# Zhirong Zhao-Karger

List of Publications by Year
in descending order



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|---|---|---|---|
| 57 papers | 3,881 citations | 159585 30 h-index | 144013 57 g-index |
| 59 all docs | 59 docs citations | 59 times ranked | 2981 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | A new class of non-corrosive, highly efficient electrolytes for rechargeable magnesium batteries. Journal of Materials Chemistry A, 2017, 5, 10815-10820. | 10.3 | 319 |
| 2 | Performance Improvement of Magnesium Sulfur Batteries with Modified Nonâ€Nucleophilic Electrolytes. Advanced Energy Materials, 2015, 5, 1401155. | 19.5 | 308 |
| 3 | Performance study of magnesiumâ€"sulfur battery using a graphene based sulfur composite cathode electrode and a non-nucleophilic Mg electrolyte. Nanoscale, 2016, 8, 3296-3306. | 5.6 | 247 |
| 4 | Toward Highly Reversible Magnesiumâ€"Sulfur Batteries with Efficient and Practical Mg[B(hfip)<sub>4</sub>]<sub>2</sub> Electrolyte. ACS Energy Letters, 2018, 3, 2005-2013. | 17.4 | 234 |
| 5 | Towards stable and efficient electrolytes for room-temperature rechargeable calcium batteries. Energy and Environmental Science, 2019, 12, 3496-3501. | 30.8 | 184 |
| 6 | Altered thermodynamic and kinetic properties of MgH2 infiltrated in microporous scaffold. Chemical Communications, 2010, 46, 8353. | 4.1 | 183 |
| 7 | Bisamide based non-nucleophilic electrolytes for rechargeable magnesium batteries. RSC Advances, 2013, 3, 16330. | 3.6 | 164 |
| 8 | Metal Oxychlorides as Cathode Materials for Chloride Ion Batteries. Angewandte Chemie - International Edition, 2013, 52, 13621-13624. | 13.8 | 145 |
| 9 | Halideâ€Based Materials and Chemistry for Rechargeable Batteries. Angewandte Chemie - International Edition, 2020, 59, 5902-5949. | 13.8 | 142 |
| 10 | The metamorphosis of rechargeable magnesium batteries. Joule, 2021, 5, 581-617. | 24.0 | 129 |
| 11 | Fast kinetics of multivalent intercalation chemistry enabled by solvated magnesium-ions into self-established metallic layered materials. Nature Communications, 2018, 9, 5115. | 12.8 | 114 |
| 12 | A Porphyrin Complex as a Selfâ€Conditioned Electrode Material for Highâ€Performance Energy Storage. Angewandte Chemie - International Edition, 2017, 56, 10341-10346. | 13.8 | 94 |
| 13 | Multiâ€Electron Reactions Enabled by Anionâ€Based Redox Chemistry for Highâ€Energy Multivalent Rechargeable Batteries. Angewandte Chemie - International Edition, 2020, 59, 11483-11490. | 13.8 | 91 |
| 14 | The kinetic properties of Mg(BH<sub>4</sub>)<sub>2</sub>infiltrated in activated carbon. Nanotechnology, 2009, 20, 204029. | 2.6 | 90 |
| 15 | Beyond Intercalation Chemistry for Rechargeable Mg Batteries: A Short Review and Perspective. Frontiers in Chemistry, 2018, 6, 656. | 3.6 | 83 |
| 16 | LiBH<sub>4</sub>â^'Mg(BH<sub>4</sub>)<sub>2</sub>: A Physical Mixture of Metal Borohydrides as Hydrogen Storage Material. Journal of Physical Chemistry C, 2011, 115, 6095-6101. | 3.1 | 82 |
| 17 | VOCl as a Cathode for Rechargeable Chloride Ion Batteries. Angewandte Chemie - International Edition, 2016, 55, 4285-4290. | 13.8 | 81 |
| 18 | Selenium and selenium-sulfur cathode materials for high-energy rechargeable magnesium batteries. Journal of Power Sources, 2016, 323, 213-219. | 7.8 | 75 |

