# Seung Woo Lee

## List of Publications by Citations



| | | | |
|---|---|---|---|
| 104 papers | 7,492 citations | 38 h-index | 86 g-index |
| 134 ext. papers | 8,696 ext. citations | 15.1 avg, IF | 6.23 L-index |

| # | Paper | IF | Citations |
|---|---|---|---|
| 104 | High-power lithium batteries from functionalized carbon-nanotube electrodes. *Nature Nanotechnology*, **2010**, 5, 531-7 | 28.7 | 946 |
| 103 | Carbon nanotube/manganese oxide ultrathin film electrodes for electrochemical capacitors. *ACS Nano*, **2010**, 4, 3889-96 | 16.7 | 632 |
| 102 | Layer-by-layer assembly of all carbon nanotube ultrathin films for electrochemical applications. *Journal of the American Chemical Society*, **2009**, 131, 671-9 | 16.4 | 557 |
| 101 | Nanostructured carbon-based electrodes: bridging the gap between thin-film lithium-ion batteries and electrochemical capacitors. *Energy and Environmental Science*, **2011**, 4, 1972 | 35.4 | 319 |
| 100 | Sodium Metal Anodes: Emerging Solutions to Dendrite Growth. *Chemical Reviews*, **2019**, 119, 5416-5460 | 68.1 | 309 |
| 99 | Role of Oxygen Functional Groups in Carbon Nanotube/Graphene Freestanding Electrodes for High Performance Lithium Batteries. *Advanced Functional Materials*, **2013**, 23, 1037-1045 | 15.6 | 264 |
| 98 | The nature of lithium battery materials under oxygen evolution reaction conditions. *Journal of the American Chemical Society*, **2012**, 134, 16959-62 | 16.4 | 241 |
| 97 | Surface composition tuning of Au-Pt bimetallic nanoparticles for enhanced carbon monoxide and methanol electro-oxidation. *Journal of the American Chemical Society*, **2013**, 135, 7985-91 | 16.4 | 240 |
| 96 | Layer-by-layer assembled polyaniline nanofiber/multiwall carbon nanotube thin film electrodes for high-power and high-energy storage applications. *ACS Nano*, **2011**, 5, 8552-61 | 16.7 | 238 |
| 95 | Flexible supercapacitor electrodes based on real metal-like cellulose papers. *Nature Communications*, **2017**, 8, 536 | 17.4 | 237 |
| 94 | Thin films of carbon nanotubes and chemically reduced graphenes for electrochemical micro-capacitors. *Carbon*, **2011**, 49, 457-467 | 10.4 | 237 |
| 93 | Self-polymerized dopamine as an organic cathode for Li- and Na-ion batteries. *Energy and Environmental Science*, **2017**, 10, 205-215 | 35.4 | 181 |
| 92 | Roles of surface steps on Pt nanoparticles in electro-oxidation of carbon monoxide and methanol. *Journal of the American Chemical Society*, **2009**, 131, 15669-77 | 16.4 | 179 |
| 91 | Emergent Pseudocapacitance of 2D Nanomaterials. *Advanced Energy Materials*, **2018**, 8, 1702930 | 21.8 | 172 |
| 90 | Piezoelectric-driven self-charging supercapacitor power cell. *ACS Nano*, **2015**, 9, 4337-45 | 16.7 | 170 |
| 89 | First-Principles Density Functional Theory Modeling of Li Binding: Thermodynamics and Redox Properties of Quinone Derivatives for Lithium-Ion Batteries. *Journal of the American Chemical Society*, **2016**, 138, 2374-82 | 16.4 | 142 |
| 88 | Electrochemical polymerization of pyrene derivatives on functionalized carbon nanotubes for pseudocapacitive electrodes. *Nature Communications*, **2015**, 6, 7040 | 17.4 | 132 |

| | | | |
|---|---|---|---|
