

# Karim Khan

## List of Publications by Year in descending order

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88  
papers

5,092  
citations

136740

32  
h-index

91712

69  
g-index

91  
all docs

91  
docs citations

91  
times ranked

4987  
citing authors

#	ARTICLE	IF	CITATIONS
1	Binary Strengthening and Toughening of MXene/Cellulose Nanofiber Composite Paper with Nacre-Inspired Structure and Superior Electromagnetic Interference Shielding Properties. ACS Nano, 2018, 12, 4583-4593.	7.3	942
2	Recent developments in emerging two-dimensional materials and their applications. Journal of Materials Chemistry C, 2020, 8, 387-440.	2.7	501
3	Biochemical Basis of Flour Properties in Bread Wheats. I. Effects of Variation in the Quantity and Size Distribution of Polymeric Protein. Journal of Cereal Science, 1993, 18, 23-41.	1.8	474
4	Recent advances in two-dimensional materials and their nanocomposites in sustainable energy conversion applications. Nanoscale, 2019, 11, 21622-21678.	2.8	201
5	Recent Advances in Emerging 2D Material-Based Gas Sensors: Potential in Disease Diagnosis. Advanced Materials Interfaces, 2019, 6, 1901329.	1.9	169
6	Recent Advances in Oxidation Stable Chemistry of 2D MXenes. Advanced Materials, 2022, 34, e2107554.	11.1	163
7	Physical activity prescription: a critical opportunity to address a modifiable risk factor for the prevention and management of chronic disease: a position statement by the Canadian Academy of Sport and Exercise Medicine: Table A1. British Journal of Sports Medicine, 2016, 50, 1109-1114.	3.1	161
8	Nickel-Based Transition Metal Nitride Electrocatalysts for the Oxygen Evolution Reaction. ChemSusChem, 2019, 12, 3941-3954.	3.6	150
9	Two-Dimensional Tellurium: Progress, Challenges, and Prospects. Nano-Micro Letters, 2020, 12, 99.	14.4	139
10	Recent advances in doping engineering of black phosphorus. Journal of Materials Chemistry A, 2020, 8, 5421-5441.	5.2	93
11	Going green with batteries and supercapacitor: Two dimensional materials and their nanocomposites based energy storage applications. Progress in Solid State Chemistry, 2020, 58, 100254.	3.9	87
12	Ex vivo characterization of normal and adenocarcinoma colon samples by Mueller matrix polarimetry. Journal of Biomedical Optics, 2015, 20, 056012.	1.4	72
13	Synthesis, properties and novel electrocatalytic applications of the 2D-borophene Xenes. Progress in Solid State Chemistry, 2020, 59, 100283.	3.9	65
14	A comprehensive review on synthesis of pristine and doped inorganic room temperature stable mayenite electride, $[\text{Ca}_{24}\text{Al}_{28}\text{O}_{64}]^{4+}(\text{e}^-)^4$ and its applications as a catalyst. Progress in Solid State Chemistry, 2019, 54, 1-19.	3.9	63
15	Recent Progress, Challenges, and Prospects in Two-Dimensional Photo-Catalyst Materials and Environmental Remediation. Nano-Micro Letters, 2020, 12, 167.	14.4	57
16	Facile synthesis of tin-doped mayenite electride composite as a non-noble metal durable electrocatalyst for oxygen reduction reaction (ORR). Dalton Transactions, 2018, 47, 13498-13506.	1.6	56
17	New physical insight into crystal structure, luminescence and optical properties of $\text{YPO}_4:\text{Dy}^{3+}-\text{Eu}^{3+}-\text{Tb}^{3+}$ single-phase white-light-emitting phosphors. Journal of Alloys and Compounds, 2020, 817, 152687.	2.8	53
18	The role of nitrogen in transition-metal nitrides in electrochemical water splitting. Chem Catalysis, 2021, 1, 802-854.	2.9	53

