Corsin Battaglia

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/4790710/publications.pdf

Version: 2024-02-01

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	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
2	High-efficiency crystalline silicon solar cells: status and perspectives. Energy and Environmental Science, 2016, 9, 1552-1576.	30.8	790
3	Strain-Induced Indirect to Direct Bandgap Transition in Multilayer WSe₂. Nano Letters, 2014, 14, 4592-4597.	9.1	572
4	MoS₂ P-type Transistors and Diodes Enabled by High Work Function MoO_x Contacts. Nano Letters, 2014, 14, 1337-1342.	9.1	487
5	Light Trapping in Solar Cells: Can Periodic Beat Random?. ACS Nano, 2012, 6, 2790-2797.	14.6	480
6	Hole Selective MoO_x Contact for Silicon Solar Cells. Nano Letters, 2014, 14, 967-971.	9.1	476
7	Silicon heterojunction solar cell with passivated hole selective MoOx contact. Applied Physics Letters, 2014, 104, .	3.3	363
8	Molybdenum oxide MoOx: A versatile hole contact for silicon solar cells. Applied Physics Letters, 2014, 105, .	3.3	279
9	Nanomoulding of transparent zinc oxide electrodes for efficient light trapping in solar cells. Nature Photonics, 2011, 5, 535-538.	31.4	265
10	Pathways to electrochemical solar-hydrogen technologies. Energy and Environmental Science, 2018, 11, 2768-2783.	30.8	238
11	Highâ€Efficiency Amorphous Silicon Solar Cell on a Periodic Nanocone Back Reflector. Advanced Energy Materials, 2012, 2, 628-633.	19.5	212
12	In situ inorganic conductive network formation in high-voltage single-crystal Ni-rich cathodes. Nature Communications, 2021, 12, 5320.	12.8	197
13	A High-Voltage Aqueous Electrolyte for Sodium-Ion Batteries. ACS Energy Letters, 2017, 2, 2005-2006.	17.4	191
14	Hole Contacts on Transition Metal Dichalcogenides: Interface Chemistry and Band Alignments. ACS Nano, 2014, 8, 6265-6272.	14.6	173
15	Nanoimprint Lithography for High-Efficiency Thin-Film Silicon Solar Cells. Nano Letters, 2011, 11, 661-665.	9.1	171
16	Amorphous Si Thin Film Based Photocathodes with High Photovoltage for Efficient Hydrogen Production. Nano Letters, 2013, 13, 5615-5618.	9.1	151
17	Multiscale Transparent Electrode Architecture for Efficient Light Management and Carrier Collection in Solar Cells. Nano Letters, 2012, 12, 1344-1348.	9.1	127
18	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

#	Article	IF	Citations
19	Advanced Cu-Sn foam for selectively converting CO2 to CO in aqueous solution. Applied Catalysis B: Environmental, 2018, 236, 475-482.	20.2	118
20	19.2% Efficient InP Heterojunction Solar Cell with Electron-Selective TiO₂ Contact. ACS Photonics, 2014, 1, 1245-1250.	6.6	116
21	Status and prospects of hydroborate electrolytes for all-solid-state batteries. Energy Storage Materials, 2020, 25, 782-794.	18.0	112
22	Suppressing Crystallization of Water-in-Salt Electrolytes by Asymmetric Anions Enables Low-Temperature Operation of High-Voltage Aqueous Batteries. , 2019, 1, 44-51.		99
23	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
24	Impact of Ni content on the thermoelectric properties of half-Heusler TiNiSn. Energy and Environmental Science, 2018, 11, 311-320.	30.8	97
25	A Lithium Amideâ€Borohydride Solidâ€State Electrolyte with Lithiumâ€Ion Conductivities Comparable to Liquid Electrolytes. Advanced Energy Materials, 2017, 7, 1700294.	19.5	95
26	High-voltage aqueous supercapacitors based on NaTFSI. Sustainable Energy and Fuels, 2017, 1, 2155-2161.	4.9	76
27	Electrocatalytic Reduction of Gaseous CO₂ to CO on Sn/Cuâ€Nanofiberâ€Based Gas Diffusion Electrodes. Advanced Energy Materials, 2019, 9, 1901514.	19.5	74
28	Electrochemical Oxidative Stability of Hydroborate-Based Solid-State Electrolytes. ACS Applied Energy Materials, 2019, 2, 6924-6930.	5.1	68
29	Perspectiveâ€"Electrochemical Stability of Water-in-Salt Electrolytes. Journal of the Electrochemical Society, 2020, 167, 070544.	2.9	68
30	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
31	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
32	Lab-Scale Alkaline Water Electrolyzer for Bridging Material Fundamentals with Realistic Operation. ACS Sustainable Chemistry and Engineering, 2018, 6, 4829-4837.	6.7	59
33	Room Temperature Oxide Deposition Approach to Fully Transparent, Allâ€Oxide Thinâ€Film Transistors. Advanced Materials, 2015, 27, 6090-6095.	21.0	57
34	Water-in-salt electrolytes for aqueous lithium-ion batteries with liquidus temperatures below â^'10 Â°C. Chemical Communications, 2019, 55, 12032-12035.	4.1	57
35	Ionic Conduction Mechanism in the Na₂(B₁₂H₁₂)_{0.5}(B₁₀H₁₀)_{0.5} closo-Borate Solid-State Electrolyte: Interplay of Disorder and Ionâ€"Ion Interactions. Chemistry of Materials, 2019, 31, 3449-3460.	6.7	54
36	Na2ZrCl6 enabling highly stable 3 V all-solid-state Na-ion batteries. Energy Storage Materials, 2021, 37, 47-54.	18.0	53

