

# Jeffrey J Urban

## List of Publications by Year in descending order

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Version: 2024-02-01

83  
papers

8,019  
citations

101384

36  
h-index

60497

81  
g-index

84  
all docs

84  
docs citations

84  
times ranked

10730  
citing authors

#	ARTICLE	IF	CITATIONS
1	Mismatching integration-enabled strains and defects engineering in LDH microstructure for high-rate and long-life charge storage. <i>Nature Communications</i> , 2022, 13, 1409.	5.8	42
2	3D printing techniques for measurement of volumetric heat capacity and anisotropic thermal conductivity of a solution processable, hybrid organic/inorganic film, Te-PEDOT:PSS. <i>Journal of Applied Physics</i> , 2022, 131, 105109.	1.1	4
3	n-Type doping of a solution processed p-type semiconductor using isoelectronic surface dopants for homojunction fabrication. <i>Applied Surface Science</i> , 2022, 590, 153089.	3.1	4
4	Synthesis of 2D anatase TiO <sub>2</sub> with highly reactive facets by fluorine-free topochemical conversion of 1T-TiS <sub>2</sub> nanosheets. <i>Journal of Materials Chemistry A</i> , 2022, 10, 13884-13894.	5.2	7
5	Iron(III) Dopant Counterions Affect the Charge-Transport Properties of Poly(Thiophene) and Poly(Dialkoxythiophene) Derivatives. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 29039-29051.	4.0	5
6	Lightweight wearable thermoelectric cooler with rationally designed flexible heatsink consisting of phase-change material/graphite/silicone elastomer. <i>Journal of Materials Chemistry A</i> , 2021, 9, 15696-15703.	5.2	35
7	Understanding Diameter and Length Effects in a Solution-Processable Tellurium-Poly(3,4-Ethylenedioxythiophene) Polystyrene Sulfonate Hybrid Thermoelectric Nanowire Mesh. <i>Advanced Electronic Materials</i> , 2021, 7, 2000904.	2.6	6
8	Copper sulfide as the cation exchange template for synthesis of bimetallic catalysts for CO <sub>2</sub> electroreduction. <i>RSC Advances</i> , 2021, 11, 23948-23959.	1.7	6
9	Solar Desalination Using Thermally Responsive Ionic Liquids Regenerated with a Photonic Heater. <i>Environmental Science &amp; Technology</i> , 2021, 55, 3260-3269.	4.6	20
10	Ion-capture electrodialysis using multifunctional adsorptive membranes. <i>Science</i> , 2021, 372, 296-299.	6.0	152
11	Effect of pressure and temperature on carbon dioxide reduction at a plasmonically active silver cathode. <i>Electrochimica Acta</i> , 2021, 374, 137820.	2.6	4
12	Melting Point Depression and Phase Identification of Sugar Alcohols Encapsulated in ZIF Nanopores. <i>Journal of Physical Chemistry C</i> , 2021, 125, 10001-10010.	1.5	2
13	Decoupling electron and phonon transport in single-nanowire hybrid materials for high-performance thermoelectrics. <i>Science Advances</i> , 2021, 7, .	4.7	30
14	Microstructure and heteroatom dictate the doping mechanism and thermoelectric properties of poly(alkyl-chalcogenophenes). <i>Applied Physics Letters</i> , 2021, 118, 233301.	1.5	18
15	Defying Thermodynamics: Stabilization of Alane Within Covalent Triazine Frameworks for Reversible Hydrogen Storage. <i>Angewandte Chemie</i> , 2021, 133, 26019-26028.	1.6	2
16	Defying Thermodynamics: Stabilization of Alane Within Covalent Triazine Frameworks for Reversible Hydrogen Storage. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 25815-25824.	7.2	11
17	Additive Destabilization of Porous Magnesium Borohydride Framework with Core-Shell Structure. <i>Small</i> , 2021, 17, e2101989.	5.2	6
18	Stabilized open metal sites in bimetallic metal-organic framework catalysts for hydrogen production from alcohols. <i>Journal of Materials Chemistry A</i> , 2021, 9, 10869-10881.	5.2	20