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|---|---|---|---|
| 19 | Magnesium Anode for Chloride Ion Batteries. ACS Applied Materials & Interfaces, 2014, 6, 10997-11000. | 8.0 | 69 |
| 20 | Vanadium Oxychloride/Magnesium Electrode Systems for Chloride Ion Batteries. ACS Applied Materials & Interfaces, 2014, 6, 22430-22435. | 8.0 | 64 |
| 21 | New Organic Electrode Materials for Ultrafast Electrochemical Energy Storage. Advanced Materials, 2019, 31, e1806599. | 21.0 | 64 |
| 22 | Novel transmetalation reaction for electrolyte synthesis for rechargeable magnesium batteries. RSC Advances, 2014, 4, 26924-26927. | 3.6 | 55 |
| 23 | Copper Porphyrin as a Stable Cathode for Highâ€Performance Rechargeable Potassium Organic Batteries. ChemSusChem, 2020, 13, 2286-2294. | 6.8 | 54 |
| 24 | Insights into the electrochemical processes of rechargeable magnesiumâ€"sulfur batteries with a new cathode design. Journal of Materials Chemistry A, 2019, 7, 25490-25502. | 10.3 | 53 |
| 25 | MgSc<sub>2</sub>Se<sub>4</sub>â€"A Magnesium Solid Ionic Conductor for Allâ€Solidâ€State Mg Batteries?. ChemSusChem, 2019, 12, 2286-2293. | 6.8 | 49 |
| 26 | Investigation of Magnesiumâ€"Sulfur Batteries using Electrochemical Impedance Spectroscopy. Electrochimica Acta, 2020, 338, 135787. | 5.2 | 48 |
| 27 | Investigation on the formation of Mg metal anode/electrolyte interfaces in Mg/S batteries with electrolyte additives. Journal of Materials Chemistry A, 2020, 8, 22998-23010. | 10.3 | 46 |
| 28 | Development of Magnesium Borate Electrolytes: Explaining the Success of Mg[B(hfip)4]2 Salt. Energy Storage Materials, 2022, 45, 1133-1143. | 18.0 | 39 |
| 29 | Establishing a Stable Anodeâ€"Electrolyte Interface in Mg Batteries by Electrolyte Additive. ACS Applied Materials & Interfaces, 2021, 13, 33123-33132. | 8.0 | 34 |
| 30 | Dual Role of Mo<sub>6</sub>S<sub>8</sub> in Polysulfide Conversion and Shuttle for Mgâ€"S Batteries. Advanced Science, 2022, 9, e2104605. | 11.2 | 33 |
| 31 | Calcium-tin alloys as anodes for rechargeable non-aqueous calcium-ion batteries at room temperature. Nature Communications, 2022, 13, . | 12.8 | 32 |
| 32 | A Porphyrin Complex as a Selfâ€Conditioned Electrode Material for Highâ€Performance Energy Storage. Angewandte Chemie, 2017, 129, 10477-10482. | 2.0 | 31 |
| 33 | Polyoxometalate Modified Separator for Performance Enhancement of Magnesiumâ€"Sulfur Batteries. Advanced Functional Materials, 2021, 31, 2100868. | 14.9 | 31 |
| 34 | Operando UV/vis Spectroscopy Providing Insights into the Sulfur and Polysulfide Dissolution in Magnesiumâ€"Sulfur Batteries. ACS Energy Letters, 2022, 7, 1-9. | 17.4 | 29 |
| 35 | VOCl as a Cathode for Rechargeable Chloride Ion Batteries. Angewandte Chemie, 2016, 128, 4357-4362. | 2.0 | 26 |
| 36 | Insights into Self-Discharge of Lithiumâ€" and Magnesiumâ€"Sulfur Batteries. ACS Applied Energy Materials, 2020, 3, 8457-8474. | 5.1 | 26 |