#	ARTICLE	IF	CITATIONS
19	Novel emerging graphdiyne based two dimensional materials: Synthesis, properties and renewable energy applications. Nano Today, 2021, 39, 101207.	6.2	49
20	Facile synthesis of a cationic-doped $[Ca_{24}Al_{28}O_{64}]^{4+}(4e^{-})$ composite via a rapid citrate sol-gel method. Dalton Transactions, 2018, 47, 3819-3830.	1.6	48
21	Facile metal-free reduction-based synthesis of pristine and cation-doped conductive mayenite. RSC Advances, 2018, 8, 24276-24285.	1.7	43
22	Synthesis and characterization of transition metals doped CuO nanostructure and their application in hybrid bulk heterojunction solar cells. SN Applied Sciences, 2019, 1, 1.	1.5	42
23	Broadband Nonlinear Photonics in Few-Layer Borophene. Small, 2021, 17, e2006891.	5.2	42
24	Tunable narrowband antireflection optical filter with a metasurface. Photonics Research, 2017, 5, 500.	3.4	41
25	Graphene oxide coated graphene foam based chemical sensor. Materials Letters, 2019, 235, 66-70.	1.3	41
26	Evolution of low-dimensional material-based field-effect transistors. Nanoscale, 2021, 13, 5162-5186.	2.8	39
27	Fe-doped mayenite electride composite with 2D reduced Graphene Oxide: As a non-platinum based, highly durable electrocatalyst for Oxygen Reduction Reaction. Scientific Reports, 2019, 9, 19809.	1.6	38
28	Sensing Applications of Atomically Thin Group IV Carbon Siblings Xenos: Progress, Challenges, and Prospects. Advanced Functional Materials, 2021, 31, 2005957.	7.8	37
29	Enhanced electrical and broad spectral (UV-Vis-NIR) photodetection in a $Gr/ReSe_2/Gr$ heterojunction. Dalton Transactions, 2020, 49, 10017-10027.	1.6	36
30	Two-dimensional materials toward Terahertz optoelectronic device applications. Journal of Photochemistry and Photobiology C: Photochemistry Reviews, 2022, 51, 100473.	5.6	36
31	Progress towards High-Efficiency and Stable Tin-Based Perovskite Solar Cells. Energies, 2020, 13, 5092.	1.6	35
32	Novel Two-Dimensional Carbon-Chromium Nitride-Based Composite as an Electrocatalyst for Oxygen Reduction Reaction. Frontiers in Chemistry, 2019, 7, 738.	1.8	34
33	Facile synthesis of $\gamma\text{-Fe}_2\text{O}_3/\text{Nb}_2\text{O}_5$ heterostructure for advanced Li-Ion batteries. Journal of Alloys and Compounds, 2020, 837, 155294.	2.8	33
34	Low temperature synthesis of nano porous $12\text{CaO}\cdot 7\text{Al}_2\text{O}_3$ powder by hydrothermal method. Journal Wuhan University of Technology, Materials Science Edition, 2016, 31, 1201-1205.	0.4	32
35	Direct fabrication of $\text{C}_{12}\text{A}_7$ electride target and room temperature deposition of thin films with low work function. Materials Research Express, 2017, 4, 036408.	0.8	32
36	Application of MXenes in Perovskite Solar Cells: A Short Review. Nanomaterials, 2021, 11, 2151.	1.9	29