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19	Röntgen-titration: Defying Thermodynamics: Stabilization of Alane Within Covalent Triazine Frameworks for Reversible Hydrogen Storage (Angew. Chem. 49/2021). Angewandte Chemie, 2021, 133, 26204-26204.	1.6	0
20	Spontaneous dynamical disordering of borophenes in MgB <sub>2</sub> and related metal borides. Nature Communications, 2021, 12, 6268.	5.8	14
21	Temperature-adaptive radiative coating for all-season household thermal regulation. Science, 2021, 374, 1504-1509.	6.0	251
22	A Mechanistic Analysis of Phase Evolution and Hydrogen Storage Behavior in Nanocrystalline Mg(BH) <sub>4</sub> within Reduced Graphene Oxide. ACS Nano, 2020, 14, 1745-1756.	7.3	29
23	High-Performance, Wearable Thermoelectric Generator Based on a Highly Aligned Carbon Nanotube Sheet. ACS Applied Energy Materials, 2020, 3, 1199-1206.	2.5	43
24	Sugar-alcohol@ZIF nanocomposites display suppressed phase-change temperatures. Journal of Materials Chemistry A, 2020, 8, 23795-23802.	5.2	9
25	A nature-inspired hydrogen-bonded supramolecular complex for selective copper ion removal from water. Nature Communications, 2020, 11, 3947.	5.8	86
26	Reduction of carbon dioxide at a plasmonically active copper-silver cathode. Chemical Communications, 2020, 56, 9970-9973.	2.2	14
27	In Situ ATR-SEIRAS of Carbon Dioxide Reduction at a Plasmonic Silver Cathode. Journal of the American Chemical Society, 2020, 142, 11750-11762.	6.6	68
28	Pyrazine-Fused Porous Graphitic Framework-Based Mixed Matrix Membranes for Enhanced Gas Separations. ACS Applied Materials & Interfaces, 2020, 12, 16922-16929.	4.0	19
29	Important Considerations in Plasmon-Enhanced Electrochemical Conversion at Voltage-Biased Electrodes. IScience, 2020, 23, 100911.	1.9	19
30	Tackling Challenges in Seebeck Coefficient Measurement of Ultra-High Resistance Samples with an AC Technique. Advanced Electronic Materials, 2020, 6, 1901340.	2.6	0
31	In-situ resonant band engineering of solution-processed semiconductors generates high performance n-type thermoelectric nano-inks. Nature Communications, 2020, 11, 2069.	5.8	23
32	Solvent-free synthesis of organometallic halides CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> and (CH <sub>3</sub> NH <sub>3</sub> ) <sub>3</sub> Bi <sub>2</sub> I <sub>9</sub> and their thermoelectric transport properties. Applied Physics Letters, 2019, 115, 072104.	1.5	17
33	Molecular insight into the lower critical solution temperature transition of aqueous alkyl phosphonium benzene sulfonates. Communications Chemistry, 2019, 2, .	2.0	22
34	Supercompliant and Soft $\text{CH}_3\text{NH}_3\text{PbI}_3$ and $(\text{CH}_3\text{NH}_3)_3\text{Bi}_2\text{I}_9$ Thermoelectric Materials for Wearable and Internet of Things Applications (Adv. Electron. Mater. 11/2019). Advanced Electronic Materials, 2019, 5, 1970056.	2.6	4
35	Physical Review Letters, 2019, 123, 155901.		
36	Runaway Carbon Dioxide Conversion Leads to Enhanced Uptake in a Nanohybrid Form of Porous Magnesium Borohydride. Advanced Materials, 2019, 31, e1904252.	11.1	10

