

# Frode Seland

## List of Publications by Year in descending order

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Version: 2024-02-01

81  
papers

1,950  
citations

257450

24  
h-index

265206

42  
g-index

82  
all docs

82  
docs citations

82  
times ranked

2134  
citing authors

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 1  | Improving the performance of high-temperature PEM fuel cells based on PBI electrolyte. Journal of Power Sources, 2006, 160, 27-36.  | 7.8 | 163       |
| 2  | Ni/NiO nanosheets for alkaline hydrogen evolution reaction: In situ electrochemical-Raman study. Electrochimica Acta, 2020, 361, 137040.  | 5.2 | 148       |
| 3  | Polymer electrolyte fuel cells based on phosphoric acid doped polybenzimidazole (PBI) membranes. Energy, 2007, 32, 418-422.   | 8.8 | 120       |
| 4  | CO stripping as an electrochemical tool for characterization of Ru@Pt core-shell catalysts. Journal of Electroanalytical Chemistry, 2011, 655, 140-146.   | 3.8 | 116       |
| 5  | Impedance study of methanol oxidation on platinum electrodes. Electrochimica Acta, 2006, 51, 3827-3840.   | 5.2 | 114       |
| 6  | Improved electrode systems for reverse electro-dialysis and electro-dialysis. Desalination, 2012, 285, 147-152.   | 8.2 | 75        |
| 7  | Effect of anion exchange ionomer content on electrode performance in AEM water electrolysis. International Journal of Hydrogen Energy, 2020, 45, 28272-28284.                                     | 7.1 | 70        |
| 8  | Materials for Proton Exchange Membrane water electrolyzer bipolar plates. International Journal of Hydrogen Energy, 2017, 42, 2713-2723.  | 7.1 | 68        |
| 9  | NiCu mixed metal oxide catalyst for alkaline hydrogen evolution in anion exchange membrane water electrolysis. Electrochimica Acta, 2021, 371, 137837.  | 5.2 | 60        |
| 10 | Highly Active Nickel-Based Catalyst for Hydrogen Evolution in Anion Exchange Membrane Electrolysis. Catalysts, 2018, 8, 614.  | 3.5 | 58        |
| 11 | The Performance of Nickel and Nickel-Iron Catalysts Evaluated As Anodes in Anion Exchange Membrane Water Electrolysis. Catalysts, 2019, 9, 814.   | 3.5 | 57        |
| 12 | Impedance study of formic acid oxidation on platinum electrodes. Electrochimica Acta, 2008, 53, 6851-6864.  | 5.2 | 55        |
| 13 | Optimized Nickel-Cobalt and Nickel-Iron Oxide Catalysts for the Hydrogen Evolution Reaction in Alkaline Water Electrolysis. Journal of the Electrochemical Society, 2019, 166, F519-F533.         | 2.9 | 43        |
| 14 | Dynamic electrochemical impedance spectroscopy, for electrocatalytic reactions. Electrochimica Acta, 2014, 131, 13-19.  | 5.2 | 42        |
| 15 | The effect of pH and halides on the corrosion process of stainless steel bipolar plates for proton exchange membrane fuel cells. International Journal of Hydrogen Energy, 2012, 37, 18537-18546. | 7.1 | 41        |
| 16 | Carbon-polymer composite coatings for PEM fuel cell bipolar plates. International Journal of Hydrogen Energy, 2014, 39, 951-957.  | 7.1 | 40        |
| 17 | Improved catalytic activity of mixed platinum catalysts supported on various carbon nanomaterials. Journal of Power Sources, 2014, 267, 706-713.  | 7.8 | 39        |
| 18 | Thermal conductivity in the three layered regions of micro porous layer coated porous transport layers for the PEM fuel cell. International Journal of Hydrogen Energy, 2015, 40, 16775-16785.    | 7.1 | 38        |

