# Hyung-Suk Oh

List of Publications by Year
in descending order



| 88 | 7,010 | 57631<br>44 | 58464<br>82 |
|---|---|---|---|
| papers | citations | h-index | g-index |

| 93 | 93 | 93 | 7438 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Design of less than 1Ânm Scale Spaces on SnO<sub>2</sub> Nanoparticles for Highâ€Performance Electrochemical CO<sub>2</sub> Reduction. Advanced Functional Materials, 2022, 32, 2107349. | 7.8 | 23 |
| 2 | Thermo-selenized stainless steel as an efficient oxygen evolution electrode for water splitting and CO2 electrolysis in real water matrices. Journal of Power Sources, 2022, 521, 230953. | 4.0 | 10 |
| 3 | Unraveling CoNiPâ€'CoP<sub>2</sub> 3Dâ€onâ€1D Hybrid Nanoarchitecture for Longâ€Lasting Electrochemical Hybrid Cells and Oxygen Evolution Reaction. Advanced Science, 2022, 9, e2104877. | 5.6 | 26 |
| 4 | Electrode reconstruction strategy for oxygen evolution reaction: maintaining Fe-CoOOH phase with intermediate-spin state during electrolysis. Nature Communications, 2022, 13, 605. | 5.8 | 149 |
| 5 | Interface rich CuO/Al<sub>2</sub>CuO<sub>4</sub> surface for selective ethylene production from electrochemical CO<sub>2</sub> conversion. Energy and Environmental Science, 2022, 15, 2397-2409. | 15.6 | 54 |
| 6 | Microenvironments of Cu catalysts in zero-gap membrane electrode assembly for efficient CO<sub>2</sub> electrolysis to C<sub>2+</sub> products. Journal of Materials Chemistry A, 2022, 10, 10363-10372. | 5.2 | 16 |
| 7 | Collaborative Electrochemical Oxidation of the Alcohol and Aldehyde Groups of 5-Hydroxymethylfurfural by NiOOH and Cu(OH)<sub>2</sub> for Superior 2,5-Furandicarboxylic Acid Production. ACS Catalysis, 2022, 12, 4078-4091. | 5.5 | 45 |
| 8 | Understanding the Grain Boundary Behavior of Bimetallic Platinumâ€"Cobalt Alloy Nanowires toward Oxygen Electro-Reduction. ACS Catalysis, 2022, 12, 3516-3523. | 5.5 | 23 |
| 9 | Monolithic Lead Halide Perovskite Photoelectrochemical Cell with 9.16% Applied Bias Photon-to-Current Efficiency. ACS Energy Letters, 2022, 7, 320-327. | 8.8 | 19 |
| 10 | Exploring dopant effects in stannic oxide nanoparticles for CO2 electro-reduction to formate. Nature Communications, 2022, 13, 2205. | 5.8 | 61 |
| 11 | Unraveling the role of introduced W in oxidation tolerance for Pt-based catalysts via on-line inductive coupled plasma-mass spectrometry. Electrochemistry Communications, 2022, 139, 107301. | 2.3 | 1 |
| 12 | Selective H2O2 production on surface-oxidized metal-nitrogen-carbon electrocatalysts. Catalysis Today, 2021, 359, 99-105. | 2.2 | 42 |
| 13 | Nanocatalyst Design for Longâ€Term Operation of Proton/Anion Exchange Membrane Water Electrolysis. Advanced Energy Materials, 2021, 11, 2003188. | 10.2 | 89 |
| 14 | New strategies for economically feasible CO<sub>2</sub> electroreduction using a porous membrane in zero-gap configuration. Journal of Materials Chemistry A, 2021, 9, 16169-16177. | 5.2 | 14 |
| 15 | Real-time monitoring of electrochemical carbon corrosion in alkaline media. Journal of Materials Chemistry A, 2021, 9, 19834-19839. | 5.2 | 29 |
| 16 | Identification of Single-Atom Ni Site Active toward Electrochemical CO<sub>2</sub> Conversion to CO. Journal of the American Chemical Society, 2021, 143, 925-933. | 6.6 | 107 |
| 17 | Selective electrochemical reduction of nitric oxide to hydroxylamine by atomically dispersed iron catalyst. Nature Communications, 2021, 12, 1856. | 5.8 | 106 |
