

List of publications – Dr. Ioannis Spanos

2020

- **Spanos, I.**, Masa, J., Zeradjanin, A., Schlögl, R. (2020). The Effect of Iron Impurities on Transition Metal Catalysts for the Oxygen Evolution Reaction in Alkaline Environment: Activity Mediators or Active Sites? *Catalysis Letters* <https://doi.org/10.1007/s10562-020-03478-4>
- Ruiz Esquiús, J., Algara-Siller, G., **Spanos, I.**, Freakley, S.J., Schlögl, R., Hutchings, G.J. (2020). Preparation of Solid Solution and Layered IrO_x-Ni(OH)₂ Oxygen Evolution Catalysts: Toward Optimizing Iridium Efficiency for OER *ACS Catalysis* 10(24), 14640-14648. <https://doi.org/10.1021/acscatal.0c03866>
- Zeradjanin, A.R., **Spanos, I.**, Masa, J., Rohwerder, M., Schlögl, R. (2020). Perspective on experimental evaluation of adsorption energies at solid/liquid interfaces *Journal of Solid State Electrochemistry* <https://doi.org/10.1007/s10008-020-04815-8>
- Antonyshyn, I., Barrios Jiménez, A.M., Sichevych, O., Burkhardt, U., Veremchuk, I., Schmidt, M., Ormeci, A., **Spanos, I.**, Tarasov, A., Teschner, D., Algara-Siller, G., Schlögl, R., Grin, Y. (2020). Al₂Pt for Oxygen Evolution in Water Splitting: a Strategy for Creating Multi-functionality in Electrocatalysis *Angewandte Chemie International Edition* 59(38), 16770-16776. <https://doi.org/10.1002/anie.202005445>
- Ding, Y., Gu, Q., Klyushin, A., Huang, X., Choudhury, S.H., **Spanos, I.**, Song, F., Mom, R., Düngen, P., Mechler, A.K., Schlögl, R., Heumann, S. (2020). Dynamic carbon surface chemistry: revealing the role of carbon in electrolytic water oxidation *Journal of Energy Chemistry* 47, 155-159. <https://doi.org/10.1016/j.jechem.2019.12.006>
- Ruiz Esquiús, J., Morgan, D.J., **Spanos, I.**, Hewes, D.G., Freakley, S.J., Hutchings, G.J. (2020). The effect of Base on the Facile Hydrothermal Preparation of Highly Active IrO_x Oxygen Evolution Catalysts *ACS Applied Energy Materials* 3(1), 800-809. <https://doi.org/10.1021/acsaem.9b01642>

2019

- **Spanos, I.**, Tesch, M.F., Yu, M., Tüysüz, H., Zhang, J., Feng, X., Müllen, K., Schlögl, R., Mechler, A.K. (2019). Facile protocol for alkaline electrolyte purification and its influence on a Ni-Co oxide catalyst for the oxygen evolution reaction *ACS Catalysis* 9(9), 8165-8170. <https://doi.org/10.1021/acscatal.9b01940>

2018

- Rodenas, T., Beeg, S., **Spanos, I.**, Neugebauer, S., Girgsdies, F., Algara-Siller, G., Schleker, P.P.M., Jakes, P., Pfänder, N., Willinger, M., Greiner, M., Prieto, G., Schlögl, R., Heumann, S. (2018). 2D Metal Organic Framework-Graphitic Carbon Nanocomposites as Precursors for High-Performance O₂-Evolution Electrocatalysts *Advanced Energy Materials* 8(35), 1802404. <https://doi.org/10.1002/aenm.201802404>
- **Spanos, I.**, Neugebauer, S., Guterman, R., Yuan, J., Schlögl, R., Antonietti, M. (2018). Poly(ionic liquid) Binders as Ion conductors and Polymer Electrolyte Interface for Enhanced Electrochemical Performance of Water Splitting Electrodes *Sustainable Energy & Fuels* 2(7), 1446-1451. <https://doi.org/10.1039/C8SE00110C>