#	Article	IF	Citations
37	The Origin of the Catalytic Activity of a Metal Hydride in CO₂ Reduction. Angewandte Chemie - International Edition, 2016, 55, 6028-6032.	13.8	50
38	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
39	Anion Selection Criteria for Waterâ€inâ€Salt Electrolytes. Advanced Energy Materials, 2021, 11, 2002913.	19.5	47
40	Stability of aqueous electrolytes based on LiFSI and NaFSI. Electrochimica Acta, 2019, 321, 134644.	5.2	46
41	The Hydrotropic Effect of Ionic Liquids in Waterâ€inâ€Salt Electrolytes**. Angewandte Chemie - International Edition, 2021, 60, 14100-14108.	13.8	45
42	Nido-Borate/Closo-Borate Mixed-Anion Electrolytes for All-Solid-State Batteries. Chemistry of Materials, 2020, 32, 1101-1110.	6.7	44
43	Micromorph thin-film silicon solar cells with transparent high-mobility hydrogenated indium oxide front electrodes. Journal of Applied Physics, 2011, 109, .	2.5	43
44	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
45	Assessing Longâ€Term Cycling Stability of Singleâ€Crystal Versus Polycrystalline Nickelâ€Rich NCM in Pouch Cells with 6 mAh cm^{â^'2} Electrodes. Small, 2022, 18, e2107357.	10.0	41
46	Stabilizing Capacity Retention in NMC811/Graphite Full Cells via TMSPi Electrolyte Additives. ACS Applied Energy Materials, 2019, 2, 7036-7044.	5.1	40
47	Fermi level stabilization and band edge energies in CdxZn1â^'xO alloys. Journal of Applied Physics, 2014, 115, .	2.5	37
48	Nidoâ€Hydroborateâ€Based Electrolytes for Allâ€Solidâ€State Lithium Batteries. Advanced Functional Materials, 2021, 31, 2010046.	14.9	37
49	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
50	Dynamics of the Coordination Complexes in a Solid-State Mg Electrolyte. Journal of Physical Chemistry Letters, 2018, 9, 6450-6455.	4.6	36
51	A Polymerizedâ€Ionicâ€Liquidâ€Based Polymer Electrolyte with High Oxidative Stability for 4 and 5ÂV Class Solidâ€State Lithium Metal Batteries. Advanced Energy Materials, 2022, 12, .	19.5	34
52	Light trapping in solar cells: Analytical modeling. Applied Physics Letters, 2012, 101, .	3.3	31
53	Manufacturing Macroporous Monoliths of Microporous Metalâ€“Organic Frameworks. ACS Applied Nano Materials, 2018, 1, 497-500.	5.0	28
54	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