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37	Five-Line Photonic Crystal Waveguide for Optical Buffering and Data Interconnection of Picosecond Pulse. <i>Journal of Lightwave Technology</i> , 2019, 37, 788-798.	2.7	28
38	Plasmonic Spectral Splitting in Ring/Rod Metasurface. <i>Nanomaterials</i> , 2017, 7, 397.	1.9	27
39	Controlled synthesis of ammonium manganese tri-fluoride nanoparticles with enhanced electrochemical performance. <i>Materials Research Express</i> , 2019, 6, 075074.	0.8	27
40	Recent advances of low-dimensional materials in Mid- and Far-infrared photonics. <i>Applied Materials Today</i> , 2020, 21, 100800.	2.3	27
41	High performance complementary $WS_2$ devices with hybrid Gr/Ni contacts. <i>Nanoscale</i> , 2020, 12, 21280-21290.	2.8	27
42	Facile Synthesis of Mayenite Electride Nanoparticles Encapsulated in Graphitic Shells Like Carbon Nano Onions: Non-noble-metal Electrocatalysts for Oxygen Reduction Reaction (ORR). <i>Frontiers in Chemistry</i> , 2019, 7, 934.	1.8	27
43	Nanoscale CuTe electrocatalyst immobilized at conductor surface for remarkable hydrogen evolution reaction. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 18729-18739.	3.8	27
44	Two-dimensional selenium and its composites for device applications. <i>Nano Research</i> , 2022, 15, 104-122.	5.8	26
45	Graphene foam based polymer based electronic skin for flexible tactile sensor. <i>Sensors and Actuators A: Physical</i> , 2021, 327, 112697.	2.0	26
46	Slow-light transmission with high group index and large normalized delay bandwidth product through successive defect rods on intrinsic photonic crystal waveguide. <i>Optics Communications</i> , 2018, 418, 73-79.	1.0	25
47	Role of Ni concentration on structural and magnetic properties of inverse spinel Ferrite. <i>Materials Research Bulletin</i> , 2018, 107, 60-65.	2.7	25
48	Slow light with high normalized delay-bandwidth product in low-dispersion photonic-crystal coupled-cavity waveguide. <i>Optics Communications</i> , 2019, 439, 181-186.	1.0	25
49	Nonlinear optical properties and ultrafast photonics of 2D BP/Ti3C2 heterostructures. <i>Optical Materials</i> , 2021, 112, 110809.	1.7	25
50	Confinement in two-dimensional materials: Major advances and challenges in the emerging renewable energy conversion and other applications. <i>Progress in Solid State Chemistry</i> , 2021, 61, 100294.	3.9	24
51	Application of two-dimensional materials in perovskite solar cells: recent progress, challenges, and prospective solutions. <i>Journal of Materials Chemistry C</i> , 2021, 9, 14065-14092.	2.7	24
52	Polarimetry based partial least square classification of ex vivo healthy and basal cell carcinoma human skin tissues. <i>Photodiagnosis and Photodynamic Therapy</i> , 2016, 14, 134-141.	1.3	23
53	Recent progress, challenges, and prospects in emerging group-VIA Xenes: synthesis, properties and novel applications. <i>Nanoscale</i> , 2021, 13, 510-552.	2.8	23
54	The rise of 2D materials/ferroelectrics for next generation photonics and optoelectronics devices. <i>APL Materials</i> , 2022, 10, .	2.2	23

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55	Single step synthesis of highly conductive room-temperature stable cation-substituted mayenite electride target and thin film. <i>Scientific Reports</i> , 2019, 9, 4967.	1.6	21
56	Biofouling control in a membrane filtration system by a newly isolated novel quorum quenching bacterium, <i>Bacillus methylotrophicus</i> sp. WY. <i>RSC Advances</i> , 2016, 6, 28895-28903.	1.7	20
57	Electrochemical Mechanism and Structure Simulation of 2D Lithium-Ion Battery. <i>Advanced Theory and Simulations</i> , 2018, 1, 1800023.	1.3	20
58	High-capability micro-optical buffer based on coupled hexagonal cavity in photonic crystal waveguide. <i>Applied Nanoscience (Switzerland)</i> , 2019, 9, 1963-1970.	1.6	20
59	Navigating recent advances in monoelemental materials (Xenes)-fundamental to biomedical applications. <i>Progress in Solid State Chemistry</i> , 2021, 63, 100326.	3.9	20
60	High-speed amplitude modulator with a high modulation index based on a plasmonic resonant tunable metasurface. <i>Applied Optics</i> , 2019, 58, 2687.	0.9	20
61	A fuzzy c-means bi-sonar-based Metaheuristic Optimization Algorithm. <i>International Journal of Interactive Multimedia and Artificial Intelligence</i> , 2012, 1, 26.	1.0	19
62	Recent development in graphdiyne and its derivative materials for novel biomedical applications. <i>Journal of Materials Chemistry B</i> , 2021, 9, 9461-9484.	2.9	19
63	Two dimensional nanomaterials-enabled smart light regulation technologies: Recent advances and developments. <i>Optik</i> , 2020, 220, 165191.	1.4	18
64	Novel synthesis, properties and applications of emerging group VA two-dimensional monoelemental materials (2D-Xenes). <i>Materials Chemistry Frontiers</i> , 2021, 5, 6333-6391.	3.2	18
65	A novel MnO-CrN nanocomposite based non-enzymatic hydrogen peroxide sensor. <i>RSC Advances</i> , 2021, 11, 19316-19322.	1.7	18
66	Recent development in emerging phosphorene based novel materials: Progress, challenges, prospects and their fascinating sensing applications. <i>Progress in Solid State Chemistry</i> , 2022, 65, 100336.	3.9	18
67	Ultra-wideband slow light transmission with high normalized delay bandwidth product in W3 photonic crystal waveguide. <i>Superlattices and Microstructures</i> , 2018, 121, 45-54.	1.4	17
68	A first principle study: Effect of tin substitution on magnetic properties of bismuth ferrite nanoparticles prepared by sol-gel synthesis method. <i>Inorganic Chemistry Communication</i> , 2021, 127, 108483.	1.8	16
69	Mid-Infrared Optoelectronic Devices Based on Two-Dimensional Materials beyond Graphene: Status and Trends. <i>Nanomaterials</i> , 2022, 12, 2260.	1.9	16
70	Introduction, production, characterization and applications of defects in graphene. <i>Journal of Materials Science: Materials in Electronics</i> , 2021, 32, 19991-20030.	1.1	15
71	A Direct Method to Extract Transient Sub-Gap Density of State (DOS) Based on Dual Gate Pulse Spectroscopy. <i>Scientific Reports</i> , 2016, 6, 24096.	1.6	14
72	Advanced Devices for Tumor Diagnosis and Therapy. <i>Small</i> , 2021, 17, 2100003.	5.2	14

