

Annex 1: List of key publications from the H2FC Supergen Hub in 2018-2019

1. "Modification of the order of the magnetic phase transition in cobaltites without changing their crystal space group", Law, JY, Franco, V, Conde, A, Skinner, SJ, Pramana, SS, Journal of Alloys and Compounds, Vol 777, 2019, 1080-1086.
2. "Mechanical failure of garnet electrolytes during Li electrodeposition observed by in-operando microscopy", Manalastas, W, Rikarte, J, Chater, RJ, Brugge, R, Aguadero, A, Buannic, L, Llordes, A, Aguesse, F, Kilner, J, Journal of Power Sources, Vol. 412, 2019, 287-293.
3. "Amorphous-cathode-route towards low temperature SOFC", Cavallaro, A, Pramana, SS, Ruiz-Trejo, E., Sherrell, PC, Ware, E, Kilner JA, Skinner SJ, Sustainable Energy and Fuels, Vol 2, 2018, 862-875.
4. "Crystal structure and surface characteristics of Sr-doped $\text{GdBaCo}_2\text{O}_{6-\delta}$ double perovskites: oxygen evolution reaction and conductivity", Pramana, SS, Cavallaro A, Li, C, Handoko, AD, Chan, KW, Walker, RJ, Regoutz, A, Herrin, JS, Yeo BS, Payne DJ, Kilner, JA, Ryan, MP, Skinner SJ, Journal of Materials Chemistry A, Vol 6, 2018, 5335-5345.
5. "Support induced charge transfer effects on electrochemical characteristics of Pt nanoparticle electrocatalysts", C. Jackson, G.T. Smith, M. Markiewicz, D.W. Inwood, A.S. Leach, P.S. Whalley, A.R. Kucernak, A.E. Russell, D. Kramer, P.B.J. Levecque, Journal of Electroanalytical Chemistry, 819 (2018) 163-170.
6. "Toward Platinum Group Metal-Free Catalysts for Hydrogen/Air Proton-Exchange Membrane Fuel Cells", F. Jaouen, D. Jones, N. Coutard, V. Artero, P. Strasser, A. Kucernak, Johnson Matthey Technology Review, 62 (2018) 231-255.
7. "Effects of Ionomer Carbon Ratio and Ionomer Dispersity on the Performance and Durability of MEAs", M.R. Lee, H.Y. Lee, S.D. Yim, C.S. Kim, Y.G. Shul, A. Kucernak, D. Shin, Fuel Cells, 18 (2018) 129-136.
8. "Enhanced oxygen reduction reaction of Pt deposited Fe/N-doped bimodal porous carbon nanostructure catalysts", J.Y. Park, D.H. Kwak, K.B. Ma, S.B. Han, G.S. Chai, S.K. Kim, D.H. Peck, C.S. Kim, A. Kucernak, K.W. Park, Journal of Catalysis, 359 (2018) 46-54.
9. "Influence of microporous layer on corrosion of metallic bipolar plates in fuel cells", L. Castanheira, M. Bedouet, A. Kucernak, G. Hinds, Journal of Power Sources, 418 (2019) 147-151.
10. "MoS₂-graphene-CuNi₂S₄ Nanocomposite an Efficient Electrocatalyst for the Hydrogen Evolution Reaction" Adrakatti P, Mahanthappa M, Hughes J, Rowley-Neale S, Smith G, Ashoka S, Banks C, International Journal of Hydrogen Energy, Vol. 31, 2019, pp. 16069-16078
11. "Mass-Productible 2D-WS₂ Bulk Modified Screen Printed Electrodes towards the Hydrogen Evolution Reaction", Hughes J P, Felip D. Blanco F D, Banks C E and Rowley-Neale S J, July 2019, RSC Advances
12. "In Situ addition of Graphitic Carbon into a NiCo₂O₄/CoO composite: Enhanced Catalysis toward the Oxygen Evolution Reaction", Srinivasa N, Shreenivasa L, Prashanth S. A, Hughes J P, Rowley-Neale S J, Banks C E and Ashoka S, July 2019, RSC Advances
13. "Single Step Additive Manufacturing (3D Printing) of Electrocatalytic Anodes and Cathodes for Efficient Water Splitting", Hughes J P, dos Santos P, Down M P, Foster C W, Bonacin J A, Keefe E, Rowley-Neale S J and Banks C E, RSC Nanoscale
14. "Molecular simulation of hydrogen storage and transport in cellulose", Stalker MR, Grant R, Tong CW, Ohene-Yeboah LA, Mays TJ, Parker SC, Molecular Simulation, DOI: 10.1080/08927022.2019.1593975, 2019.

15. "Nanoporous polymer-based composites for enhanced hydrogen storage", Tian M, Rochat S, Polak-Kraśna K, Holyfield LT, Burrows AD, Bowen CT, Mays TJ, *Adsorption*, Vol. 25, 2019, pp.889-901.
16. "Assessment of the long-term stability of the polymer of intrinsic microporosity PIM-1 for hydrogen storage applications", Rochat, S, Polak-Kraśna K, Tian M, Mays TJ, Bowen CR, Burrows AD, *International Journal of Hydrogen Energy*, Vol. 44, 2019, pp.332-337.
17. "An investigation into the stability and use of non-stoichiometric YBaCo₄O_{7+δ} for oxygen enrichment processes", Johnston SRW, Ray B, Hu W, Metcalfe IS, *Solid State Ionics* 320 (2018) 292-296.
18. 'Sulfur-Tolerant, Exsolved Fe–Ni Alloy Nanoparticles for CO Oxidation', Papaioannou EI, Neagu D, Ramli WKW, Irvine JTS, Metcalfe IS, *Topics in Catalysis* 10.1007/s11244-018-1053-8.
19. 'Overcoming chemical equilibrium limitations by creating a thermodynamically-reversible chemical reactor', Ian S. Metcalfe, Brian Ray, Catherine Dejoie, Wenting Hu, Chris de Leeuwe, Cristina Dueso, Francisco R. García-García, Cheuk-Man Mak, Evangelos I. Papaioannou, Claire R. Thompson and John. S. O. Evans, *Nature Chemistry* 11 (2019) 638-643.
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Patents in 2018-2019

1. Patent application "Composite Pressure Vessel for Hydrogen Storage" Publication No. WO/2018/149772, publication date 23 August 2018.