| 18 | Understanding morphological degradation of Ag nanoparticle during electrochemical CO2 reduction reaction by identical location observation. Electrochimica Acta, 2021, 371, 137795. | 2.6 | 15 |

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|---|---|---|---|
| 19 | Achieving over 15% Efficiency in Solution-Processed Cu(In,Ga)(S,Se)<sub>2</sub> Thin-Film Solar Cells via a Heterogeneous-Formation-Induced Benign pâ€“n Junction Interface. ACS Applied Materials & Interfaces, 2021, 13, 13289-13300. | 4.0 | 12 |
| 20 | Quantification of Active Site Density and Turnover Frequency: From Single-Atom Metal to Nanoparticle Electrocatalysts. Jacs Au, 2021, 1, 586-597. | 3.6 | 53 |
| 21 | Evidence of Marsâ€Vanâ€Krevelen Mechanism in the Electrochemical Oxygen Evolution on Niâ€Based Catalysts. Angewandte Chemie, 2021, 133, 15108-15115. | 1.6 | 9 |
| 22 | Evidence of Marsâ€Vanâ€Krevelen Mechanism in the Electrochemical Oxygen Evolution on Niâ€Based Catalysts. Angewandte Chemie - International Edition, 2021, 60, 14981-14988. | 7.2 | 67 |
| 23 | Highly selective and stackable electrode design for gaseous CO2 electroreduction to ethylene in a zero-gap configuration. Nano Energy, 2021, 84, 105859. | 8.2 | 36 |
| 24 | High crystallinity design of Ir-based catalysts drives catalytic reversibility for water electrolysis and fuel cells. Nature Communications, 2021, 12, 4271. | 5.8 | 75 |
| 25 | Enhancement of Catalytic Activity and Selectivity for the Gaseous Electroreduction of CO<sub>2</sub> to CO: Guidelines for the Selection of Carbon Supports. Advanced Sustainable Systems, 2021, 5, 2100216. | 2.7 | 10 |
| 26 | Vertical-crystalline Fe-doped Î²-Ni oxyhydroxides for highly active and stable oxygen evolution reaction. Matter, 2021, 4, 3585-3604. | 5.0 | 34 |
| 27 | W@Ag dendrites as efficient and durable electrocatalyst for solar-to-CO conversion using scalable photovoltaic-electrochemical system. Applied Catalysis B: Environmental, 2021, 297, 120427. | 10.8 | 20 |
| 28 | Design methodology for mass transfer-enhanced large-scale electrochemical reactor for CO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e969" altimg="si32.svg"><mml:msub><mml:mrow /><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:math> reduction. Chemical Engineering Journal, 2021, 424, 130265. | 6.6 | 21 |
| 29 | Crystal Phase Transition Creates a Highly Active and Stable RuC<i><sub>X</sub></i> Nanosurface for Hydrogen Evolution Reaction in Alkaline Media. Advanced Materials, 2021, 33, e2105248. | 11.1 | 27 |
| 30 | Improving the oxygen evolution reaction using electronic structure modulation of sulfur-retaining nickel-based electrocatalysts. Journal of Materials Chemistry A, 2021, 9, 27034-27040. | 5.2 | 25 |
| 31 | Data-driven pilot optimization for electrochemical CO mass production. Journal of Materials Chemistry A, 2020, 8, 16943-16950. | 5.2 | 12 |
| 32 | Highly stable and ordered intermetallic PtCo alloy catalyst supported on graphitized carbon containing Co@CN for oxygen reduction reaction. Journal of Materials Chemistry A, 2020, 8, 19833-19842. | 5.2 | 47 |
| 33 | Oxygen Vacancies Induced NiFe-Hydroxide as a Scalable, Efficient, and Stable Electrode for Alkaline Overall Water Splitting. ACS Sustainable Chemistry and Engineering, 2020, 8, 14071-14081. | 3.2 | 32 |
| 34 | Single-atom catalysts for the oxygen evolution reaction: recent developments and future perspectives. Chemical Communications, 2020, 56, 12687-12697. | 2.2 | 69 |
| 35 | <i>Operando</i> Stability of Platinum Electrocatalysts in Ammonia Oxidation Reactions. ACS Catalysis, 2020, 10, 11674-11684. | 5.5 | 36 |