#	Article	IF	Citations
55	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
56	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
57	Electrochemical CO2 reduction at room temperature: Status and perspectives. Journal of Energy Storage, 2021, 36, 102373.	8.1	23
58	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
59	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
60	Enhanced Nearâ€Bandgap Response in InP Nanopillar Solar Cells. Advanced Energy Materials, 2014, 4, 1400061.	19.5	21
61	Hydrothermal vanadium manganese oxides: Anode and cathode materials for lithium-ion batteries. Journal of Power Sources, 2015, 291, 66-74.	7.8	20
62	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></mml pressure. Physical Review B, 2016, 93, .	3.2	20
63	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
64	Low-Temperature Reducibility of M_xCe_{1â€“x}O₂ (M =) Tj ETQq0 0 0 rgBT /Overlock	3.1	20
65	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
66	Impact of Protonation on the Electrochemical Performance of Li₇La₃Zr₂O₁₂ Garnets. ACS Applied Materials & Interfaces, 2021, 13, 14700-14709.	8.0	20
67	9.4% Efficient Amorphous Silicon Solar Cell on High Aspectâ€Ratio Glass Microcones. Advanced Materials, 2014, 26, 4082-4086.	21.0	19
68	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
69	Epitaxial Thin Films as a Model System for Li-Ion Conductivity in Li₄Ti₅O₁₂. ACS Applied Materials & Interfaces, 2018, 10, 44494-44500.	8.0	17
70	Highly reversible Li₂RuO₃ cathodes in sulfide-based all solid-state lithium batteries. Energy and Environmental Science, 2022, 15, 3470-3482.	30.8	17
71	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
72	The Origin of the Catalytic Activity of a Metal Hydride in CO₂ Reduction. Angewandte Chemie, 2016, 128, 6132-6136.	2.0	15

#	Article	IF	Citations
73	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
74	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
75	Large Planar Na-Î²â€³-Al2O3 Solid Electrolytes for Next Generation Na-Batteries. Materials, 2020, 13, 433.	2.9	14
76	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
77	Thinâ€Film Solar Cells with InP Absorber Layers Directly Grown on Nonepitaxial Metal Substrates. Advanced Energy Materials, 2015, 5, 1501337.	19.5	13
78	Water/Ionic Liquid/Succinonitrile Hybrid Electrolytes for Aqueous Batteries. Advanced Functional Materials, 2022, 32, .	14.9	11
79	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
80	Analysis of Optical and Morphological Properties of Aluminium Induced Texture Glass Superstrates. Japanese Journal of Applied Physics, 2012, 51, 10NB08.	1.5	10
81	Rational Cathode Design for Highâ€Power Sodiumâ€Metal Chloride Batteries. Advanced Functional Materials, 2021, 31, 2106367.	14.9	9
82	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
83	Elucidating the Rateâ€Limiting Processes in Highâ€Temperature Sodiumâ€Metal Chloride Batteries. Advanced Science, 2022, 9, e2201019.	11.2	8
84	Conformal Cu Coating on Electrospun Nanofibers for 3D Electroâ€Conductive Networks. Advanced Electronic Materials, 2020, 6, 1900767.	5.1	7
85	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
86	Lithiumâ€Ion Transport in Li₄Ti₅O₁₂ Epitaxial Thin Films vs. State of Charge. Batteries and Supercaps, 2021, 4, 316-321.	4.7	6
87	Analytical approximation for the frequency dependent conductivity in ionic conductors. Electrochimica Acta, 2019, 297, 435-442.	5.2	5
88	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
89	Hydroborate-Based Solid Electrolytes for All-Solid-State Batteries. ACS Symposium Series, 0, , 353-393.	0.5	4
90	The Hydrotropic Effect of Ionic Liquids in Waterâ€in‐Salt Electrolytes**. Angewandte Chemie, 2021, 133, 14219-14227.	2.0	1

#	Article	IF	Citations
91	Electrocatalytic Reduction of Gaseous CO2 to CO on Sn/Cu-Nanofiber-Based Gas Diffusion Electrodes. , 0, , .		0
92	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
93	The Hydrotropic Effect of Ionic Liquids in Water-in-Salt Electrolytes. ECS Meeting Abstracts, 2021, MA2021-02, 287-287.	0.0	0
94	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
95	Impact of Surface Conditioning on Bulk Conductivity of LLZO Garnet Electrolytes. ECS Meeting Abstracts, 2020, MA2020-02, 902-902.	0.0	0
96	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
97	(Invited) Interface Stability in All-Solid-State Batteries. ECS Meeting Abstracts, 2020, MA2020-02, 965-965.	0.0	0
98	Sodium Stripping and Plating from Na-Î²"-Alumina Ceramics Beyond 1000mA/cm2. ECS Meeting Abstracts, 2020, MA2020-02, 3751-3751.	0.0	0
99	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
100	(Invited) Enabling Reversible Plating and Stripping of Lithium Metal in Lithium Metal Batteries. ECS Meeting Abstracts, 2021, MA2021-02, 727-727.	0.0	0
101	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
102	Towards Stable Water-in-Salt Electrolytes for Sodium-Ion Batteries. ECS Meeting Abstracts, 2020, MA2020-02, 3806-3806.	0.0	0