Corsin Battaglia

List of Publications by Year
in descending order

102 papers	8,934 citations	71102 41 h-index	45317 90 g-index
104 all docs	104 docs citations	104 times ranked	12603 citing authors

#	Article	IF	Citations
1	Unraveling the Voltageâ€Dependent Oxidation Mechanisms of Poly(Ethylene Oxide)â€Based Solid Electrolytes for Solidâ€State Batteries. Advanced Materials Interfaces, 2022, 9, 2100704.	3.7	28
2	Assessing Longâ€Term Cycling Stability of Singleâ€Crystal Versus Polycrystalline Nickelâ€Rich NCM in Pouch Cells with 6 mAh cm^{âˆ'2} Electrodes. Small, 2022, 18, e2107357.	10.0	41
3	Water/Ionic Liquid/Succinonitrile Hybrid Electrolytes for Aqueous Batteries. Advanced Functional Materials, 2022, 32, .	14.9	11
4	Elucidating the Rateâ€Limiting Processes in Highâ€Temperature Sodiumâ€Metal Chloride Batteries. Advanced Science, 2022, 9, e2201019.	11.2	8
5	A Polymerizedâ€Ionicâ€Liquidâ€Based Polymer Electrolyte with High Oxidative Stability for 4 and 5Â V Class Solidâ€State Lithium Metal Batteries. Advanced Energy Materials, 2022, 12, .	19.5	34
6	Highly reversible Li₂RuO₃ cathodes in sulfide-based all solid-state lithium batteries. Energy and Environmental Science, 2022, 15, 3470-3482.	30.8	17
7	Lithiumâ€Ion Transport in Li₄Ti₅O₁₂ Epitaxial Thin Films vs. State of Charge. Batteries and Supercaps, 2021, 4, 316-321.	4.7	6
8	<i>Nido</i>â€Hydroborateâ€Based Electrolytes for Allâ€Solidâ€State Lithium Batteries. Advanced Functional Materials, 2021, 31, 2010046.	14.9	37
9	Impact of Protonation on the Electrochemical Performance of Li₇La₃Zr₂O₁₂ Garnets. ACS Applied Materials & Interfaces, 2021, 13, 14700-14709.	8.0	20
10	Electrochemical CO2 reduction at room temperature: Status and perspectives. Journal of Energy Storage, 2021, 36, 102373.	8.1	23
11	Na electrodeposits: a new decaying mechanism for all-solid-state Na batteries revealed by synchrotron X-ray tomography. Nano Energy, 2021, 82, 105762.	16.0	23
12	The Hydrotropic Effect of Ionic Liquids in Waterâ€inâ€Salt Electrolytes**. Angewandte Chemie, 2021, 133, 14219-14227.	2.0	1
13	Analysis of c-lattice parameters to evaluate Na2O loss from and Na2O content in Î²''-alumina ceramics. Ceramics International, 2021, 47, 13402-13408.	4.8	10
14	Na2ZrCl6 enabling highly stable 3 V all-solid-state Na-ion batteries. Energy Storage Materials, 2021, 37, 47-54.	18.0	53
15	The Hydrotropic Effect of Ionic Liquids in Waterâ€inâ€Salt Electrolytes**. Angewandte Chemie - International Edition, 2021, 60, 14100-14108.	13.8	45
16	Grain size effects on activation energy and conductivity: Na-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.svg"><mml:mrow><mml:mi>Î²</mml:mi></mml:mrow></mml:math>â€³-alumina ceramics and ion conductors with highly resistive grain boundary phases. Acta Materialia, 2021, 213, 116940.	7.9	15
17	Rational Cathode Design for Highâ€Power Sodiumâ€Metal Chloride Batteries. Advanced Functional Materials, 2021, 31, 2106367.	14.9	9
18	In situ inorganic conductive network formation in high-voltage single-crystal Ni-rich cathodes. Nature Communications, 2021, 12, 5320.	12.8	197

#	Article	IF	Citations
19	A highly elastic polysiloxane-based polymer electrolyte for all-solid-state lithium metal batteries. Journal of Materials Chemistry A, 2021, 9, 11794-11801.	10.3	19