- Dungen, P., Greiner, M., Böhm, K.H., **Spanos, I.**, Huang, X., Auer, A.A., Schlögl, R., Heumann, S. (2018). Atomically dispersed vanadium oxides on multiwalled carbon nanotubes via atomic layer deposition: A multiparameter optimization *Journal of Vacuum Science & Technology A* 36(1), 01A126. <https://doi.org/10.1116/1.5006783>

2017

- **Spanos, I.**, Auer, A.A., Neugebauer, S., Deng, X.H., Tüysüz, H., Schlögl, R. (2017). Standardized Benchmarking of Water Splitting Catalysts in a Combined Electrochemical Flow Cell/Inductively Coupled Plasma-Optical Emission Spectrometry (ICP-OES) Setup *ACS Catalysis* 7(6), 3768-3778. <https://doi.org/10.1021/acscatal.7b00632>

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- Auer A.A., Cap S., Antonietti M., Cherevko S., Deng X., Papakonstantinou G., Sundmacher K., Brüller S., Antonyshyn I., Dimitratos N., Davis R.J., Böhm K.-H., Fechler N., Freakley S., Grin Y., Gunnoe B.T., Haj-Hariri H., Hutchings G., Liang H., Mayrhofer K.J.J., Müllen K., Neese F., Ranjan C., Sankar M., Schlögl R., Schüth F., **Spanos I.**, Stratmann M., Tüysüz H., Vidakovic-Koch T., Yi Y., Zangari G. (2016). MAXNET Energy - Focusing Research in Chemical Energy Conversion on the Electrocatlytic Oxygen Evolution *Green* 5(1-6), 7-21. <http://doi.org/10.1515/green-2015-0021>

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- Speder, J., **Spanos, I.**, Zana, A., Kirkensgaard, J.J.K., Mortensen, K., Altmann L., Bäumer, M., Arenz, M. (2015). From single crystal model catalysts to systematic studies of supported nanoparticles *Surface Science* 631, 278-284. <https://doi.org/10.1016/j.susc.2014.05.024>
- **Spanos, I.**, Dideriksen, K., Kirkensgaard, J.J.K., Jelavic, S., Arenz, M. (2015). Structural disordering of de-alloyed Pt bimetallic nanocatalysts: the effect on oxygen reduction reaction activity and stability *Physical Chemistry Chemical Physics* 17(42), 28044-28053. <https://doi.org/10.1039/C4CP04264F>

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- Speder, J., Zana, A., **Spanos, I.**, Kirkensgaard, J.J.K., Mortensen, K., Hanzlik, M., Arenz, M. (2014). Comparative degradation study of carbon supported proton exchange membrane fuel cell electrocatalysts – The influence of the platinum to carbon ratio on the degradation rate *Journal of Power Sources* 261, 14-22. <https://doi.org/10.1016/j.jpowsour.2014.03.039>
- **Spanos, I.**, Pelegrín Rellán, C., Altmann, L., Bäumer, M., Arenz, M. (2014). Pt_xCo_{1-x} alloy NPs prepared by colloidal tool-box synthesis: The effect of de-alloying on the oxygen reduction reaction activity *International Journal of Hydrogen Energy* 39(17), 9143-9148. <https://doi.org/10.1016/j.ijhydene.2014.03.199>
- **Spanos, I.**, Kirkensgaard, J.J.K., Mortensen, K., Arenz, M. (2014). Investigating the activity enhancement on Pt_xCo_{1-x} alloys induced by a combined strain and ligand effect *Journal of Power Sources* 245, 908-914. <https://doi.org/10.1016/j.jpowsour.2014.03.039>

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- Speder, J., Zana, A., **Spanos, I.**, Kirkensgaard, J.J.K., Mortensen, K., Arenz, M. (2013). On the influence of the Pt to carbon ratio on the degradation of high surface area carbon supported PEM fuel cell electrocatalysts *Electrochemistry Communications* 34, 153-156. <https://doi.org/10.1016/j.elecom.2013.06.001>

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- Kwon, Y., Birdja, Y., **Spanos, I.**, Rodríguez, P., Koper, M.T.M. (2012). Highly Selective Electro-Oxidation of Glycerol to Dihydroxyacetone on Platinum in the Presence of Bismuth *ACS Catalysis* 2(5), 759-764. <https://doi.org/10.1021/cs200599g>