

# Wenpei Gao

## List of Publications by Citations

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68

papers

2,342

citations

24

h-index

48

g-index

69

ext. papers

3,004

ext. citations

9.8

avg, IF

5.17

L-index

#	Paper	IF	Citations
68	Intercorrelated In-Plane and Out-of-Plane Ferroelectricity in Ultrathin Two-Dimensional Layered Semiconductor InSe. <i>Nano Letters</i> , <b>2018</b> , 18, 1253-1258	11.5	293
67	Surface-Engineered PtNi-O Nanostructure with Record-High Performance for Electrocatalytic Hydrogen Evolution Reaction. <i>Journal of the American Chemical Society</i> , <b>2018</b> , 140, 9046-9050	16.4	258
66	Tunable intrinsic strain in two-dimensional transition metal electrocatalysts. <i>Science</i> , <b>2019</b> , 363, 870-874	33.3	238
65	Freestanding crystalline oxide perovskites down to the monolayer limit. <i>Nature</i> , <b>2019</b> , 570, 87-90	50.4	206
64	2D metal-organic framework for stable perovskite solar cells with minimized lead leakage. <i>Nature Nanotechnology</i> , <b>2020</b> , 15, 934-940	28.7	119
63	Interfaces in Heterogeneous Catalysts: Advancing Mechanistic Understanding through Atomic-Scale Measurements. <i>Accounts of Chemical Research</i> , <b>2017</b> , 50, 787-795	24.3	95
62	Growth of Au on Pt icosahedral nanoparticles revealed by low-dose in situ TEM. <i>Nano Letters</i> , <b>2015</b> , 15, 2711-5	11.5	90
61	Platinum-Based Nanowires as Active Catalysts toward Oxygen Reduction Reaction: In Situ Observation of Surface-Diffusion-Assisted, Solid-State Oriented Attachment. <i>Advanced Materials</i> , <b>2017</b> , 29, 1703460	24	74
60	Lattice and strain analysis of atomic resolution Z-contrast images based on template matching. <i>Ultramicroscopy</i> , <b>2014</b> , 136, 50-60	3.1	71
59	Real-space charge-density imaging with sub-Ångström resolution by four-dimensional electron microscopy. <i>Nature</i> , <b>2019</b> , 575, 480-484	50.4	67
58	Dissolution Kinetics of Oxidative Etching of Cubic and Icosahedral Platinum Nanoparticles Revealed by in Situ Liquid Transmission Electron Microscopy. <i>ACS Nano</i> , <b>2017</b> , 11, 1696-1703	16.7	65
57	Nanoscale kinetics of asymmetrical corrosion in core-shell nanoparticles. <i>Nature Communications</i> , <b>2018</b> , 9, 1011	17.4	64
56	An Ion-Exchange Promoted Phase Transition in a Li-Excess Layered Cathode Material for High-Performance Lithium Ion Batteries. <i>Advanced Energy Materials</i> , <b>2015</b> , 5, 1401937	21.8	63
55	Neighboring Pt Atom Sites in an Ultrathin FePt Nanosheet for the Efficient and Highly CO-Tolerant Oxygen Reduction Reaction. <i>Nano Letters</i> , <b>2018</b> , 18, 5905-5912	11.5	58
54	Differential Surface Elemental Distribution Leads to Significantly Enhanced Stability of PtNi-Based ORR Catalysts. <i>Matter</i> , <b>2019</b> , 1, 1567-1580	12.7	53
53	Core-Shell Nanostructured Cobalt-Platinum Electrocatalysts with Enhanced Durability. <i>ACS Catalysis</i> , <b>2018</b> , 8, 35-42	13.1	52
52	Revealing Surface Elemental Composition and Dynamic Processes Involved in Facet-Dependent Oxidation of PtCo Nanoparticles via in Situ Transmission Electron Microscopy. <i>Nano Letters</i> , <b>2017</b> , 17, 4683-4688	11.5	49