20	Anion Selection Criteria for Waterâ€•inâ€•Salt Electrolytes. Advanced Energy Materials, 2021, 11, 2002913.	19.5	47
21	Stabilizing Anionic Redox Reactions By Regulating Frontier Orbitals in Cation-Disordered Rock-Salt Oxides. ECS Meeting Abstracts, 2021, MA2021-02, 317-317.	0.0	0
22	The Hydrotropic Effect of Ionic Liquids in Water-in-Salt Electrolytes. ECS Meeting Abstracts, 2021, MA2021-02, 287-287.	0.0	0
23	Thermal and Electrochemical Interface Compatibility of a Hydroborate Solid Electrolyte with 3 V-Class Cathodes for All-Solid-State Sodium Batteries. ACS Applied Materials & Interfaces, 2021, 13, 55319-55328.	8.0	7
24	In-Depth Comparison of Polycrystalline and Single-Crystal Nickel-Rich Ncm Cathodes in Pouch-Type Full Cells. ECS Meeting Abstracts, 2021, MA2021-02, 388-388.	0.0	0
25	(Invited) Enabling Reversible Plating and Stripping of Lithium Metal in Lithium Metal Batteries. ECS Meeting Abstracts, 2021, MA2021-02, 727-727.	0.0	0
26	Status and prospects of hydroborate electrolytes for all-solid-state batteries. Energy Storage Materials, 2020, 25, 782-794.	18.0	112
27	Conformal Cu Coating on Electrospun Nanofibers for 3D Electroâ€•Conductive Networks. Advanced Electronic Materials, 2020, 6, 1900767.	5.1	7
28	Performance analysis of Na-Î²â€³-Al2O3/YSZ solid electrolytes produced by conventional sintering and by vapor conversion of Î±-Al2O3/YSZ. Solid State Ionics, 2020, 345, 115169.	2.7	8
29	Sodium Plating from Naâ€•Î²â€³â€•Alumina Ceramics at Room Temperature, Paving the Way for Fastâ€•Charging Allâ€•Solidâ€•State Batteries. Advanced Energy Materials, 2020, 10, 1902899.	19.5	99
30	Crystallization of closo-borate electrolytes from solution enabling infiltration into slurry-casted porous electrodes for all-solid-state batteries. Energy Storage Materials, 2020, 26, 543-549.	18.0	50
31	<i>Nido</i>-Borate/<i>Closo</i>-Borate Mixed-Anion Electrolytes for All-Solid-State Batteries. Chemistry of Materials, 2020, 32, 1101-1110.	6.7	44
32	Polymerâ€"Inorganic Nanocomposite Coating with High Ionic Conductivity and Transference Number for a Stable Lithium Metal Anode. ACS Applied Materials & Interfaces, 2020, 12, 41620-41626.	8.0	24
33	4 V room-temperature all-solid-state sodium battery enabled by a passivating cathode/hydroborate solid electrolyte interface. Energy and Environmental Science, 2020, 13, 5048-5058.	30.8	61
34	Impact of sintering conditions and zirconia addition on flexural strength and ion conductivity of Na-Î²â€•alumina ceramics. Materials Today Communications, 2020, 23, 101118.	1.9	5
35	Pressure management and cell design in solid-electrolyte batteries, at the example of a sodium-nickel chloride battery. Journal of Power Sources, 2020, 465, 228268.	7.8	15
36	Impact of Anion Asymmetry on Local Structure and Supercooling Behavior of Water-in-Salt Electrolytes. Journal of Physical Chemistry Letters, 2020, 11, 4720-4725.	4.6	20

#	Article	IF	Citations
37	Large Planar Na-Î²â€³-Al2O3 Solid Electrolytes for Next Generation Na-Batteries. Materials, 2020, 13, 433.	2.9	14
