

# Der-Hsien Lien

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

80  
papers

8,033  
citations

35  
h-index

82  
g-index

82  
ext. papers

9,474  
ext. citations

13.2  
avg, IF

5.78  
L-index

#	Paper	IF	Citations
80	Defect Inspection Techniques in SiC.. <i>Nanoscale Research Letters</i> , <b>2022</b> , 17, 30	5	4
79	Effects of Mg Doping on Double Channel Layer Atmospheric Pressure-Plasma Enhanced Chemical Vapor Deposition Fabricated Amorphous InGaZnO Thin Film Transistors. <i>Journal of Nanoelectronics and Optoelectronics</i> , <b>2021</b> , 16, 1412-1416	1.3	
78	Recent Advances in Two-Dimensional Quantum Dots and Their Applications. <i>Nanomaterials</i> , <b>2021</b> , 11,	5.4	11
77	Actively variable-spectrum optoelectronics with black phosphorus. <i>Nature</i> , <b>2021</b> , 596, 232-237	50.4	28
76	Study of InGaZnO Thin Film Transistors With Dual Treatment of Pre-Oxidation ZrO <sub>2</sub> High- $\kappa$ Dielectric and Post-Oxidation InGaZnO Channel by Neutral Beam System. <i>Journal of Nanoelectronics and Optoelectronics</i> , <b>2021</b> , 16, 1733-1738	1.3	
75	Substrate-Dependent Exciton Diffusion and Annihilation in Chemically Treated MoS <sub>2</sub> and WS <sub>2</sub> . <i>Journal of Physical Chemistry C</i> , <b>2020</b> , 124, 12175-12184	3.8	31
74	Shape-controlled single-crystal growth of InP at low temperatures down to 220 °C. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2020</b> , 117, 902-906	11.5	6
73	Evaporated tellurium thin films for p-type field-effect transistors and circuits. <i>Nature Nanotechnology</i> , <b>2020</b> , 15, 53-58	28.7	63
72	Centimeter-Scale and Visible Wavelength Monolayer Light-Emitting Devices. <i>Advanced Functional Materials</i> , <b>2020</b> , 30, 1907941	15.6	8
71	Evaporated Se Te Thin Films with Tunable Bandgaps for Short-Wave Infrared Photodetectors. <i>Advanced Materials</i> , <b>2020</b> , 32, e2001329	24	22
70	A generic electroluminescent device for emission from infrared to ultraviolet wavelengths. <i>Nature Electronics</i> , <b>2020</b> , 3, 612-621	28.4	6
69	Neutral Exciton Diffusion in Monolayer MoS. <i>ACS Nano</i> , <b>2020</b> , 14, 13433-13440	16.7	23
68	Optical and electrical properties of two-dimensional palladium diselenide. <i>Applied Physics Letters</i> , <b>2019</b> , 114, 253102	3.4	44
67	Electrical suppression of all nonradiative recombination pathways in monolayer semiconductors. <i>Science</i> , <b>2019</b> , 364, 468-471	33.3	139
66	Dip Coating Passivation of Crystalline Silicon by Lewis Acids. <i>ACS Nano</i> , <b>2019</b> , 13, 3723-3729	16.7	20
65	Increasing Photoluminescence Quantum Yield by Nanophotonic Design of Quantum-Confined Halide Perovskite Nanowire Arrays. <i>Nano Letters</i> , <b>2019</b> , 19, 2850-2857	11.5	44
64	Bright electroluminescence in ambient conditions from WSe <sub>2</sub> p-n diodes using pulsed injection. <i>Applied Physics Letters</i> , <b>2019</b> , 115, 011103	3.4	5