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|----|---|-----|-----------|
| 19 | Control-oriented modelling and experimental study of the transient response of a high-temperature polymer fuel cell. <i>Journal of Power Sources</i> , 2006, 162, 215-227.  | 7.8 | 33        |
| 20 | Dynamic electrochemical impedance study of methanol oxidation at Pt at elevated temperatures. <i>Electrochimica Acta</i> , 2019, 295, 139-147.  | 5.2 | 31        |
| 21 | Assessment of Platinum Dissolution from a Pt/C Fuel Cell Catalyst: An Electrochemical Quartz Crystal Microbalance Study. <i>Journal of the Electrochemical Society</i> , 2010, 157, B621.   | 2.9 | 29        |
| 22 | The oxygen evolution reaction mechanism at Ir Ru <sup>1</sup> O <sub>2</sub> powders produced by hydrolysis synthesis. <i>Journal of Electroanalytical Chemistry</i> , 2018, 819, 547-561.  | 3.8 | 29        |
| 23 | Ionomer content optimization in nickel-iron-based anodes with and without ceria for anion exchange membrane water electrolysis. <i>Journal of Power Sources</i> , 2021, 514, 230563.  | 7.8 | 28        |
| 24 | Tuning Ni <sup>2+</sup> /MoO <sub>4</sub> <sup>2-</sup> Catalyst-Ionomer and Electrolyte Interaction for Water Electrolyzers with Anion Exchange Membranes. <i>ACS Applied Energy Materials</i> , 2021, 4, 3327-3340.                             | 5.1 | 27        |
| 25 | High-Temperature Electrochemical Characterization of Ru Core Pt Shell Fuel Cell Catalyst. <i>Fuel Cells</i> , 2011, 11, 735-744.  | 2.4 | 26        |
| 26 | Measuring the thermal conductivity of membrane and porous transport layer in proton and anion exchange membrane water electrolyzers for temperature distribution modeling. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 1236-1254. | 7.1 | 23        |
| 27 | Two routes for sonochemical synthesis of platinum nanoparticles with narrow size distribution. <i>Materials Advances</i> , 2021, 2, 1962-1971.  | 5.4 | 23        |
| 28 | Heat to H <sub>2</sub> : Using Waste Heat for Hydrogen Production through Reverse Electrodialysis. <i>Energies</i> , 2019, 12, 3428.  | 3.1 | 22        |
| 29 | Fast methanol oxidation on polycrystalline Pt. <i>Electrochimica Acta</i> , 2006, 52, 773-779.  | 5.2 | 18        |
| 30 | Activating and deactivating mass transport effects in methanol and formic acid oxidation on platinum electrodes. <i>Electrochimica Acta</i> , 2010, 55, 3384-3391.  | 5.2 | 18        |
| 31 | Effect of heat treatment on the electrocatalytic properties of nano-structured Ru cores with Pt shells. <i>Journal of Electroanalytical Chemistry</i> , 2013, 704, 57-66.   | 3.8 | 14        |
| 32 | Mass-transport impedance at channel electrodes: accurate and approximate solutions. <i>Electrochimica Acta</i> , 2016, 202, 84-89.  | 5.2 | 13        |
| 33 | Ternary NiCoFe nanosheets for oxygen evolution in anion exchange membrane water electrolysis. <i>International Journal of Hydrogen Energy</i> , 2022, 47, 23483-23497.  | 7.1 | 13        |
| 34 | Kinetic study of CO oxidation on clean and oxidized Pt. <i>Electrochimica Acta</i> , 2012, 82, 550-557.   | 5.2 | 12        |
| 35 | Method for studying high temperature aqueous electrochemical systems: Methanol and glycerol oxidation. <i>Electrochimica Acta</i> , 2016, 222, 1792-1799.   | 5.2 | 12        |
| 36 | The Real Area of Nanoporous Catalytic Surfaces of Gold and Palladium in Aqueous Solutions. <i>Journal of the Electrochemical Society</i> , 2018, 165, H219-H228.  | 2.9 | 12        |

