesco M.Vitucci, Francesco Trequattrini, Annalisa Paolone, O.Palumbo. Interplay between local structure and transport properties in iron-doped LiCoPO<sub>4</sub> olivines. Book Section in “Activity report of the Italian CRG beamline at the European Synchrotron Radiation Facility (ESFR)” n.5 ISSN 2553-9248

## **List of Publications: Erratum**

98. M. AgostiniJ.-Y.Hwang, H.M.Kim, P.Bruni, S.Brutti, F.Croce, A.Matic, Y.-K.Sun. Correction to: Minimizing the Electrolyte Volume in Li-S Batteries: A Step Forward to High Gravimetric Energy Density (Advanced Energy Materials, (2018), 8, 26, (1801560), 10.1002/aenm.201801560). Advanced Energy Materials 8 (2018) 1803205
99. S. Brutti, J. Manzi, A. De Bonis, D. Di Lecce, F. Vitucci, A. Paolone, F. Trequattrini, S. Panero. Erratum: Controlled synthesis of LiCoPO<sub>4</sub> by a solvo-thermal method at 220°C (Materials Letters (2015) 145 (324-327) DOI 10.1016/j.matlet.2015.01.137) Materials Letters 172 (2016) 98.
100. S. Brutti, G. Mulas, E. Piciollo, S. Panero, P. Reale. Erratum: Magnesium hydride as a high capacity negative electrode for lithium ion batteries (Journal of Materials Chemistry (2012) 22 (14531-14537) DOI: 10.1039/C2JM31827J) JOURNAL OF MATERIALS CHEMISTRY 22 (2012) 25495