

# Jake F Christensen

## List of Publications by Year in descending order

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52  
papers

5,300  
citations

201385

27  
h-index

233125

45  
g-index

55  
all docs

55  
docs citations

55  
times ranked

5812  
citing authors

| #  | ARTICLE  | IF   | CITATIONS |
|----|--|------|-----------|
| 1  | A Critical Review of Li/Air Batteries. Journal of the Electrochemical Society, 2011, 159, R1-R30.  | 1.3  | 950       |
| 2  | Stress generation and fracture in lithium insertion materials. Journal of Solid State Electrochemistry, 2006, 10, 293-319.   | 1.2  | 554       |
| 3  | Algorithms for Advanced Battery-Management Systems. IEEE Control Systems, 2010, 30, 49-68.   | 1.0  | 471       |
| 4  | A Mathematical Model of Stress Generation and Fracture in Lithium Manganese Oxide. Journal of the Electrochemical Society, 2006, 153, A1019.   | 1.3  | 359       |
| 5  | A Mathematical Model for the Lithium-Ion Negative Electrode Solid Electrolyte Interphase. Journal of the Electrochemical Society, 2004, 151, A1977.  | 1.3  | 259       |
| 6  | Identifying Capacity Limitations in the Li/Oxygen Battery Using Experiments and Modeling. Journal of the Electrochemical Society, 2011, 158, A343.   | 1.3  | 254       |
| 7  | Stitching h-BN by atomic layer deposition of LiF as a stable interface for lithium metal anode. Science Advances, 2017, 3, eaao3170.   | 4.7  | 252       |
| 8  | Electrochemical Model Based Observer Design for a Lithium-Ion Battery. IEEE Transactions on Control Systems Technology, 2013, 21, 289-301.   | 3.2  | 217       |
| 9  | Modeling Diffusion-Induced Stress in Li-Ion Cells with Porous Electrodes. Journal of the Electrochemical Society, 2010, 157, A366.   | 1.3  | 194       |
| 10 | Cyclable Lithium and Capacity Loss in Li-Ion Cells. Journal of the Electrochemical Society, 2005, 152, A818.   | 1.3  | 166       |
| 11 | Experiments on and Modeling of Positive Electrodes with Multiple Active Materials for Lithium-Ion Batteries. Journal of the Electrochemical Society, 2009, 156, A606.                          | 1.3  | 157       |
| 12 | Engineering stable interfaces for three-dimensional lithium metal anodes. Science Advances, 2018, 4, eaat5168.   | 4.7  | 153       |
| 13 | Optimal charging strategies in lithium-ion battery. , 2011, , .  |      | 116       |
| 14 | Optimization of Lithium Titanate Electrodes for High-Power Cells. Journal of the Electrochemical Society, 2006, 153, A560.   | 1.3  | 93        |
| 15 | Effect of Anode Film Resistance on the Charge/Discharge Capacity of a Lithium-Ion Battery. Journal of the Electrochemical Society, 2003, 150, A1416.   | 1.3  | 92        |
| 16 | Mesoscale Chemomechanical Interplay of the $\text{LiNi}_{0.8}\text{Co}_{0.15}\text{Al}_{0.05}\text{O}_2$ Cathode in Solid-State Polymer Batteries. Chemistry of Materials, 2019, 31, 491-501.  | 3.2  | 89        |
| 17 | Quantifying Tortuosity of Porous Li-Ion Battery Electrodes: Comparing Polarization-Interrupt and Blocking-Electrolyte Methods. Journal of the Electrochemical Society, 2018, 165, A2644-A2653. | 1.3  | 76        |
| 18 | Techno-economic analysis of capacitive and intercalative water deionization. Energy and Environmental Science, 2020, 13, 1544-1560.  | 15.6 | 76        |