51	Deterministic, Reversible, and Nonvolatile Low-Voltage Writing of Magnetic Domains in Epitaxial BaTiO/FeO Heterostructure. <i>ACS Nano</i> , <b>2018</b> , 12, 9558-9567	16.7	34
50	Strong Electronic Interaction of Amorphous Fe <sub>2</sub> O <sub>3</sub> Nanosheets with Single-Atom Pt toward Enhanced Carbon Monoxide Oxidation. <i>Advanced Functional Materials</i> , <b>2019</b> , 29, 1904278	15.6	32
49	Tailoring a Three-Phase Microenvironment for High-Performance Oxygen Reduction Reaction in Proton Exchange Membrane Fuel Cells. <i>Matter</i> , <b>2020</b> , 3, 1774-1790	12.7	30
48	Direct in Situ Observation and Analysis of the Formation of Palladium Nanocrystals with High-Index Facets. <i>Nano Letters</i> , <b>2018</b> , 18, 7004-7013	11.5	30
47	Probing the dynamics of nanoparticle formation from a precursor at atomic resolution. <i>Science Advances</i> , <b>2019</b> , 5, eaau9590	14.3	29
46	Strain-Induced Corrosion Kinetics at Nanoscale Are Revealed in Liquid: Enabling Control of Corrosion Dynamics of Electrocatalysis. <i>Chem</i> , <b>2020</b> , 6, 2257-2271	16.2	24
45	Large Negative-Thermal-Quenching Effect in Phonon-Induced Light Emissions in Mn-Activated Fluoride Phosphor for Warm-White Light-Emitting Diodes. <i>ACS Omega</i> , <b>2018</b> , 3, 13704-13710	3.9	24
44	Direct observation of interfacial Au atoms on TiO <sub>2</sub> in three dimensions. <i>Nano Letters</i> , <b>2015</b> , 15, 2548-54	11.5	23
43	Strong electrostatic adsorption approach to the synthesis of sub-three nanometer intermetallic platinum-cobalt oxygen reduction catalysts. <i>Nano Energy</i> , <b>2021</b> , 79, 105465	17.1	23
42	Tuning Fe concentration in epitaxial gallium ferrite thin films for room temperature multiferroic properties. <i>Acta Materialia</i> , <b>2018</b> , 145, 488-495	8.4	20
41	Transmission electron microscopy with atomic resolution under atmospheric pressures. <i>MRS Communications</i> , <b>2017</b> , 7, 798-812	2.7	17
40	Engineering Temperature-Dependent Carrier Concentration in Bulk Composite Materials via Temperature-Dependent Fermi Level Offset. <i>Advanced Energy Materials</i> , <b>2018</b> , 8, 1701623	21.8	15
39	Interaction of nanometer-sized gold nanocrystals with rutile (110) surface steps revealed at atomic resolution. <i>Surface Science</i> , <b>2014</b> , 625, 16-22	1.8	14
38	Sub-10-nm graphene nanoribbons with atomically smooth edges from squashed carbon nanotubes. <i>Nature Electronics</i> , <b>2021</b> , 4, 653-663	28.4	14
37	Boosting phonon-induced luminescence in red fluoride phosphors via composition-driven structural transformations. <i>Journal of Materials Chemistry C</i> , <b>2017</b> , 5, 12105-12111	7.1	11
36	Thickness and defocus dependence of inter-atomic electric fields measured by scanning diffraction. <i>Ultramicroscopy</i> , <b>2020</b> , 208, 112850	3.1	10
35	Structures and electronic properties of domain walls in BiFeO thin films. <i>National Science Review</i> , <b>2019</b> , 6, 669-683	10.8	9
34	In situ RHEED study of epitaxial gold nanocrystals on TiO <sub>2</sub> (1 1 0) surfaces. <i>Applied Surface Science</i> , <b>2013</b> , 270, 661-666	6.7	7

33	Atomic resolution tomography reconstruction of tilt series based on a GPU accelerated hybrid input-output algorithm using polar Fourier transform. <i>Ultramicroscopy</i> , <b>2015</b> , 149, 64-73	3.1	6
32	Imaging Shape-Dependent Corrosion Behavior of Pt Nanoparticles over Extended Time Using a Liquid Flow Cell and TEM. <i>Microscopy and Microanalysis</i> , <b>2014</b> , 20, 1508-1509	0.5	6
31	Dynamics of Transformation from Platinum Icosahedral Nanoparticles to Larger FCC Crystal at Millisecond Time Resolution. <i>Scientific Reports</i> , <b>2017</b> , 7, 17243	4.9	6
30	From ion to atom to dendrite: Formation and nanomechanical behavior of electrodeposited lithium. <i>MRS Bulletin</i> , <b>2020</b> , 45, 891-904	3.2	6
29	Crystallinity after decarboxylation of a metal-carboxylate framework: indestructible porosity for catalysis. <i>Dalton Transactions</i> , <b>2020</b> , 49, 11902-11910	4.3	6
28	Fast Proton Insertion in Layered H <sub>2</sub> W <sub>2</sub> O <sub>7</sub> via Selective Etching of an Aurivillius Phase. <i>Advanced Energy Materials</i> , <b>2021</b> , 11, 2003335	21.8	6
27	Direct observation of elemental fluctuation and oxygen octahedral distortion-dependent charge distribution in high entropy oxides.. <i>Nature Communications</i> , <b>2022</b> , 13, 2358	17.4	5
26	Self-assembling epitaxial growth of a single crystalline CoFe <sub>2</sub> O <sub>4</sub> nanopillar array via dual-target pulsed laser deposition. <i>Journal of Materials Chemistry C</i> , <b>2018</b> , 6, 4854-4860	7.1	4
25	Atomistic insights into the nucleation and growth of platinum on palladium nanocrystals. <i>Nature Communications</i> , <b>2021</b> , 12, 3215	17.4	4
24	A kinetic Monte Carlo study of coarsening resistance of novel core/shell precipitates. <i>Acta Materialia</i> , <b>2014</b> , 79, 37-46	8.4	3
23	Stretchable and Multi-Metal-Organic Framework Fabrics Via High-Yield Rapid Sorption-Vapor Synthesis and Their Application in Chemical Warfare Agent Hydrolysis. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2021</b> , 13, 31279-31284	9.5	2
22	In situ Atmospheric Transmission Electron Microscopy of Catalytic Nanomaterials. <i>MRS Advances</i> , <b>2018</b> , 3, 2297-2303	0.7	2
21	In Situ Observations of Abnormal Pore Size Changes of a Zirconium Based Metal-Organic Framework Using Atomic Resolution S/TEM and EELS. <i>Microscopy and Microanalysis</i> , <b>2019</b> , 25, 1486-1487	0.5	1
20	In situ Cathodoluminescence and Monitoring Electronic Structure Change Using Optical TEM Holder. <i>Microscopy and Microanalysis</i> , <b>2019</b> , 25, 2302-2303	0.5	1
19	Oxidation of Fe Whiskers and Surface Diffusion Observed by Environmental TEM. <i>Microscopy and Microanalysis</i> , <b>2014</b> , 20, 1864-1865	0.5	1
18	Polarization fluctuation of BaTiO <sub>3</sub> at unit cell level mapped by four-dimensional scanning transmission electron microscopy. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>2022</b> , 40, 013205	2.9	1
17	Phase transition and atomic scale dynamics in chemical reactions revealed in the solid state by electron microscopy. <i>Microscopy and Microanalysis</i> , <b>2021</b> , 27, 2210-2211	0.5	1
16	Multiscale Electric Field Imaging of Vortices in PbTiO <sub>3</sub> -SrTiO <sub>3</sub> Superlattice. <i>Microscopy and Microanalysis</i> , <b>2020</b> , 26, 466-468	0.5	0