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37	Enhanced CO <sub>2</sub> Capture and Hydrogen Purification by Hydroxy Metal-Organic Framework/Polyimide Mixed Matrix Membranes. <i>ChemSusChem</i> , 2019, 12, 4405-4411.	3.6	28
38	Theoretical framework of the thermal memristor via a solid-state phase change material. <i>Journal of Applied Physics</i> , 2019, 125, 025109.	1.1	11
39	Hydrogen-Bonded Polyimide/Metal-Organic Framework Hybrid Membranes for Ultrafast Separations of Multiple Gas Pairs. <i>Advanced Functional Materials</i> , 2019, 29, 1903243.	7.8	78
40	New horizons in thermoelectric materials: Correlated electrons, organic transport, machine learning, and more. <i>Journal of Applied Physics</i> , 2019, 125, .	1.1	50
41	Directing Selectivity of Electrochemical Carbon Dioxide Reduction Using Plasmonics. <i>ACS Energy Letters</i> , 2019, 4, 1098-1105.	8.8	68
42	Progress and Perspective: Soft Thermoelectric Materials for Wearable and Internet-of-Things Applications. <i>Advanced Electronic Materials</i> , 2019, 5, 1800823.	2.6	71
43	In-Situ/Operando X-ray Characterization of Metal Hydrides. <i>ChemPhysChem</i> , 2019, 20, 1261-1271.	1.0	12
44	Molecular Level Insight into Enhanced n-Type Transport in Solution-Printed Hybrid Thermoelectrics. <i>Advanced Energy Materials</i> , 2019, 9, 1803469.	10.2	14
45	Bottom-up meets top-down: tailored raspberry-like Fe <sub>3</sub> O <sub>4</sub> -Pt nanocrystal superlattices. <i>Nanoscale</i> , 2018, 10, 5859-5863.	2.8	4
46	Polymer morphology and interfacial charge transfer dominate over energy-dependent scattering in organic-inorganic thermoelectrics. <i>Nature Communications</i> , 2018, 9, 5347.	5.8	58
47	Tuning the Surface Plasmon Resonance of Lanthanum Hexaboride to Absorb Solar Heat: A Review. <i>Materials</i> , 2018, 11, 2473.	1.3	30
48	Nanostructured Metal Hydrides for Hydrogen Storage. <i>Chemical Reviews</i> , 2018, 118, 10775-10839.	23.0	461
49	A temperature-controlled photoelectrochemical cell for quantitative product analysis. <i>Review of Scientific Instruments</i> , 2018, 89, 055112.	0.6	13
50	Moving the Plasmon of LaB <sub>6</sub> from IR to Near-IR via Eu-Doping. <i>Materials</i> , 2018, 11, 226.	1.3	18
51	Chloride influence on the formation of lanthanum hexaboride: An in-situ diffraction study. <i>Journal of Crystal Growth</i> , 2018, 486, 60-65.	0.7	7
52	An assessment of strategies for the development of solid-state adsorbents for vehicular hydrogen storage. <i>Energy and Environmental Science</i> , 2018, 11, 2784-2812.	15.6	162
53	Design Rules for Self-Assembly of 2D Nanocrystal/Metal-Organic Framework Superstructures. <i>Angewandte Chemie</i> , 2018, 130, 13356-13360.	1.6	1
54	Design Rules for Self-Assembly of 2D Nanocrystal/Metal-Organic Framework Superstructures. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 13172-13176.	7.2	11