| 87 | Role of Surface Steps of Pt Nanoparticles on the Electrochemical Activity for Oxygen Reduction. *Journal of Physical Chemistry Letters*, **2010**, 1, 1316-1320 | 6.4 | 115 |
| 86 | Self-standing positive electrodes of oxidized few-walled carbon nanotubes for light-weight and high-power lithium batteries. *Energy and Environmental Science*, **2012**, 5, 5437-5444 | 35.4 | 109 |
| 85 | Improved stability of nano-Sn electrode with high-quality nano-SEI formation for lithium ion battery. *Nano Energy*, **2015**, 12, 314-321 | 17.1 | 85 |
| 84 | High-power hybrid biofuel cells using layer-by-layer assembled glucose oxidase-coated metallic cotton fibers. *Nature Communications*, **2018**, 9, 4479 | 17.4 | 84 |
| 83 | Pt□Ni octahedral nanocrystals as a class of highly active electrocatalysts toward the hydrogen evolution reaction in an alkaline electrolyte. *Journal of Materials Chemistry A*, **2016**, 4, 12392-12397 | 13 | 82 |
| 82 | Structural Evolution and Pulverization of Tin Nanoparticles during Lithiation-Delithiation Cycling. *Journal of the Electrochemical Society*, **2014**, 161, F3019-F3024 | 3.9 | 80 |
| 81 | Parallelized Reaction Pathway and Stronger Internal Band Bending by Partial Oxidation of Metal Sulfide□Graphene Composites: Important Factors of Synergistic Oxygen Evolution Reaction Enhancement. *ACS Catalysis*, **2018**, 8, 4091-4102 | 13.1 | 79 |
| 80 | Rapid fabrication of thick spray-layer-by-layer carbon nanotube electrodes for high power and energy devices. *Energy and Environmental Science*, **2013**, 6, 888 | 35.4 | 76 |
| 79 | Oxygen-Vacancy-Introduced BaSnO Photoanodes with Tunable Band Structures for Efficient Solar-Driven Water Splitting. *Advanced Materials*, **2019**, 31, e1903316 | 24 | 75 |
| 78 | High-Density Lithium-Ion Energy Storage Utilizing the Surface Redox Reactions in Folded Graphene Films. *Chemistry of Materials*, **2015**, 27, 3291-3298 | 9.6 | 64 |
| 77 | Flow-electrode capacitive deionization with highly enhanced salt removal performance utilizing high-aspect ratio functionalized carbon nanotubes. *Water Research*, **2019**, 151, 252-259 | 12.5 | 63 |
| 76 | Electrostatic Layer-by-Layer Assembled Au Nanoparticle/MWNT Thin Films: Microstructure, Optical Property, and Electrocatalytic Activity for Methanol Oxidation. *Chemistry of Materials*, **2009**, 21, 2993-3001 | 9.6 | 61 |
| 75 | Ice-templated Self-assembly of VOPO4-Graphene Nanocomposites for Vertically Porous 3D Supercapacitor Electrodes. *Scientific Reports*, **2015**, 5, 13696 | 4.9 | 53 |
| 74 | Reducing the Barrier Energy of Self-Reconstruction for Anchored Cobalt Nanoparticles as Highly Active Oxygen Evolution Electrocatalyst. *Advanced Materials*, **2019**, 31, e1901977 | 24 | 51 |
| 73 | Pattern Transfer Printing of Multiwalled Carbon Nanotube Multilayers and Application in Biosensors. *Chemistry of Materials*, **2010**, 22, 4791-4797 | 9.6 | 50 |
| 72 | Elastomeric electrolytes for high-energy solid-state lithium batteries.. *Nature*, **2022**, 601, 217-222 | 50.4 | 45 |
| 71 | High Capacity Adsorption□Dominated Potassium and Sodium Ion Storage in Activated Crumpled Graphene. *Advanced Energy Materials*, **2020**, 10, 1903280 | 21.8 | 44 |