38	Perspectiveâ€”Electrochemical Stability of Water-in-Salt Electrolytes. Journal of the Electrochemical Society, 2020, 167, 070544.	2.9	68
39	Polymer-Inorganic Nanocomposite Coating with High Ionic Conductivity and Transference Number for Stable Lithium Metal Anode. ECS Meeting Abstracts, 2020, MA2020-02, 3728-3728.	0.0	0
40	Impact of Surface Conditioning on Bulk Conductivity of LLZO Garnet Electrolytes. ECS Meeting Abstracts, 2020, MA2020-02, 902-902.	0.0	0
41	Unraveling the Mechanism of Enhanced Lithium Salt Solubility in Water-in-Salt Electrolytes Containing Ionic Liquids. ECS Meeting Abstracts, 2020, MA2020-02, 682-682.	0.0	0
42	(Invited) Interface Stability in All-Solid-State Batteries. ECS Meeting Abstracts, 2020, MA2020-02, 965-965.	0.0	0
43	Sodium Stripping and Plating from Na-Î²"-Alumina Ceramics Beyond 1000mA/cm2. ECS Meeting Abstracts, 2020, MA2020-02, 3751-3751.	0.0	0
44	Room-Temperature Cycling of 4 V Hydroborate-Based All-Solid-State Sodium Battery Stabilized By a Self-Forming Cathode/Solid Electrolyte Interphase. ECS Meeting Abstracts, 2020, MA2020-02, 1022-1022.	0.0	0
45	Towards Stable Water-in-Salt Electrolytes for Sodium-Ion Batteries. ECS Meeting Abstracts, 2020, MA2020-02, 3806-3806.	0.0	0
46	Stability of aqueous electrolytes based on LiFSI and NaFSI. Electrochimica Acta, 2019, 321, 134644.	5.2	46
47	Electrocatalytic Reduction of Gaseous CO₂ to CO on Sn/Cuâ€Nanofiberâ€Based Gas Diffusion Electrodes. Advanced Energy Materials, 2019, 9, 1901514.	19.5	74
48	Electrochemical Oxidative Stability of Hydroborate-Based Solid-State Electrolytes. ACS Applied Energy Materials, 2019, 2, 6924-6930.	5.1	68
49	Water-in-salt electrolytes for aqueous lithium-ion batteries with liquidus temperatures below âˆ’10 Â°C. Chemical Communications, 2019, 55, 12032-12035.	4.1	57
50	Stabilizing Capacity Retention in NMC811/Graphite Full Cells via TMSPi Electrolyte Additives. ACS Applied Energy Materials, 2019, 2, 7036-7044.	5.1	40
51	Suppressing Crystallization of Water-in-Salt Electrolytes by Asymmetric Anions Enables Low-Temperature Operation of High-Voltage Aqueous Batteries. , 2019, 1, 44-51.		99
52	Ionic Conduction Mechanism in the Na₂(B₁₂H₁₂)_{0.5}(B₁₀H₁₀)_{0.5} <i>closo</i>-Borate Solid-State Electrolyte: Interplay of Disorder and Ionâ€“Ion Interactions. Chemistry of Materials, 2019, 31, 3449-3460.	6.7	54
53	Sn-Decorated Cu for Selective Electrochemical CO₂ to CO Conversion: Precision Architecture beyond Composition Design. ACS Applied Energy Materials, 2019, 2, 867-872.	5.1	41
54	Impact of Liquid Phase Formation on Microstructure and Conductivity of Li-Stabilized Na-Î²â€³-alumina Ceramics. ACS Applied Energy Materials, 2019, 2, 687-693.	5.1	22

#	Article	IF	Citations
55	Analytical approximation for the frequency dependent conductivity in ionic conductors. Electrochimica Acta, 2019, 297, 435-442.	5.2	5
56	Lab-Scale Alkaline Water Electrolyzer for Bridging Material Fundamentals with Realistic Operation. ACS Sustainable Chemistry and Engineering, 2018, 6, 4829-4837.	6.7	59
57	Manufacturing Macroporous Monoliths of Microporous Metalâ€"Organic Frameworks. ACS Applied Nano Materials, 2018, 1, 497-500.	5.0	28
58	Impact of Ni content on the thermoelectric properties of half-Heusler TiNiSn. Energy and Environmental Science, 2018, 11, 311-320.	30.8	97