63	Scanning Probe Lithography Patterning of Monolayer Semiconductors and Application in Quantifying Edge Recombination. <i>Advanced Materials</i> , <b>2019</b> , 31, e1900136	24	17
62	Deterministic Assembly of Arrays of Lithographically Defined WS <sub>2</sub> and MoS <sub>2</sub> Monolayer Features Directly From Multilayer Sources Into Van Der Waals Heterostructures. <i>Journal of Micro and Nano-Manufacturing</i> , <b>2019</b> , 7,	1.3	7
61	Monolayer Semiconductors: Scanning Probe Lithography Patterning of Monolayer Semiconductors and Application in Quantifying Edge Recombination (Adv. Mater. 48/2019). <i>Advanced Materials</i> , <b>2019</b> , 31, 1970340	24	
60	Strong optical response and light emission from a monolayer molecular crystal. <i>Nature Communications</i> , <b>2019</b> , 10, 5589	17.4	36
59	Synthetic WSe monolayers with high photoluminescence quantum yield. <i>Science Advances</i> , <b>2019</b> , 5, eaau4728	17.3	48
58	Methylxanthine Drug Monitoring with Wearable Sweat Sensors. <i>Advanced Materials</i> , <b>2018</b> , 30, e1707442	24	159
57	Large-area and bright pulsed electroluminescence in monolayer semiconductors. <i>Nature Communications</i> , <b>2018</b> , 9, 1229	17.4	93
56	Resonance-Enhanced Absorption in Hollow Nanoshell Spheres with Omnidirectional Detection and High Responsivity and Speed. <i>Advanced Materials</i> , <b>2018</b> , 30, e1801972	24	29
55	Thermoelectrics: A Nanostructuring Method to Decouple Electrical and Thermal Transport through the Formation of Electrically Triggered Conductive Nanofilaments (Adv. Mater. 28/2018). <i>Advanced Materials</i> , <b>2018</b> , 30, 1870243	24	
54	Nanophotonic Devices: Resonance-Enhanced Absorption in Hollow Nanoshell Spheres with Omnidirectional Detection and High Responsivity and Speed (Adv. Mater. 34/2018). <i>Advanced Materials</i> , <b>2018</b> , 30, 1870257	24	3
53	360° omnidirectional, printable and transparent photodetectors for flexible optoelectronics. <i>Npj Flexible Electronics</i> , <b>2018</b> , 2,	10.7	26
52	Extremely reduced dielectric confinement in two-dimensional hybrid perovskites with large polar organics. <i>Communications Physics</i> , <b>2018</b> , 1,	5.4	84
51	Highly Reliable Superhydrophobic Protection for Organic Field-Effect Transistors by Fluoroalkylsilane-Coated TiO Nanoparticles. <i>ACS Nano</i> , <b>2018</b> , 12, 11062-11069	16.7	20
50	A Nanostructuring Method to Decouple Electrical and Thermal Transport through the Formation of Electrically Triggered Conductive Nanofilaments. <i>Advanced Materials</i> , <b>2018</b> , 30, e1705385	24	12
49	Self-powered nanodevices for fast UV detection and energy harvesting using core-shell nanowire geometry. <i>Nano Energy</i> , <b>2018</b> , 51, 294-299	17.1	30
48	Highly Stable Near-Unity Photoluminescence Yield in Monolayer MoS by Fluoropolymer Encapsulation and Superacid Treatment. <i>ACS Nano</i> , <b>2017</b> , 11, 5179-5185	16.7	64
47	Highly Deformable Origami Paper Photodetector Arrays. <i>ACS Nano</i> , <b>2017</b> , 11, 10230-10235	16.7	65
46	Strain-engineered growth of two-dimensional materials. <i>Nature Communications</i> , <b>2017</b> , 8, 608	17.4	162