| 70 | Submicron silicon encapsulated with graphene and carbon as a scalable anode for lithium-ion batteries. *Carbon*, **2017**, 119, 438-445 | 10.4 | 43 |

| | | | |
|---|---|---|---|
| 69 | Ultrathin supercapacitor electrodes with high volumetric capacitance and stability using direct covalent-bonding between pseudocapacitive nanoparticles and conducting materials. *Nano Energy*, **2015**, 12, 612-625 | 17.1 | 43 |
| 68 | Pt-Covered Multiwall Carbon Nanotubes for Oxygen Reduction in Fuel Cell Applications. *Journal of Physical Chemistry Letters*, **2011**, 2, 1332-6 | 6.4 | 42 |
| 67 | In Situ Self-Formed Nanosheet MoS/Reduced Graphene Oxide Material Showing Superior Performance as a Lithium-Ion Battery Cathode. *ACS Nano*, **2019**, 13, 1490-1498 | 16.7 | 42 |
| 66 | Vacuum-Assisted Layer-by-Layer Nanocomposites for Self-Standing 3D Mesoporous Electrodes. *Chemistry of Materials*, **2014**, 26, 5310-5318 | 9.6 | 36 |
| 65 | Carbon Nanotube Web with Carboxylated Polythiophene "Assist" for High-Performance Battery Electrodes. *ACS Nano*, **2018**, 12, 3126-3139 | 16.7 | 35 |
| 64 | Biomass-derived carbonaceous positive electrodes for sustainable lithium-ion storage. *Nanoscale*, **2016**, 8, 3671-7 | 7.7 | 35 |
| 63 | Structure Sensitivity of Pd Facets for Enhanced Electrochemical Nitrate Reduction to Ammonia. *ACS Catalysis*, **2021**, 11, 7568-7577 | 13.1 | 35 |
| 62 | Toward Efficient Electrocatalytic Oxygen Evolution: Emerging Opportunities with Metallic Pyrochlore Oxides for Electrocatalysts and Conductive Supports. *ACS Central Science*, **2020**, 6, 880-891 | 16.8 | 33 |
| 61 | Systematic Molecular Design of Ketone Derivatives of Aromatic Molecules for Lithium-Ion Batteries: First-Principles DFT Modeling. *ChemSusChem*, **2017**, 10, 1584-1591 | 8.3 | 32 |
| 60 | Synthesis, Activity and Durability of Pt Nanoparticles Supported on Multi-walled Carbon Nanotubes for Oxygen Reduction. *Journal of the Electrochemical Society*, **2011**, 158, B1398 | 3.9 | 32 |
| 59 | In Situ Polymerization of Dopamine on Graphene Framework for Charge Storage Applications. *Small*, **2018**, 14, e1801236 | 11 | 31 |
| 58 | Hierarchical networks of redox-active reduced crumpled graphene oxide and functionalized few-walled carbon nanotubes for rapid electrochemical energy storage. *Nanoscale*, **2016**, 8, 12330-8 | 7.7 | 30 |
| 57 | Thermodynamic and redox properties of graphene oxides for lithium-ion battery applications: a first principles density functional theory modeling approach. *Physical Chemistry Chemical Physics*, **2016**, 18, 20600-6 | 3.6 | 30 |
| 56 | Ammonia and Nitric Acid Demands for Fertilizer Use in 2050. *ACS Energy Letters*,3676-3685 | 20.1 | 30 |
| 55 | All-Soft Supercapacitors Based on Liquid Metal Electrodes with Integrated Functionalized Carbon Nanotubes. *ACS Nano*, **2020**, 14, 5659-5667 | 16.7 | 27 |
| 54 | Role of anions on electrochemical exfoliation of graphite into graphene in aqueous acids. *Carbon*, **2020**, 167, 816-825 | 10.4 | 27 |
| 53 | Self-Assembled, Redox-Active Graphene Electrodes for High-Performance Energy Storage Devices. *Journal of Physical Chemistry Letters*, **2014**, 5, 4324-30 | 6.4 | 27 |
| 52 | Innovative cathode flow-field design for passive air-cooled polymer electrolyte membrane (PEM) fuel cell stacks. *International Journal of Hydrogen Energy*, **2020**, 45, 11704-11713 | 6.7 | 26 |