59	Epitaxial Thin Films as a Model System for Li-Ion Conductivity in Li₄Ti₅O₁₂. ACS Applied Materials & Interfaces, 2018, 10, 44494-44500.	8.0	17
60	Dynamics of the Coordination Complexes in a Solid-State Mg Electrolyte. Journal of Physical Chemistry Letters, 2018, 9, 6450-6455.	4.6	36
61	Advanced Cu-Sn foam for selectively converting CO2 to CO in aqueous solution. Applied Catalysis B: Environmental, 2018, 236, 475-482.	20.2	118
62	Pathways to electrochemical solar-hydrogen technologies. Energy and Environmental Science, 2018, 11, 2768-2783.	30.8	238
63	A Lithium Amideâ€Borohydride Solidâ€State Electrolyte with Lithiumâ€Ion Conductivities Comparable to Liquid Electrolytes. Advanced Energy Materials, 2017, 7, 1700294.	19.5	95
64	High-voltage aqueous supercapacitors based on NaTFSI. Sustainable Energy and Fuels, 2017, 1, 2155-2161.	4.9	76
65	A High-Voltage Aqueous Electrolyte for Sodium-Ion Batteries. ACS Energy Letters, 2017, 2, 2005-2006.	17.4	191
66	The Origin of the Catalytic Activity of a Metal Hydride in CO₂ Reduction. Angewandte Chemie, 2016, 128, 6132-6136.	2.0	15
67	The Origin of the Catalytic Activity of a Metal Hydride in CO₂ Reduction. Angewandte Chemie - International Edition, 2016, 55, 6028-6032.	13.8	50
68	Evolution of the charge density wave superstructure in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>ZrTe</mml:mi><mml:mn>3</mml:mn></mml:msub></mm pressure. Physical Review B, 2016, 93, .	3.2	20
69	IIIâ€Vs at scale: a PV manufacturing cost analysis of the thin film vaporâ€"liquidâ€"solid growth mode. Progress in Photovoltaics: Research and Applications, 2016, 24, 871-878.	8.1	20
70	High-efficiency crystalline silicon solar cells: status and perspectives. Energy and Environmental Science, 2016, 9, 1552-1576.	30.8	790
71	Low-Temperature Reducibility of M_{<i>x</i>}Ce_{1â€"<i>x</i>}O₂ (M =) Tj ETQq1 1 0.784314 rgBT	3.1	20
72	Room Temperature Oxide Deposition Approach to Fully Transparent, Allâ€Oxide Thinâ€Film Transistors. Advanced Materials, 2015, 27, 6090-6095.	21.0	57

#	Article	IF	Citations
73	Design Guidelines for Highâ€Performance Particleâ€Based Photoanodes for Water Splitting: Lanthanum Titanium Oxynitride as a Model. ChemSusChem, 2015, 8, 3451-3458.	6.8	36
74	Thinâ€Film Solar Cells with InP Absorber Layers Directly Grown on Nonepitaxial Metal Substrates. Advanced Energy Materials, 2015, 5, 1501337.	19.5	13
75	Role of TiO₂ Surface Passivation on Improving the Performance of p-InP Photocathodes. Journal of Physical Chemistry C, 2015, 119, 2308-2313.	3.1	127
76	Hydrothermal vanadium manganese oxides: Anode and cathode materials for lithium-ion batteries. Journal of Power Sources, 2015, 291, 66-74.	7.8	20
77	Molybdenum oxide MoOx: A versatile hole contact for silicon solar cells. Applied Physics Letters, 2014, 105, .	3.3	279
78	Enhanced Nearâ€Bandgap Response in InP Nanopillar Solar Cells. Advanced Energy Materials, 2014, 4, 1400061.	19.5	21
79	Fermi level stabilization and band edge energies in CdxZn1â^'xO alloys. Journal of Applied Physics, 2014, 115, .	2.5	37
80	Angular behavior of the absorption limit in thin film silicon solar cells. Progress in Photovoltaics: Research and Applications, 2014, 22, 1147-1158.	8.1	13