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55	Bottom-up design of de novo thermoelectric hybrid materials using chalcogenide resurfacing. <i>Journal of Materials Chemistry A</i> , 2017, 5, 3346-3357.	5.2	44
56	Anomalously low electronic thermal conductivity in metallic vanadium dioxide. <i>Science</i> , 2017, 355, 371-374.	6.0	307
57	Effects of Size and Structural Defects on the Vibrational Properties of Lanthanum Hexaboride Nanocrystals. <i>ACS Omega</i> , 2017, 2, 2248-2254.	1.6	9
58	Emerging Scientific and Engineering Opportunities within the Water-Energy Nexus. <i>Joule</i> , 2017, 1, 665-688.	11.7	109
59	Templated self-assembly of one-dimensional CsPbX <sub>3</sub> perovskite nanocrystal superlattices. <i>Nanoscale</i> , 2017, 9, 17688-17693.	2.8	39
60	Dual-Channel, Molecular-Sieving Core/Shell ZIF@MOF Architectures as Engineered Fillers in Hybrid Membranes for Highly Selective CO <sub>2</sub> Separation. <i>Nano Letters</i> , 2017, 17, 6752-6758.	4.5	82
61	Hierarchically Controlled Inside-Out Doping of Mg Nanocomposites for Moderate Temperature Hydrogen Storage. <i>Advanced Functional Materials</i> , 2017, 27, 1704316.	7.8	72
62	Ultralow thermal conductivity in all-inorganic halide perovskites. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 8693-8697.	3.3	246
63	Atomically Thin Interfacial Suboxide Key to Hydrogen Storage Performance Enhancements of Magnesium Nanoparticles Encapsulated in Reduced Graphene Oxide. <i>Nano Letters</i> , 2017, 17, 5540-5545.	4.5	37
64	Anion-mediated negative thermal expansion in lanthanum hexaboride. <i>Solid State Communications</i> , 2017, 265, 47-51.	0.9	11
65	One model to rule them all. <i>Nature Materials</i> , 2017, 16, 157-159.	13.3	11
66	Carrier Scattering at Alloy Nanointerfaces Enhances Power Factor in PEDOT:PSS Hybrid Thermoelectrics. <i>Nano Letters</i> , 2016, 16, 3352-3359.	4.5	93
67	Insight into the Ligand-Mediated Synthesis of Colloidal CsPbBr <sub>3</sub> Perovskite Nanocrystals: The Role of Organic Acid, Base, and Cesium Precursors. <i>ACS Nano</i> , 2016, 10, 7943-7954.	7.3	713
68	Organic thermoelectric materials for energy harvesting and temperature control. <i>Nature Reviews Materials</i> , 2016, 1, .	23.3	927
69	Graphene oxide/metal nanocrystal multilaminates as the atomic limit for safe and selective hydrogen storage. <i>Nature Communications</i> , 2016, 7, 10804.	5.8	178
70	Evolution of Vibrational Properties in Lanthanum Hexaboride Nanocrystals. <i>Journal of Physical Chemistry C</i> , 2016, 120, 5188-5195.	1.5	18
71	Tethered tertiary amines as solid-state n-type dopants for solution-processable organic semiconductors. <i>Chemical Science</i> , 2016, 7, 1914-1919.	3.7	91
72	Enhanced permeation arising from dual transport pathways in hybrid polymer-MOF membranes. <i>Energy and Environmental Science</i> , 2016, 9, 922-931.	15.6	178

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73	Prospects for thermoelectricity in quantum dot hybrid arrays. <i>Nature Nanotechnology</i> , 2015, 10, 997-1001.	15.6	59
74	Engineering Synergy: Energy and Mass Transport in Hybrid Nanomaterials. <i>Advanced Materials</i> , 2015, 27, 5744-5752.	11.1	36
75	Varying the ionic functionalities of conjugated polyelectrolytes leads to both p- and n-type carbon nanotube composites for flexible thermoelectrics. <i>Energy and Environmental Science</i> , 2015, 8, 2341-2346.	15.6	102
76	Size-Dependent Permeability Deviations from Maxwell's Model in Hybrid Cross-Linked Poly(ethylene Terephthalate) / Poly(ethylene Glycol) Block Copolymers. <i>ACS Applied Materials</i> , 2015, 7, 10000-10006.	3.2	56
77	Power Factor Enhancement in Solution-Processed Organic n-Type Thermoelectrics Through Molecular Design. <i>Advanced Materials</i> , 2014, 26, 3473-3477.	11.1	196
78	Thermoelectric power factor optimization in PEDOT:PSS tellurium nanowire hybrid composites. <i>Physical Chemistry Chemical Physics</i> , 2013, 15, 4024.	1.3	188
79	Effect of Interfacial Properties on Polymer-Nanocrystal Thermoelectric Transport. <i>Advanced Materials</i> , 2013, 25, 1629-1633.	11.1	219
80	Air-stable magnesium nanocomposites provide rapid and high-capacity hydrogen storage without using heavy-metal catalysts. <i>Nature Materials</i> , 2011, 10, 286-290.	13.3	600
81	Water-Processable Polymer-Nanocrystal Hybrids for Thermoelectrics. <i>Nano Letters</i> , 2010, 10, 4664-4667.	4.5	458
82	Synergism in binary nanocrystal superlattices leads to enhanced p-type conductivity in self-assembled PbTe/Ag <sub>2</sub> Te thin films. <i>Nature Materials</i> , 2007, 6, 115-121.	13.3	498
83	Self-Assembly of PbTe Quantum Dots into Nanocrystal Superlattices and Glassy Films. <i>Journal of the American Chemical Society</i> , 2006, 128, 3248-3255.	6.6	310