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|----|---|-----|-----------|
| 37 | Measuring In Situ Interfacial Contact Resistance in a Proton Exchange Membrane Fuel Cell. Journal of the Electrochemical Society, 2019, 166, F853-F859.   | 2.9 | 12        |
| 38 | Understanding reaction mechanisms using dynamic electrochemical impedance spectroscopy: Methanol oxidation on Pt. Electrochimica Acta, 2019, 323, 134764.   | 5.2 | 12        |
| 39 | Thermal Gradients with Sintered Solid State Electrolytes in Lithium-Ion Batteries. Energies, 2020, 13, 253.   | 3.1 | 12        |
| 40 | Dynamic electrochemical impedance spectroscopy of Pt/C-based membrane-electrode assemblies subjected to cycling protocols. Journal of Power Sources, 2013, 242, 447-454.  | 7.8 | 11        |
| 41 | Raney-platinum thin film electrodes for the catalysis of glucose in abiotically catalyzed micro-glucose fuel cells. Journal of Materials Science, 2019, 54, 14143-14156.  | 3.7 | 11        |
| 42 | Frequency controlled agglomeration of Pt-nanoparticles in sonochemical synthesis. Ultrasonics Sonochemistry, 2022, 85, 105991.  | 8.2 | 11        |
| 43 | Effects of temperature, triazole and hot-pressing on the performance of TiO <sub>2</sub> photoanode in a solid-state photoelectrochemical cell. Electrochimica Acta, 2014, 115, 66-74.                                  | 5.2 | 10        |
| 44 | An <i>in situ</i> XAS study of high surface-area IrO <sub>2</sub> produced by the polymeric precursor synthesis. Physical Chemistry Chemical Physics, 2020, 22, 18868-18881.  | 2.8 | 10        |
| 45 | Electrodialytic Energy Storage System: Permselectivity, Stack Measurements and Life-Cycle Analysis. Energies, 2020, 13, 1247.   | 3.1 | 10        |
| 46 | Strategies for the analysis of the elemental metal fraction of Ir and Ru oxides <i>via</i> XRD, XANES, and EXAFS. Physical Chemistry Chemical Physics, 2019, 21, 12217-12230.   | 2.8 | 9         |
| 47 | The influence of graphitization on the thermal conductivity of catalyst layers and temperature gradients in proton exchange membrane fuel cells. International Journal of Hydrogen Energy, 2020, 45, 1335-1342.         | 7.1 | 9         |
| 48 | A microfluidic electrochemical cell with integrated PdH reference electrode for high current experiments. Electrochimica Acta, 2017, 225, 69-77.  | 5.2 | 8         |
| 49 | Soldering a gas diffusion layer to a stainless steel bipolar plate using metallic tin. International Journal of Hydrogen Energy, 2018, 43, 9006-9014.   | 7.1 | 8         |
| 50 | A micro fuel cell for abiotical catalysis of glucose. Journal of Power Sources, 2020, 478, 229032.  | 7.8 | 8         |
| 51 | A semianalytical method for simulating mass transport at channel electrodes. Journal of Electroanalytical Chemistry, 2015, 745, 72-79.  | 3.8 | 7         |
| 52 | Systematic Study on TiO <sub>2</sub> Crystallization via Hydrothermal Synthesis in the Presence of Different Ferrite Nanoparticles as Nucleation Seeds. Journal of Nanoscience and Nanotechnology, 2019, 19, 4994-4999. | 0.9 | 7         |
| 53 | The potential of zero total charge and electrocatalytic properties of Ru@Pt core-shell nanoparticles. Journal of Electroanalytical Chemistry, 2019, 833, 189-197.   | 3.8 | 7         |
| 54 | Thin film nanoporous electrodes for the selective catalysis of oxygen in abiotically catalysed micro glucose fuel cells. Journal of Materials Science, 2016, 51, 9095-9107.   | 3.7 | 6         |