| 36 | A catalyst design for selective electrochemical reactions: direct production of hydrogen peroxide in advanced electrochemical oxidation. Journal of Materials Chemistry A, 2020, 8, 9859-9870. | 5.2 | 26 |

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|---|---|---|---|
| 37 | Highly selective and scalable CO2 to CO - Electrolysis using coral-nanostructured Ag catalysts in zero-gap configuration. Nano Energy, 2020, 76, 105030. | 8.2 | 73 |
| 38 | Electroactivation-induced IrNi nanoparticles under different pH conditions for neutral water oxidation. Nanoscale, 2020, 12, 14903-14910. | 2.8 | 14 |
| 39 | Carbon-Supported IrCoO nanoparticles as an efficient and stable OER electrocatalyst for practicable CO2 electrolysis. Applied Catalysis B: Environmental, 2020, 269, 118820. | 10.8 | 54 |
| 40 | Controlling the C2+ product selectivity of electrochemical CO<sub>2</sub>reduction on an electrosprayed Cu catalyst. Journal of Materials Chemistry A, 2020, 8, 6210-6218. | 5.2 | 37 |
| 41 | Mass Transport Control by Surface Graphene Oxide for Selective CO Production from Electrochemical CO<sub>2</sub> Reduction. ACS Catalysis, 2020, 10, 3222-3231. | 5.5 | 57 |
| 42 | Metalâ€"Oxide Interfaces for Selective Electrochemical Câ€"C Coupling Reactions. ACS Energy Letters, 2019, 4, 2241-2248. | 8.8 | 62 |
| 43 | Achieving tolerant CO2 electro-reduction catalyst in real water matrix. Applied Catalysis B: Environmental, 2019, 258, 117961. | 10.8 | 19 |
| 44 | Theoretical and Experimental Understanding of Hydrogen Evolution Reaction Kinetics in Alkaline Electrolytes with Pt-Based Coreâ€"Shell Nanocrystals. Journal of the American Chemical Society, 2019, 141, 18256-18263. | 6.6 | 91 |
| 45 | Turning Harmful Deposition of Metal Impurities into Activation of Nitrogen-Doped Carbon Catalyst toward Durable Electrochemical CO<sub>2</sub> Reduction. ACS Energy Letters, 2019, 4, 2343-2350. | 8.8 | 23 |
| 46 | Electrochemical Fragmentation of Cu<sub>2</sub>O Nanoparticles Enhancing Selective Câ€"C Coupling from CO<sub>2</sub> Reduction Reaction. Journal of the American Chemical Society, 2019, 141, 4624-4633. | 6.6 | 390 |
| 47 | Effect of Pt introduced on Ru-based electrocatalyst for oxygen evolution activity and stability. Electrochemistry Communications, 2019, 104, 106469. | 2.3 | 40 |
| 48 | General technoeconomic analysis for electrochemical coproduction coupling carbon dioxide reduction with organic oxidation. Nature Communications, 2019, 10, 5193. | 5.8 | 219 |
| 49 | A highly efficient Cu(In,Ga)(S,Se)2 photocathode without a hetero-materials overlayer for solar-hydrogen production. Scientific Reports, 2018, 8, 5182. | 1.6 | 13 |
| 50 | Activation of a Ni electrocatalyst through spontaneous transformation of nickel sulfide to nickel hydroxide in an oxygen evolution reaction. Applied Catalysis B: Environmental, 2018, 233, 130-135. | 10.8 | 103 |
| 51 | Understanding Selective Reduction of CO 2 to CO on Modified Carbon Electrocatalysts. ChemElectroChem, 2018, 5, 1615-1621. | 1.7 | 16 |
| 52 | Achieving 14.4% Alcohol-Based Solution-Processed Cu(In,Ga)(S,Se)<sub>2</sub> Thin Film Solar Cell through Interface Engineering. ACS Applied Materials & Interfaces, 2018, 10, 9894-9899. | 4.0 | 54 |
| 53 | A unique oxygen ligand environment facilitates water oxidation in hole-doped IrNiOx coreâ€"shell electrocatalysts. Nature Catalysis, 2018, 1, 841-851. | 16.1 | 424 |