45	Measuring the Edge Recombination Velocity of Monolayer Semiconductors. <i>Nano Letters</i> , <b>2017</b> , 17, 5356-5360	12	1360
44	Increased Optoelectronic Quality and Uniformity of Hydrogenated p-InP Thin Films. <i>Chemistry of Materials</i> , <b>2016</b> , 28, 4602-4607	9.6	9
43	High Luminescence Efficiency in MoS <sub>2</sub> Grown by Chemical Vapor Deposition. <i>ACS Nano</i> , <b>2016</b> , 10, 6535-6546	11.7	115
42	Monolithic 3D CMOS Using Layered Semiconductors. <i>Advanced Materials</i> , <b>2016</b> , 28, 2547-54	24	72
41	Fully integrated wearable sensor arrays for multiplexed in situ perspiration analysis. <i>Nature</i> , <b>2016</b> , 529, 509-514	50.4	2526
40	Recombination Kinetics and Effects of Superacid Treatment in Sulfur- and Selenium-Based Transition Metal Dichalcogenides. <i>Nano Letters</i> , <b>2016</b> , 16, 2786-91	11.5	187
39	Dual-functional Memory and Threshold Resistive Switching Based on the Push-Pull Mechanism of Oxygen Ions. <i>Scientific Reports</i> , <b>2016</b> , 6, 23945	4.9	35
38	Improved photoswitching response times of MoS <sub>2</sub> field-effect transistors by stacking p-type copper phthalocyanine layer. <i>Applied Physics Letters</i> , <b>2016</b> , 109, 183502	3.4	21
37	Wearable Microsensor Array for Multiplexed Heavy Metal Monitoring of Body Fluids. <i>ACS Sensors</i> , <b>2016</b> , 1, 866-874	9.2	216
36	Engineering light outcoupling in 2D materials. <i>Nano Letters</i> , <b>2015</b> , 15, 1356-61	11.5	105
35	MoS <sub>2</sub> Heterojunctions by Thickness Modulation. <i>Scientific Reports</i> , <b>2015</b> , 5, 10990	4.9	71
34	Shape-Dependent Light Harvesting of 3D Gold Nanocrystals on Bulk Heterojunction Solar Cells: Plasmonic or Optical Scattering Effect?. <i>Journal of Physical Chemistry C</i> , <b>2015</b> , 119, 7554-7564	3.8	31
33	Surface effects in metal oxide-based nanodevices. <i>Nanoscale</i> , <b>2015</b> , 7, 19874-84	7.7	36
32	Inkjet-printed transparent nanowire thin film features for UV photodetectors. <i>RSC Advances</i> , <b>2015</b> , 5, 70707-70712	3.7	26
31	Near-unity photoluminescence quantum yield in MoS <sub>2</sub> . <i>Science</i> , <b>2015</b> , 350, 1065-8	33.3	792
30	Harsh photovoltaics using InGaN/GaN multiple quantum well schemes. <i>Nano Energy</i> , <b>2015</b> , 11, 104-109	17.1	33
29	A Fully Transparent Resistive Memory for Harsh Environments. <i>Scientific Reports</i> , <b>2015</b> , 5, 15087	4.9	17
28	Dual-gated MoS <sub>2</sub> /WSe <sub>2</sub> van der Waals tunnel diodes and transistors. <i>ACS Nano</i> , <b>2015</b> , 9, 2071-9	16.7	441