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|----|--|-----|-----------|
| 55 | Generator-Sensor Impedance at Double Channel Electrodes. <i>Electrochimica Acta</i> , 2017, 229, 452-457.  | 5.2 | 6         |
| 56 | The Influence of Argon, Air and Hydrogen Gas on Thermal Conductivity of Gas Diffusion Layers and Temperature Gradients in PEMFCS. <i>ECS Transactions</i> , 2019, 92, 223-245.   | 0.5 | 6         |
| 57 | Ta-ITO Coated Titanium Bipolar Plates for Proton Exchange Membrane Water Electrolyzers. <i>Journal of the Electrochemical Society</i> , 2022, 169, 034504.   | 2.9 | 6         |
| 58 | Increasing and Decreasing Mass Transport Effects in the Oxidation of Small Organic Molecules. <i>ECS Transactions</i> , 2010, 28, 203-210.   | 0.5 | 5         |
| 59 | CO-Stripping at Ru Nanoparticles. <i>ECS Transactions</i> , 2010, 28, 9-17.  | 0.5 | 5         |
| 60 | Composite Thin Film Iridium- Niobium Oxide Electrocatalysts for the Oxygen Evolution Electrode. <i>ECS Transactions</i> , 2013, 50, 71-84.   | 0.5 | 5         |
| 61 | Zirconium hydrogen phosphate as an additive in electrocatalytic layers for the oxygen evolution reaction in PEM water electrolysis. <i>International Journal of Hydrogen Energy</i> , 2015, 40, 9982-9988.                                 | 7.1 | 5         |
| 62 | On the electrocatalytic symbiotic synergism between Pt, Ni and Al in plasma vapour deposited Pt <sub>x</sub> Ni <sub>y</sub> Al <sub>z</sub> thin metal films for water electrolysis. <i>Journal of Power Sources</i> , 2021, 494, 229344. | 7.8 | 5         |
| 63 | Synthesis of CO-tolerant Ni-Pt Rhombic Dodecahedra Bimetallic Electrocatalytic Nanoparticles. <i>ChemNanoMat</i> , 2020, 6, 1220-1228.   | 2.8 | 4         |
| 64 | Bimetallic Nano Electrocatalyst for HER in Alkaline Polymer Electrolysis. <i>ECS Transactions</i> , 2018, 85, 961-979.   | 0.5 | 2         |
| 65 | An Electrochemical Quartz Crystal Microbalance Investigation of Manganese Oxide Deposition and Dissolution in Sulfuric Acid Relevant for Zinc Electrowinning. <i>ECS Transactions</i> , 2018, 85, 103-119.                                 | 0.5 | 2         |
| 66 | Development of Ni-Based Bimetallic Electrocatalysts for Hydrogen Oxidation Reaction in Alkaline Fuel Cells. <i>ECS Meeting Abstracts</i> , 2018, , .   | 0.0 | 1         |
| 67 | Formation and Oxidation Kinetics of Adsorbed CO in Electrocatalytic Reactions on Pt. <i>ECS Meeting Abstracts</i> , 2011, , .  | 0.0 | 0         |
| 68 | Electrochemical Behaviour of Industrial IrO <sub>2</sub> -Ta <sub>2</sub> O <sub>5</sub> Anodes for Copper Electrowinning. <i>ECS Transactions</i> , 2017, 75, 23-35.  | 0.5 | 0         |
| 69 | Bimetallic Nano Electrocatalyst for HER in Alkaline Polymer Electrolysis. <i>ECS Meeting Abstracts</i> , 2018, , .   | 0.0 | 0         |
| 70 | An Electrochemical Quartz Crystal Microbalance Investigation of Manganese Oxide Deposition and Dissolution in Sulfuric Acid Relevant for Zinc Electrowinning. <i>ECS Meeting Abstracts</i> , 2018, , .                                     | 0.0 | 0         |
| 71 | Downstream Impedance in Microfluidic Channels. <i>ECS Meeting Abstracts</i> , 2018, , .  | 0.0 | 0         |
| 72 | Understanding Reaction Mechanisms Using Dynamic Electrochemical Impedance Spectroscopy: Methanol and Formic Acid Oxidation. <i>ECS Meeting Abstracts</i> , 2018, , .   | 0.0 | 0         |

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|----|--|-----|-----------|
| 73 | Soldering a Gas Diffusion Layer Onto Stainless Steel Bipolar Plates Using Tin and Tin Alloys. ECS Meeting Abstracts, 2018, , .                                     | 0.0 | 0         |
| 74 | The Influence of Argon, Air and Hydrogen Gas on Thermal Conductivity of Gas Diffusion Layers and Temperature Gradients in PEMFCS. ECS Meeting Abstracts, 2019, , . | 0.0 | 0         |
| 75 | Thermal Gradients through Sintered Solid State Electrolytes in Lithium-Ion Batteries. ECS Meeting Abstracts, 2019, , .   | 0.0 | 0         |
| 76 | Effect of Ni/NiO Heterostructure on Hydrogen Evolution Performance in AEM Water Electrolysis: In-Operando Raman Study. ECS Meeting Abstracts, 2019, , .            | 0.0 | 0         |
| 77 | The Path to Active and Stable Anion Exchange Membrane Water Electrolyzer. ECS Meeting Abstracts, 2020, MA2020-01, 1589-1589.                                       | 0.0 | 0         |
| 78 | Ionomer Content Optimization in Ni-Based Anodes for Alkaline Exchange Membrane Water Electrolysis. ECS Meeting Abstracts, 2020, MA2020-01, 1588-1588.              | 0.0 | 0         |
| 79 | Nano-Structured Transition Metal Phosphides As an Efficient Electrocatalysts for Oxygen Evolution Reaction. ECS Meeting Abstracts, 2020, MA2020-01, 1558-1558.     | 0.0 | 0         |
| 80 | Ex-Situ Investigation of Activated Stainless Steel As Oxygen Evolution Reaction Electrode in Alkaline Media. ECS Meeting Abstracts, 2020, MA2020-02, 2415-2415.    | 0.0 | 0         |
| 81 | Sonochemical Catalyst Synthesis for HER and OER. ECS Meeting Abstracts, 2020, MA2020-02, 2414-2414.  | 0.0 | 0         |