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|----|--|-----|-----------|
| 19 | Thermoelectrochemical simulations of performance and abuse in 50-Ah automotive cells. Journal of Power Sources, 2014, 268, 625-633.  | 4.0 | 63        |
| 20 | Evaluating the Effects of Temperature and Pressure on Li/PEO-LiTFSI Interfacial Stability and Kinetics. Journal of the Electrochemical Society, 2018, 165, A2801-A2806.  | 1.3 | 61        |
| 21 | Evaluation of convective heat transfer coefficient and specific heat capacity of a lithium-ion battery using infrared camera and lumped capacitance method. Journal of Power Sources, 2019, 412, 552-558.                                    | 4.0 | 61        |
| 22 | <i>Operando</i> video microscopy of Li plating and re-intercalation on graphite anodes during fast charging. Journal of Materials Chemistry A, 2021, 9, 23522-23536.   | 5.2 | 54        |
| 23 | Transport anomalies emerging from strong correlation in ionic liquid electrolytes. Journal of Power Sources, 2019, 428, 27-36.   | 4.0 | 53        |
| 24 | An Efficient Parallelizable 3D Thermoelectrochemical Model of a Li-Ion Cell. Journal of the Electrochemical Society, 2013, 160, A2258-A2267.   | 1.3 | 50        |
| 25 | Modeling, estimation, and control challenges for lithium-ion batteries. , 2010, , .  |     | 46        |
| 26 | Efficient Conservative Numerical Schemes for 1D Nonlinear Spherical Diffusion Equations with Applications in Battery Modeling. Journal of the Electrochemical Society, 2013, 160, A1565-A1571.   | 1.3 | 46        |
| 27 | State estimation of a reduced electrochemical model of a lithium-ion battery. , 2010, , .  |     | 45        |
| 28 | Thermally-driven mesopore formation and oxygen release in delithiated NCA cathode particles. Journal of Materials Chemistry A, 2019, 7, 12593-12603.   | 5.2 | 41        |
| 29 | Lithium Redistribution in Lithium-Metal Batteries. Journal of the Electrochemical Society, 2012, 159, A1615-A1623.   | 1.3 | 36        |
| 30 | Modeling of lithium electrodeposition at the lithium/ceramic electrolyte interface: The role of interfacial resistance and surface defects. Journal of Power Sources, 2019, 441, 227186.   | 4.0 | 32        |
| 31 | Modeling Side Reactions and Nonisothermal Effects in Nickel Metal-Hydride Batteries. Journal of the Electrochemical Society, 2008, 155, A48.   | 1.3 | 28        |
| 32 | Effect of Liquid Electrolyte Soaking on the Interfacial Resistance of $\text{Li}_{0.7}\text{La}_{0.3}\text{Zr}_{0.2}\text{O}_{12}$ for All-Solid-State Lithium Batteries. ACS Applied Materials & Interfaces, 2020, 12, 20605-20612.         | 4.0 | 26        |
| 33 | Removal of $\text{Na}^+$ and $\text{Ca}^{2+}$ with Prussian blue analogue electrodes for brackish water desalination. Desalination, 2020, 487, 114479.   | 4.0 | 23        |
| 34 | The effects of cycling on ionic and electronic conductivities of Li-ion battery electrodes. Journal of Power Sources, 2021, 492, 229636.   | 4.0 | 19        |
| 35 | Understanding the Overlithiation Properties of $\text{Li}_{0.6}\text{Mn}_{0.2}\text{Co}_{0.2}\text{O}_2$ Using Electrochemistry and Depth-Resolved X-ray Absorption Spectroscopy. Journal of the Electrochemical Society, 2020, 167, 080514. | 1.3 | 17        |
| 36 | An Electro-chemo-thermo-mechanical Coupled Three-dimensional Computational Framework for Lithium-ion Batteries. Journal of the Electrochemical Society, 2020, 167, 160542.   | 1.3 | 13        |

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|----|--|------|-----------|
| 37 | Long-term chemothermal stability of delithiated NCA in polymer solid-state batteries. Journal of Materials Chemistry A, 2019, 7, 27135-27147.  | 5.2  | 10        |
| 38 | A Modified Electrochemical Model to Account for Mechanical Effects Due to Lithium Intercalation and External Pressure. Journal of the Electrochemical Society, 2021, 168, 020533.  | 1.3  | 8         |
| 39 | A Study of Model-Based Protective Fast-Charging and Associated Degradation in Commercial Smartphone Cells: Insights on Cathode Degradation as a Result of Lithium Depositions on the Anode. Advanced Energy Materials, 2021, 11, 2003019.                      | 10.2 | 7         |
| 40 | Impact of Size and Position of Lithium Metal Reference Electrodes on the Measurement of Lithium-Plating Overpotential. Journal of the Electrochemical Society, 2021, 168, 090534.  | 1.3  | 6         |
| 41 | Understanding thermal and mechanical effects on lithium plating in lithium-ion batteries. Journal of Power Sources, 2022, 541, 231632.   | 4.0  | 5         |
| 42 | An Efficient Multiscale Model of a Spirally-Wound Li-Ion Cell. ECS Meeting Abstracts, 2011, , .  | 0.0  | 4         |
| 43 | Evaluation of the entropy of reaction using modified frequency-domain method and a physics-based thermoelectrochemical model of a lithium-ion battery. Journal of Power Sources, 2021, 508, 230283.  | 4.0  | 4         |
| 44 | Reply to the "Comment on "Techno-economic analysis of capacitive and intercalative water deionization" by S. K. Patel, L. Wang and M. Elimelech, <i>Energy Environ. Sci</i>., 2021, 10.1039/D0EE03321A. Energy and Environmental Science, 2021, 14, 2499-2503. | 15.6 | 3         |
| 45 | Performance and lifetime of intercalative water deionization cells for mono- and divalent ion removal. Desalination, 2021, 517, 115218.  | 4.0  | 3         |
| 46 | Approximations for Partial Differential Equations Appearing in Li-Ion Battery Models. , 2013, , .  |      | 2         |
| 47 | Interrelationship Between the Open Circuit Potential Curves in a Class of Ni-Rich Cathode Materials. Journal of the Electrochemical Society, 2020, 167, 040510.  | 1.3  | 2         |
| 48 | An Efficient Electrical Network Model for Computing Electrochemical State Distributions in a Spirally Wound Lithium-Ion Cell. Journal of the Electrochemical Society, 2022, 169, 050541.   | 1.3  | 2         |
| 49 | Location-Dependent Cobalt Deposition in Smartphone Cells upon Long-Term Fast-Charging Visualized by Synchrotron X-ray Fluorescence. Chemistry of Materials, 2021, 33, 6318-6328.   | 3.2  | 1         |
| 50 | Overview of LiO <sub>2</sub> Battery Systems, with a Focus on Oxygen Handling Requirements and Technologies. , 2014, , 291-310.  |      | 1         |
| 51 | Understanding Thermal and Mechanical Effects on Lithium Plating in Lithium Ion Batteries. ECS Meeting Abstracts, 2021, MA2021-02, 465-465.   | 0.0  | 0         |
| 52 | Performance and Lifetime of Battery Desalination Cells Based on Nickel Hexacyanoferrate. ECS Meeting Abstracts, 2022, MA2022-01, 142-142.  | 0.0  | 0         |