27	Resistive memory for harsh electronics: immunity to surface effect and high corrosion resistance via surface modification. <i>Scientific Reports</i> , <b>2014</b> , 4, 4402	4.9	32
26	Photon management in nanostructured solar cells. <i>Journal of Materials Chemistry C</i> , <b>2014</b> , 2, 3144	7.1	60
25	A broadband and omnidirectional light-harvesting scheme employing nanospheres on Si solar cells. <i>Nano Energy</i> , <b>2014</b> , 6, 36-43	17.1	33
24	. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , <b>2014</b> , 20, 30-35	3.8	32
23	See-Through $\text{Ga}_2\text{O}_3$ Solar-Blind Photodetectors for Use in Harsh Environments. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , <b>2014</b> , 20, 112-117	3.8	34
22	All-printed paper memory. <i>ACS Nano</i> , <b>2014</b> , 8, 7613-9	16.7	115
21	Concurrent Improvement in Photogain and Speed of a Metal Oxide Nanowire Photodetector through Enhancing Surface Band Bending via Incorporating a Nanoscale Heterojunction. <i>ACS Photonics</i> , <b>2014</b> , 1, 354-359	6.3	51
20	Light extraction enhancement with radiation pattern shaping of LEDs by waveguiding nanorods with impedance-matching tips. <i>Nanoscale</i> , <b>2014</b> , 6, 2624-8	7.7	38
19	Low-resistivity $\text{C}_5\text{4-TiSi}_2$ as a sidewall-confinement nanoscale electrode for three-dimensional vertical resistive memory. <i>Applied Physics Letters</i> , <b>2014</b> , 105, 182101	3.4	6
18	Few-Layer $\text{MoS}_2$ with high broadband Photogain and fast optical switching for use in harsh environments. <i>ACS Nano</i> , <b>2013</b> , 7, 3905-11	16.7	482
17	An energy-harvesting scheme employing $\text{CuGaSe}_2$ quantum dot-modified $\text{ZnO}$ buffer layers for drastic conversion efficiency enhancement in inorganic-organic hybrid solar cells. <i>Nanoscale</i> , <b>2013</b> , 5, 6350-5	7.7	15
16	Ultrasound thermal mapping based on a hybrid method combining cross-correlation and zero-crossing tracking. <i>Journal of the Acoustical Society of America</i> , <b>2013</b> , 134, 1530-40	2.2	6
15	Enhanced light-extraction from hierarchical surfaces consisting of p-GaN microdomes and $\text{SiO}_2$ nanorods for GaN-based light-emitting diodes. <i>Applied Physics Letters</i> , <b>2013</b> , 103, 161104	3.4	21
14	$\text{4H-SiC}$ Metal-Semiconductor-Metal Ultraviolet Photodetectors in Operation of 450 $\text{\AA}$ . <i>IEEE Electron Device Letters</i> , <b>2012</b> , 33, 1586-1588	4.4	60
13	Hierarchical structures consisting of $\text{SiO}_2$ nanorods and p-GaN microdomes for efficiently harvesting solar energy for InGaN quantum well photovoltaic cells. <i>Nanoscale</i> , <b>2012</b> , 4, 7346-9	7.7	31
12	Enhanced Recovery Speed of Nanostructured $\text{ZnO}$ Photodetectors Using Nanobelt Networks. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , <b>2012</b> , 18, 1807-1811	3.8	33
11	Probing surface band bending of surface-engineered metal oxide nanowires. <i>ACS Nano</i> , <b>2012</b> , 6, 9366-72	16.7	136
10	Supersensitive, ultrafast, and broad-band light-harvesting scheme employing carbon nanotube/ $\text{TiO}_2$ core-shell nanowire geometry. <i>ACS Nano</i> , <b>2012</b> , 6, 6687-92	16.7	76

9	Critical capillary absorption of current-melted silver nanodroplets into multiwalled carbon nanotubes. <i>Small</i> , <b>2012</b> , 8, 2158-62	11	9
8	Enhancing sensitivity of a single ZnO micro-/nanowire photodetector by piezo-phototronic effect. <i>ACS Nano</i> , <b>2010</b> , 4, 6285-91	16.7	381
7	Resonance frequency shift of a carbon nanotube with a silver nanoparticle adsorbed at various positions. <i>Applied Physics Letters</i> , <b>2010</b> , 97, 133105	3.4	6
6	Photoconductive enhancement of single ZnO nanowire through localized Schottky effects. <i>Optics Express</i> , <b>2010</b> , 18, 14836-41	3.3	92
5	Single-InN-nanowire nanogenerator with upto 1 V output voltage. <i>Advanced Materials</i> , <b>2010</b> , 22, 4008-13	3.4	148
4	Strain promoted conductivity of doped carbon nanotubes. <i>Applied Physics Letters</i> , <b>2008</b> , 93, 223111	3.4	3
3	Gas sensing improvement of carbon nanotubes by NH <sub>4</sub> OH flash treatment: a nondestructive purification technique. <i>Journal of Materials Chemistry</i> , <b>2007</b> , 17, 3581		13
2	Photocurrent Amplification at Carbon Nanotube Metal Contacts. <i>Advanced Materials</i> , <b>2006</b> , 18, 98-103	24	50
1	Infrared Photodetectors Based on 2D Materials and Nanophotonics. <i>Advanced Functional Materials</i> , <b>2011</b> , 21, 1119-30	27.0	14