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73	Synthesis and low temperature magnetic measurements of polycrystalline Gadolinium nanowires. <i>Materials Letters</i> , 2018, 228, 266-269.	1.3	11
74	Enhancement of mechanical and electrical properties for <i>in-situ</i> compatibilization of immiscible polypropylene/polystyrene blends. <i>Materials Research Express</i> , 2019, 6, 105301.	0.8	11
75	Structural characteristics of Ni <sup>+</sup> -implanted AlN thin film. <i>Surface Topography: Metrology and Properties</i> , 2014, 2, 035007.	0.9	10
76	Structural and Magnetoresistance Properties of Transfer-Free Amorphous Carbon Thin Films. <i>Crystals</i> , 2019, 9, 124.	1.0	10
77	Mixed-dimensional niobium disulfide-graphene foam heterostructures as an efficient catalyst for hydrogen production. <i>International Journal of Hydrogen Energy</i> , 2021, 46, 33679-33688.	3.8	10
78	A subgap density of states modeling for the transient characteristics in oxide-based thin-film transistors. <i>Microelectronics Reliability</i> , 2016, 60, 67-69.	0.9	9
79	Radiation-direction steerable nanoantennae. <i>SN Applied Sciences</i> , 2019, 1, 1.	1.5	9
80	New physical insight in structural and electronic properties of InSb nano-sheet being rolled up into single-wall nanotubes. <i>Applied Surface Science</i> , 2019, 487, 550-557.	3.1	9
81	Two-dimensional Metal Organic Frameworks for photonic applications. <i>Optical Materials Express</i> , 0, , .	1.6	9
82	Structural, electronic, optical and thermoelectric analysis of perovskites XRuO <sub>3</sub> (X=Ca, Sr). <i>Physica B: Condensed Matter</i> , 2021, 614, 412962.	1.3	8
83	Theoretical and Cold-Test Investigation of a Four-Port High-Frequency System for a 0.14-THz Dual-Sheet-Beam Backward-Wave Oscillator. <i>IEEE Transactions on Electron Devices</i> , 2018, 65, 5068-5074.	1.6	7
84	Novel Porphyrin-Perylene diimide for ultrafast high-performance resistive memory devices. <i>Organic Electronics</i> , 2022, 103, 106453.	1.4	7
85	Unusual magnetotransport properties in graphene fibers. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 25712-25719.	1.3	3
86	Ultra-high group index slow light with optical buffering performance in photonic crystal waveguide coupled with cavity. , 2018, , .		3
87	Are family medicine residents trained to counsel patients on physical activity? The Canadian experience and a call to action. <i>Postgraduate Medical Journal</i> , 2023, 99, 207-210.	0.9	2
88	The Silk, Versatile Material for Biological, Optical, and Electronic Fields: Review. <i>Global Journal of Researches in Engineering</i> , 2021, , 1-30.	0.1	1