| 54 | Effects of metal or metal oxide additives on oxidative coupling of methane using Na2WO4/SiO2 catalysts: Reducibility of metal additives to manipulate the catalytic activity. Applied Catalysis A: General, 2018, 562, 114-119. | 2.2 | 39 |

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|---|---|---|---|
| 55 | Effect of halides on nanoporous Zn-based catalysts for highly efficient electroreduction of CO2 to CO. Catalysis Communications, 2018, 114, 109-113. | 1.6 | 55 |
| 56 | Sloughing a Precursor Layer to Expose Active Stainless Steel Catalyst for Water Oxidation. ACS Applied Materials & Interfaces, 2018, 10, 24499-24507. | 4.0 | 25 |
| 57 | Insight into water oxidation activity enhancement of Ni-based electrocatalysts interacting with modified carbon supports. Electrochimica Acta, 2018, 281, 684-691. | 2.6 | 8 |
| 58 | Mixed Copper States in Anodized Cu Electrocatalyst for Stable and Selective Ethylene Production from CO<sub>2</sub> Reduction. Journal of the American Chemical Society, 2018, 140, 8681-8689. | 6.6 | 397 |
| 59 | Selective CO<sub>2</sub> Reduction on Zinc Electrocatalyst: The Effect of Zinc Oxidation State Induced by Pretreatment Environment. ACS Sustainable Chemistry and Engineering, 2017, 5, 11377-11386. | 3.2 | 127 |
| 60 | Electrochemical Catalystâ€“Support Effects and Their Stabilizing Role for IrO<sub><i>x</i></sub> Nanoparticle Catalysts during the Oxygen Evolution Reaction. Journal of the American Chemical Society, 2016, 138, 12552-12563. | 6.6 | 451 |
| 61 | Oxideâ€Supported IrNiO<sub><i>x</i></sub> Coreâ€“Shell Particles as Efficient, Costâ€Effective, and Stable Catalysts for Electrochemical Water Splitting. Angewandte Chemie, 2015, 127, 3018-3022. | 1.6 | 44 |
| 62 | Metalâ€Doped Nitrogenated Carbon as an Efficient Catalyst for Direct CO<sub>2</sub> Electroreduction to CO and Hydrocarbons. Angewandte Chemie - International Edition, 2015, 54, 10758-10762. | 7.2 | 504 |
| 63 | Oxide-supported Ir nanodendrites with high activity and durability for the oxygen evolution reaction in acid PEM water electrolyzers. Chemical Science, 2015, 6, 3321-3328. | 3.7 | 332 |
| 64 | Oxideâ€Supported IrNiO<sub><i>x</i></sub> Coreâ€“Shell Particles as Efficient, Costâ€Effective, and Stable Catalysts for Electrochemical Water Splitting. Angewandte Chemie - International Edition, 2015, 54, 2975-2979. | 7.2 | 384 |
| 65 | Preparation of Mesoporous Sbâ€, Fâ€, and Inâ€Doped SnO<sub>2</sub> Bulk Powder with High Surface Area for Use as Catalyst Supports in Electrolytic Cells. Advanced Functional Materials, 2015, 25, 1074-1081. | 7.8 | 127 |
| 66 | Modification of electrodes using Al2O3 to reduce phosphoric acid loss and increase the performance of high-temperature proton exchange membrane fuel cells. Journal of Materials Chemistry A, 2013, 1, 2578. | 5.2 | 27 |
| 67 | Preparation of carbon-supported nanosegregated Pt alloy catalysts for the oxygen reduction reaction using a silica encapsulation process to inhibit the sintering effect during heat treatment. Journal of Materials Chemistry, 2012, 22, 15215. | 6.7 | 23 |
| 68 | Electrochemical carbon corrosion in high temperature proton exchange membrane fuel cells. International Journal of Hydrogen Energy, 2012, 37, 10844-10849. | 3.8 | 60 |
| 69 | The role of transition metals in non-precious nitrogen-modified carbon-based electrocatalysts for oxygen reduction reaction. Journal of Power Sources, 2012, 212, 220-225. | 4.0 | 112 |
| 70 | Development of highly active and stable non-precious oxygen reduction catalysts for PEM fuel cells using polypyrrole and a chelating agent. Electrochemistry Communications, 2011, 13, 879-881. | 2.3 | 87 |