| | | | |
|---|---|---|---|
| 51 | Improved capacity of redox-active functional carbon cathodes by dimension reduction for hybrid supercapacitors. *Journal of Materials Chemistry A*, **2018**, 6, 3367-3375 | 13 | 25 |
| 50 | Oxygen Reduction Activity of PtxNi1-x Alloy Nanoparticles on Multiwall Carbon Nanotubes. *Electrochemical and Solid-State Letters*, **2011**, 14, B110 | | 24 |
| 49 | Highly conductive electrocatalytic gold nanoparticle-assembled carbon fiber electrode for high-performance glucose-based biofuel cells. *Journal of Materials Chemistry A*, **2019**, 7, 13495-13505 | 13 | 23 |
| 48 | High surface area carbon from polyacrylonitrile for high-performance electrochemical capacitive energy storage. *Journal of Materials Chemistry A*, **2016**, 4, 18294-18299 | 13 | 20 |
| 47 | Room-Temperature Metallic Fusion-Induced Layer-by-Layer Assembly for Highly Flexible Electrode Applications. *Advanced Functional Materials*, **2019**, 29, 1806584 | 15.6 | 18 |
| 46 | Charge-Transfer-Modulated Transparent Supercapacitor Using Multidentate Molecular Linker and Conductive Transparent Nanoparticle Assembly. *ACS Nano*, **2019**, 13, 12719-12731 | 16.7 | 17 |
| 45 | Unveiled correlations between electron affinity and solvation in redox potential of quinone-based sodium-ion batteries. *Energy Storage Materials*, **2019**, 19, 242-250 | 19.4 | 17 |
| 44 | Understanding synergistic metal□oxide interactions of in situ exsolved metal nanoparticles on a pyrochlore oxide support for enhanced water splitting. *Energy and Environmental Science*, **2021**, 14, 3053-3063 | 35.4 | 17 |
| 43 | Stitchable supercapacitors with high energy density and high rate capability using metal nanoparticle-assembled cotton threads. *Journal of Materials Chemistry A*, **2018**, 6, 20421-20432 | 13 | 17 |
| 42 | High-yield electrochemical hydrogen peroxide production from an enhanced two-electron oxygen reduction pathway by mesoporous nitrogen-doped carbon and manganese hybrid electrocatalysts. *Nanoscale Horizons*, **2020**, 5, 832-838 | 10.8 | 16 |
| 41 | Thin-Film Electrode Design for High Volumetric Electrochemical Performance Using Metal Sputtering-Combined Ligand Exchange Layer-by-Layer Assembly. *Advanced Functional Materials*, **2018**, 28, 1804926 | 15.6 | 15 |
| 40 | Hydrothermally Oxidized Single-Walled Carbon Nanotube Networks for High Volumetric Electrochemical Energy Storage. *Small*, **2016**, 12, 3423-31 | 11 | 14 |
| 39 | Porous Strained Pt Nanostructured Thin-Film Electrocatalysts via Dealloying for PEM Fuel Cells. *Advanced Materials Interfaces*, **2020**, 7, 1901326 | 4.6 | 14 |
| 38 | A dual-stage sodium thermal electrochemical converter (Na-TEC). *Journal of Power Sources*, **2017**, 371, 217-224 | 8.9 | 13 |
| 37 | Outstanding Low-Temperature Performance of Structure-Controlled Graphene Anode Based on Surface-Controlled Charge Storage Mechanism. *Advanced Functional Materials*, **2021**, 31, 2009397 | 15.6 | 13 |
| 36 | Enhanced Lithium Storage of an Organic Cathode via the Bipolar Mechanism. *ACS Applied Energy Materials*, **2020**, 3, 3728-3735 | 6.1 | 12 |