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|---|---|---|---|
| 37 | Combining Quinoneâ€Based Cathode with an Efficient Borate Electrolyte for Highâ€Performance Magnesium Batteries. Batteries and Supercaps, 2021, 4, 1850-1857. | 4.7 | 26 |
| 38 | Surface Engineering of a Mg Electrode via a New Additive to Reduce Overpotential. ACS Applied Materials & Interfaces, 2021, 13, 37044-37051. | 8.0 | 25 |
| 39 | A Lithiumâ€Free Energyâ€Storage Device Based on an Alkyneâ€Substitutedâ€Porphyrin Complex. ChemSusChem, 2019, 12, 3737-3741. | 6.8 | 24 |
| 40 | Rechargeable Calciumâ€“Sulfur Batteries Enabled by an Efficient Borateâ€Based Electrolyte. Small, 2020, 16, e2001806. | 10.0 | 24 |
| 41 | Interlayerâ€Expanded Vanadium Oxychloride as an Electrode Material for Magnesiumâ€Based Batteries. ChemElectroChem, 2017, 4, 738-745. | 3.4 | 22 |
| 42 | Designing Gel Polymer Electrolyte with Synergetic Properties for Rechargeable Magnesium Batteries. Energy Storage Materials, 2022, 48, 155-163. | 18.0 | 21 |
| 43 | Performance Study of MXene/Carbon Nanotube Composites for Current Collectorâ€•and Binderâ€Free Mgâ€“S Batteries. ChemSusChem, 2021, 14, 1864-1873. | 6.8 | 20 |
| 44 | A Selfâ€Conditioned Metalloporphyrin as a Highly Stable Cathode for Fast Rechargeable Magnesium Batteries. ChemSusChem, 2021, 14, 1840-1846. | 6.8 | 17 |
| 45 | A quasielastic and inelastic neutron scattering study of the alkaline and alkaline-earth borohydrides LiBH<sub>4</sub> and Mg(BH<sub>4</sub>)<sub>2</sub> and the mixture LiBH<sub>4</sub> + Mg(BH<sub>4</sub>)<sub>2</sub>. Physical Chemistry Chemical Physics, 2019, 21, 718-728. | 2.8 | 15 |
| 46 | Modeling of Ion Agglomeration in Magnesium Electrolytes and its Impacts on Battery Performance. ChemSusChem, 2020, 13, 3599-3604. | 6.8 | 15 |
| 47 | Multiâ€Electron Reactions Enabled by Anionâ€Based Redox Chemistry for Highâ€Energy Multivalent Rechargeable Batteries. Angewandte Chemie, 2020, 132, 11580-11587. | 2.0 | 15 |
| 48 | Modeling of Electronâ€Transfer Kinetics in Magnesium Electrolytes: Influence of the Solvent on the Battery Performance. ChemSusChem, 2021, 14, 4820-4835. | 6.8 | 15 |
| 49 | Halogenidâ€basierte Materialien und Chemie fÃ¼r wiederaufladbare Batterien. Angewandte Chemie, 2020, 132, 5954-6004. | 2.0 | 14 |
| 50 | Degradation Effects in Metalâ€“Sulfur Batteries. ACS Applied Energy Materials, 2021, 4, 2365-2376. | 5.1 | 12 |
| 51 | Influence of Nanoconfinement on Reaction Pathways of Complex Metal Hydrides. Energy Procedia, 2012, 29, 731-737. | 1.8 | 11 |
| 52 | Mitigating self-discharge and improving the performance of Mgâ€“S battery in Mg[B(hfip)<sub>4</sub>]<sub>2</sub> electrolyte with a protective interlayer. Journal of Materials Chemistry A, 2021, 9, 25150-25159. | 10.3 | 11 |
| 53 | Investigation of the Anodeâ€Electrolyte Interface in a Magnesium Fullâ€Cell with Fluorinated Alkoxyborateâ€Based Electrolyte. Batteries and Supercaps, 2022, 5, . | 4.7 | 8 |
| 54 | Environmental assessment of a new generation battery: The magnesium-sulfur system. Journal of Energy Storage, 2021, 35, 102053. | 8.1 | 7 |

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|---|---|---|---|
| 55 | Lithium-Magnesium Hybrid Battery with Vanadium Oxychloride as Electrode Material. ChemistrySelect, 2017, 2, 7558-7564. | 1.5 | 6 |
| 56 | Calciumâ€"Sulfur Batteries: Rechargeable Calciumâ€"Sulfur Batteries Enabled by an Efficient Borateâ€Based Electrolyte (Small 39/2020). Small, 2020, 16, 2070216. | 10.0 | 5 |
| 57 | Understanding Structure Changes during Cycling of MoS2-based Mg Batteries. Microscopy and Microanalysis, 2019, 25, 2042-2043. | 0.4 | 0 |