15	In Situ Observations of the Dynamics of Pd@Pt Core-Shell Nanoparticles in Electrolyte. <i>Microscopy and Microanalysis</i> , <b>2021</b> , 27, 234-236	0.5	0
14	AutoDisk: Automated diffraction processing and strain mapping in 4D-STEM.. <i>Ultramicroscopy</i> , <b>2022</b> , 236, 113513	3.1	0
13	In situ Study of Dynamics of CuAu Alloy Nanoparticles on Oxide Supports. <i>Microscopy and Microanalysis</i> , <b>2017</b> , 23, 954-955	0.5	
12	Charge Density Mapping via Scanning Diffraction in Scanning Transmission Electron Microscopy. <i>Microscopy and Microanalysis</i> , <b>2019</b> , 25, 18-19	0.5	
11	Polarization in Ferroelectric BiFeO <sub>3</sub> Imaged in 3D Using Four-dimensional Scanning Transmission Electron Microscopy. <i>Microscopy and Microanalysis</i> , <b>2020</b> , 26, 1132-1134	0.5	
10	Transmission Electron Microscopy of Catalytic Nanomaterials at Atomic Resolution. <i>Microscopy and Microanalysis</i> , <b>2019</b> , 25, 2054-2055	0.5	
9	Measuring Charge State at the Single-Atomic-Column-Base with Four-Dimensional Scanning Transmission Electron Microscopy. <i>Microscopy and Microanalysis</i> , <b>2019</b> , 25, 16-17	0.5	
8	Surface Atomic Diffusion Processes Observed at Milliseconds Time Resolution using Environmental TEM. <i>Microscopy and Microanalysis</i> , <b>2014</b> , 20, 1590-1591	0.5	
7	Calculation of the Electric Field Based on Average Momentum Transfer Using Pixelated Electron Detector in STEM. <i>Microscopy and Microanalysis</i> , <b>2017</b> , 23, 2104-2105	0.5	
6	Materials Processes Observed using Dynamical Environmental TEM at University of Illinois. <i>Microscopy and Microanalysis</i> , <b>2015</b> , 21, 2323-2324	0.5	
5	Direct Observation of Interfacial Au atoms Using STEM Depth Sectioning. <i>Microscopy and Microanalysis</i> , <b>2015</b> , 21, 2417-2418	0.5	
4	Characterization of nanomaterials dynamics with transmission electron microscope <b>2022</b> ,		
3	In Situ Observation of Pt Icosahedral Nanoparticles Transformation into FCC Single Crystal. <i>Microscopy and Microanalysis</i> , <b>2016</b> , 22, 766-767	0.5	
2	Evolution of Au 25 (SR) 18 Nanoclusters on Ceria Surfaces during in situ Electron Beam Irradiation. <i>Microscopy and Microanalysis</i> , <b>2016</b> , 22, 1278-1279	0.5	
1	Combined In Situ and Ex Situ Study on Synthesis of Nanostructured Catalyst in Solid State. <i>Microscopy and Microanalysis</i> , <b>2018</b> , 24, 288-289	0.5	