| 35 | Parametric study of passive air-cooled polymer electrolyte membrane fuel cell stacks. *International Journal of Heat and Mass Transfer*, **2020**, 156, 119886 | 4.9 | 11 |
| 34 | High purity hydrogen production via aqueous phase reforming of xylose over small Pt nanoparticles on a □Al2O3 support. *International Journal of Hydrogen Energy*, **2020**, 45, 13848-13861 | 6.7 | 10 |

| | | | |
|---|---|---|---|
| 33 | Post-assembly modification of polymeric composite membranes using spin drying for fuel cell applications. *Journal of Materials Chemistry A*, **2019**, 7, 7380-7388 | 13 | 9 |
| 32 | Polyethylenimine-assisted Synthesis of Au Nanoparticles for Efficient Syngas Production. *Electroanalysis*, **2019**, 31, 1401-1408 | 3 | 9 |
| 31 | Effect of the Side-Chain Length in Perfluorinated Sulfonic and Phosphoric Acid-Based Membranes on Nanophase Segregation and Transport: A Molecular Dynamics Simulation Approach. *Journal of Physical Chemistry B*, **2020**, 124, 1571-1580 | 3.4 | 9 |
| 30 | Electrochemical Performance of Thin-Film Functionalized Carbon Nanotube Electrodes in Nonaqueous Cells. *Journal of the Electrochemical Society*, **2014**, 161, A1625-A1633 | 3.9 | 9 |
| 29 | 3D Hierarchical Host with Enhanced Sodiophilicity Enabling Anode-Free Sodium Metal Batteries.. *Advanced Materials*, **2022**, e2109767 | 24 | 9 |
| 28 | Aluminum textile-based binder-free nanostructured battery cathodes using a layer-by-layer assembly of metal/metal oxide nanoparticles. *Applied Physics Reviews*, **2021**, 8, 011405 | 17.3 | 9 |
| 27 | Analyzing oxygen transport resistance and Pt particle growth effect in the cathode catalyst layer of polymer electrolyte fuel cells. *International Journal of Hydrogen Energy*, **2020**, 45, 13414-13427 | 6.7 | 9 |
| 26 | Nanoparticle-Based Electrodes with High Charge Transfer Efficiency through Ligand Exchange Layer-by-Layer Assembly. *Advanced Materials*, **2020**, 32, e2001924 | 24 | 8 |
| 25 | Pseudocapacitance: Emergent Pseudocapacitance of 2D Nanomaterials (Adv. Energy Mater. 13/2018). *Advanced Energy Materials*, **2018**, 8, 1870058 | 21.8 | 7 |
| 24 | Synthesis and Oxygen Reduction Reaction Activity of Atomic and Nanoparticle Gold on Thiol-Functionalized Multiwall Carbon Nanotubes. *Electrochemical and Solid-State Letters*, **2011**, 14, B105 | | 7 |
| 23 | Textile-Type Lithium-Ion Battery Cathode Enabling High Specific/Areal Capacities and High Rate Capability through Ligand Replacement Reaction-Mediated Assembly. *Advanced Energy Materials*, **2021**, 11, 2101631 | 21.8 | 7 |
| 22 | Interfacial Design and Assembly for Flexible Energy Electrodes with Highly Efficient Energy Harvesting, Conversion, and Storage. *Advanced Energy Materials*, **2021**, 11, 2002969 | 21.8 | 7 |
| 21 | Stacking-Controlled Assembly of Cabbage-Like Graphene Microsphere for Charge Storage Applications. *Small*, **2018**, 14, e1801948 | 11 | 6 |
| 20 | CeO2(111) Surface with Oxygen Vacancy for Radical Scavenging: A Density Functional Theory Approach. *Journal of Physical Chemistry C*, **2020**, 124, 20950-20959 | 3.8 | 6 |
| 19 | A Layer-by-Layer Assembly Route to Electroplated Fibril-Based 3D Porous Current Collectors for Energy Storage Devices. *Small*, **2021**, 17, e2007579 | 11 | 6 |