81	9.4% Efficient Amorphous Silicon Solar Cell on High Aspectâ€Ratio Glass Microcones. Advanced Materials, 2014, 26, 4082-4086.	21.0	19
82	Silicon heterojunction solar cell with passivated hole selective MoOx contact. Applied Physics Letters, 2014, 104, .	3.3	363
83	Strong interlayer coupling in van der Waals heterostructures built from single-layer chalcogenides. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 6198-6202.	7.1	970
84	Hole Contacts on Transition Metal Dichalcogenides: Interface Chemistry and Band Alignments. ACS Nano, 2014, 8, 6265-6272.	14.6	173
85	Hole Selective MoO_{<i>x</i>} Contact for Silicon Solar Cells. Nano Letters, 2014, 14, 967-971.	9.1	476
86	MoS₂ P-type Transistors and Diodes Enabled by High Work Function MoO_{<i>x</i>} Contacts. Nano Letters, 2014, 14, 1337-1342.	9.1	487
87	Strain-Induced Indirect to Direct Bandgap Transition in Multilayer WSe₂. Nano Letters, 2014, 14, 4592-4597.	9.1	572
88	19.2% Efficient InP Heterojunction Solar Cell with Electron-Selective TiO₂ Contact. ACS Photonics, 2014, 1, 1245-1250.	6.6	116
89	Amorphous Si Thin Film Based Photocathodes with High Photovoltage for Efficient Hydrogen Production. Nano Letters, 2013, 13, 5615-5618.	9.1	151
90	Nanometer- and Micrometer-Scale Texturing for High-Efficiency Micromorph Thin-Film Silicon Solar Cells. IEEE Journal of Photovoltaics, 2012, 2, 83-87.	2.5	25

#	Article	IF	Citations
91	Latest Developments of High-Efficiency Micromorph Tandem Silicon Solar Cells Implementing Innovative Substrate Materials and Improved Cell Design. IEEE Journal of Photovoltaics, 2012, 2, 236-240.	2.5	15
92	Multiscale Transparent Electrode Architecture for Efficient Light Management and Carrier Collection in Solar Cells. Nano Letters, 2012, 12, 1344-1348.	9.1	127
93	Light Trapping in Solar Cells: Can Periodic Beat Random?. ACS Nano, 2012, 6, 2790-2797.	14.6	480
94	Light trapping in solar cells: Analytical modeling. Applied Physics Letters, 2012, 101, .	3.3	31
95	Highâ€Efficiency Amorphous Silicon Solar Cell on a Periodic Nanocone Back Reflector. Advanced Energy Materials, 2012, 2, 628-633.	19.5	212
96	Analysis of Optical and Morphological Properties of Aluminium Induced Texture Glass Superstrates. Japanese Journal of Applied Physics, 2012, 51, 10NB08.	1.5	10
97	Nanoimprint Lithography for High-Efficiency Thin-Film Silicon Solar Cells. Nano Letters, 2011, 11, 661-665.	9.1	171
98	Nanomoulding of transparent zinc oxide electrodes for efficient light trapping in solar cells. Nature Photonics, 2011, 5, 535-538.	31.4	265
99	Micromorph thin-film silicon solar cells with transparent high-mobility hydrogenated indium oxide front electrodes. Journal of Applied Physics, 2011, 109, .	2.5	43
100	Efficient light management scheme for thin film silicon solar cells via transparent random nanostructures fabricated by nanoimprinting. Applied Physics Letters, 2010, 96, .	3.3	63
101	Electrocatalytic Reduction of Gaseous CO2 to CO on Sn/Cu-Nanofiber-Based Gas Diffusion Electrodes. , 0, , .		0
102	Hydroborate-Based Solid Electrolytes for All-Solid-State Batteries. ACS Symposium Series, 0, , 353-393.	0.5	4