Dr. Athanasios A. Papaderakis is an Assistant Professor at the Laboratory of Physical Chemistry in the School of Chemical Engineering at the National Technical University of Athens (NTUA), Greece. He holds a Ph.D. in Chemistry, with a specialization in Electrochemistry, awarded by the Aristotle University of Thessaloniki in 2017 under the supervision of Prof. Sotiris Sotiropoulos. Following the completion of his military service, Dr. Papaderakis continued his academic career as a Postdoctoral Research Associate, initially at the Department of Chemistry and the Henry Royce Institute at the University of Manchester, UK, in the group of Prof. Robert A.W. Dryfe (until August 2023), and later at the Department of Chemistry and Biochemistry at Ruhr University Bochum, Germany, in the group of Prof. Dr. Kristina Tschulik (until January 2025). His research is centered on interfacial (physical) electrochemistry, particularly focusing on electrochemical energy conversion and storage systems. His work has been published in high-impact scientific journals, including *Journal of the American Chemical Society (JACS)*, *Advanced Science*, *Journal of Materials Chemistry A*, and *Acta Materialia*, among others. Dr. Papaderakis has contributed to academic teaching in both Greece and Germany. He was a lecturer in the M.Sc. program "Electrochemistry and Nanoscale Materials" at Ruhr University Bochum, and he has also taught undergraduate and postgraduate courses in Physical Chemistry and Materials Science in the Department of Chemistry at the Aristotle University of Thessaloniki. Beyond research and teaching, he has been actively involved in scientific publishing and peer review. He served as Scientific Managing Editor for *Electrochimica Acta*, the flagship journal of the International Society of Electrochemistry (ISE), during 2021–2022. Since 2017, he has reviewed over 200 manuscripts for leading journals such as *Journal of Physical Chemistry C*, *Langmuir*, *ACS Nano*, *ACS Catalysis*, *Nature Communications*, *Advanced Functional Materials*, *ChemElectroChem*, *Electrochimica Acta* and others.

Selected publications

1. T.Schroeder Rossi, A.A.Papaderakis, M.Jaugstetter, Z.Jlailati, M.Knoke, P.Hosseini, P.Cignoni, F.Yang, M.Gerwin, O.Trost, M.Spallek, E.Ortega, B.Roldan Cuenya, D.C.Crans, N.E.Levinger, K.Tschulik, "Bimetallic Ag–Au nanoparticles from nanoconfinement: adjusting properties by electrochemical synthesis", Journal of Materials Chemistry A, 13 (2025), 24014-24027. https://doi.org/10.1039/D5TA01833A

2. A.A.Papaderakis, E.M.Paschalidou, L.Zendejas Medina, E.Hatipoglu, A.Saksena, B.Gault, B.Sefer, D. Malmström, P.Hosseini, O.Trost, A.Lozinko, M.Ramkaran, A.Juel, K.Tschulik, R.A.W. Dryfe, "Hydrogen induced superhydrophilicity in an amorphous CrFeNi-based multi-principal element alloy thin film", *Acta Materialia*, 286 (2025), 120756. https://doi.org/10.1016/j.actamat.2025.120756

3. A.Elgendy, A.A.Papaderakis, A.Ejigu, K.Helmbrecht, B.F.Spencer, A.Groß, A.S.Walton, D.J.Lewis, R.A.W.Dryfe, "Nanosized Chevrel phases for dendrite-free zinc–ion based energy storage: unraveling the phase transformations", *Nanoscale*, 16 (2024), 13597-13612. https://doi.org/10.1039/D4NR01238K

4. Z.Wei, J.D.Elliott, A.A.Papaderakis, R.A.W.Dryfe, P.Carbone, "Relation between double layer structure, capacitance, and surface tension in electrowetting of graphene and aqueous electrolytes", *Journal of the American Chemical Society*, 146 (2024), 1, 760-772. https://doi.org/10.1021/jacs.3c10814

5. A.A.Papaderakis, A.Ejigu, J.Yang, A.Elgendy, B.Radha, A.Keerthi, A.Juel, R.A.W.Dryfe, "Anion intercalation into graphite drives surface wetting", *Journal of the American Chemical Society*, 145 (2023), 14, 8007-8020. https://doi.org/10.1021/jacs.2c13630

6. J.Qu, A.Elgendy, R.Cai, M.A.Buckingham, A.A.Papaderakis, H.Latour, K.Hazeldine, G.F.S.Whitehead, F.Alam, C.Smith, D.J.Binks, A.Walton, J.Skelton, R.A.W.Dryfe, S.J.Haigh, D.J.Lewis, "A low-temperature synthetic route towards a high-entropy 2D hexernary transition metal dichalcogenide for hydrogen evolution electrocatalysis". *Advanced Science*, 10 (2023), 2204488. https://doi.org/10.1002/advs.202204488

7. A.A.Papaderakis, K.Polus, P.Kant, F.Box, B.Etcheverry, C.Byrne, M.Quinn, A.Walton, A.Juel, R.A.W.Dryfe, "Taming electrowetting using highly concentrated aqueous solutions". *Journal of Physical Chemistry C*, 126 (2022), 49, 21071-21083. https://doi.org/10.1021/acs.jpcc.2c06517

8. A.Elgendy, A.A.Papaderakis, C.Byrne, E.P.C.Higgins, A.Ejigu, A.S.Walton, D.J.Lewis, R.A.W.Dryfe, "Nano-cubic Chevrel phase Mo_6S_8 prepared by a simple and rapid molecular precursor approach as an efficient electrocatalyst for hydrogen evolution reaction in acidic media". *ACS Applied Energy Materials*; vol. 4, 11 (2021), 13015-13026. https://doi.org/10.1021/acsaem.1c02646

*For the full list of publications please refer to the following link:

https://scholar.google.com/citations?hl=en&user=uDTNZqAAAAAJ&view_op=list_works&sortby=pubdate