| 71 | Polypyrrole-modified hydrophobic carbon nanotubes as promising electrocatalyst supports in polymer electrolyte membrane fuel cells. International Journal of Hydrogen Energy, 2011, 36, 11564-11571. | 3.8 | 35 |
| 72 | The influence of the structural properties of carbon on the oxygen reduction reaction of nitrogen modified carbon based catalysts. International Journal of Hydrogen Energy, 2011, 36, 8181-8186. | 3.8 | 81 |

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|---|---|---|---|
| 73 | Efficient Synthesis of Pt Nanoparticles Supported on Hydrophobic Graphitized Carbon Nanofibers for Electrocatalysts Using Noncovalent Functionalization. Advanced Functional Materials, 2011, 21, 3954-3960. | 7.8 | 74 |
| 74 | Effect of heat-treatment temperature on carbon corrosion in polymer electrolyte membrane fuel cells. Journal of Power Sources, 2010, 195, 2623-2627. | 4.0 | 33 |
| 75 | Effect of chemical oxidation of CNFs on the electrochemical carbon corrosion in polymer electrolyte membrane fuel cells. International Journal of Hydrogen Energy, 2010, 35, 701-708. | 3.8 | 79 |
| 76 | Noncovalent Modification of Carbon Nanofibers Using 2-Naphthalenethiol for Catalyst Supports in PEM Fuel Cells. Journal of Electrochemical Science and Technology, 2010, 1, 92-96. | 0.9 | 4 |
| 77 | Corrosion resistance and sintering effect of carbon supports in polymer electrolyte membrane fuel cells. Electrochimica Acta, 2009, 54, 6515-6521. | 2.6 | 92 |
| 78 | Effect of operating conditions on carbon corrosion in polymer electrolyte membrane fuel cells. Journal of Power Sources, 2009, 193, 575-579. | 4.0 | 100 |
| 79 | Use of a carbon nanocage as a catalyst support in polymer electrolyte membrane fuel cells. Electrochemistry Communications, 2009, 11, 1131-1134. | 2.3 | 32 |
| 80 | Effect of Acid Treatment of Graphitized Carbon on Carbon Corrosion in Polymer Electrolyte Membrane Fuel Cells. Journal of the Korean Electrochemical Society, 2009, 12, 181-188. | 0.1 | 0 |
| 81 | Effect of Graphitized Carbon Supports on Electrochemical Carbon Corrosion in Polymer Electrolyte Membrane Fuel Cells. Journal of the Korean Electrochemical Society, 2009, 12, 142-147. | 0.1 | 0 |
| 82 | Modification of polyol process for synthesis of highly platinum loaded platinumâ€“carbon catalysts for fuel cells. Journal of Power Sources, 2008, 183, 600-603. | 4.0 | 79 |
| 83 | Growth and characterization of carbon-supported MnO2 nanorods for supercapacitor electrode. Physica B: Condensed Matter, 2008, 403, 1763-1769. | 1.3 | 48 |
| 84 | Novel method for the preparation of carbon supported nano-sized amorphous ruthenium oxides for supercapacitors. Electrochemistry Communications, 2008, 10, 1035-1037. | 2.3 | 18 |
| 85 | On-line mass spectrometry study of carbon corrosion in polymer electrolyte membrane fuel cells. Electrochemistry Communications, 2008, 10, 1048-1051. | 2.3 | 80 |
| 86 | Carbon-supported, nano-structured, manganese oxide composite electrode for electrochemical supercapacitor. Journal of Power Sources, 2007, 173, 1024-1028. | 4.0 | 110 |
| 87 | Investigation of carbon-supported Pt nanocatalyst preparation by the polyol process for fuel cell applications. Electrochimica Acta, 2007, 52, 7278-7285. | 2.6 | 113 |
| 88 | Vertical Alignment of Fe-Doped <i>Î²</i>â€‘Ni Oxyhydroxides for Highly Active and Stable Oxygen Evolution Reaction. SSRN Electronic Journal, 0, , . | 0.4 | 0 |