| 18 | Recent advances in non-precious group metal-based catalysts for water electrolysis and beyond. *Journal of Materials Chemistry A*, **2021**, 10, 50-88 | 13 | 4 |
| 17 | Role of surface steps in activation of surface oxygen sites on Ir nanocrystals for oxygen evolution reaction in acidic media. *Applied Catalysis B: Environmental*, **2022**, 302, 120834 | 21.8 | 4 |
| 16 | Layer-by-Layer Assembly-Based Electrocatalytic Fibril Electrodes Enabling Extremely Low Overpotentials and Stable Operation at 1 A cm2 in Water-Splitting Reaction. *Advanced Functional Materials*, **2021**, 31, 2102530 | 15.6 | 3 |

| | | | |
|---|---|---|---|
| 15 | A Cost-Performance Analysis of a Sodium Heat Engine for Distributed Concentrating Solar Power. *Advanced Sustainable Systems*, **2020**, 4, 1900104 | 5.9 | 2 |
| 14 | Covalent organic frameworks: Design and applications in electrochemical energy storage devices. *InformaMaterly*, | 23.1 | 2 |
| 13 | High-capacity sulfur copolymer cathode with metallic fibril-based current collector and conductive capping layer. *Journal of Materials Chemistry A*, **2021**, 9, 2334-2344 | 13 | 2 |
| 12 | Two-Dimensional Polydopamine Positive Electrodes for High-Capacity Alkali Metal-Ion Storage. *ChemElectroChem*, **2021**, 8, 1070-1077 | 4.3 | 2 |
| 11 | Improving Water Management and Performance of an Air-Cooled Fuel Cell System Using Pressurized Air for Aviation Applications. *Journal of the Electrochemical Society*, **2021**, 168, 084503 | 3.9 | 2 |
| 10 | Interfacial Li-Ion Storage between Graphene Layers. *ECS Transactions*, **2017**, 77, 19-25 | 1 | 1 |
| 9 | Unveiled Correlations between Electron Affinity and Solvation in Redox Potential of Quinone-Based Sodium-Ion Batteries. *SSRN Electronic Journal*, | 1 | 1 |
| 8 | Fabrication of 3D structured composites of crumpled graphene, polyaniline and molybdenum disulfide nanosheets for high performance alkali metal ion storage. *Advanced Powder Technology*, **2021**, 32, 464-471 | 4.6 | 1 |
| 7 | Techno-Economic Analysis of Dual-Stage Sodium Thermal Electrochemical Converter (Na-TEC) Power Block for Distributed CSP **2018**, | | 1 |
| 6 | Charge Transfer: Interfacial Design and Assembly for Flexible Energy Electrodes with Highly Efficient Energy Harvesting, Conversion, and Storage (Adv. Energy Mater. 27/2021). *Advanced Energy Materials*, **2021**, 11, 2170108 | 21.8 | 0 |
| 5 | A 3D Hierarchical Host with Enhanced Sodiophilicity Enabling Anode-Free Sodium-Metal Batteries (Adv. Mater. 14/2022). *Advanced Materials*, **2022**, 34, 2270111 | 24 | 0 |
| 4 | High-performance hybrid biofuel cells using amphiphilic assembly based enzyme electrodes. *Applied Physics Reviews*, **2022**, 9, 021413 | 17.3 | 0 |
| 3 | Nanoparticle-Based Electrodes: Nanoparticle-Based Electrodes with High Charge Transfer Efficiency through Ligand Exchange Layer-by-Layer Assembly (Adv. Mater. 51/2020). *Advanced Materials*, **2020**, 32, 2070382 | 24 | |
| 2 | Pd Shape-Controlled Nanoparticles Decorated with Metals for Electrochemical Nitrate and Nitrite Reduction. *ECS Meeting Abstracts*, **2020**, MA2020-02, 3268-3268 | 0 | |
| 1 | 3D Structured Graphene Anodes for Alkali Metal Ion Storage Applications. *ECS Meeting Abstracts*, **2021**, MA2021-02, 529-529 | 0 | |