

# Xingxu Yan

## 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.

75  
papers

3,016  
citations

26  
h-index

54  
g-index

83  
ext. papers

4,013  
ext. citations

13.6  
avg, IF

5.19  
L-index

| #  | Paper   | IF   | Citations |
|----|---|------|-----------|
| 75 | Surface reaction dependence of molecular beam epitaxy grown aluminum on various orientations of EGa <sub>2</sub> O <sub>3</sub> . <i>APL Materials</i> , <b>2022</b> , 10, 011110   | 5.7  |           |
| 74 | Catalysts by pyrolysis: Direct observation of transformations during re-pyrolysis of transition metal-nitrogen-carbon materials leading to state-of-the-art platinum group metal-free electrocatalyst. <i>Materials Today</i> , <b>2022</b> , | 21.8 | 4         |
| 73 | High-density switchable skyrmion-like polar nanodomains integrated on silicon.. <i>Nature</i> , <b>2022</b> , 603, 63-67  | 30.4 | 11        |
| 72 | 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         |
| 71 | Experimental observation of localized interfacial phonon modes. <i>Nature Communications</i> , <b>2021</b> , 12, 6901   | 17.4 | 7         |
| 70 | Origin of the Enhanced Piezoelectricity of Vanadium-Doped La <sub>2</sub> Ti <sub>2</sub> O <sub>7</sub> Ceramics. <i>Journal of Physical Chemistry C</i> , <b>2021</b> , 125, 26180-26187  | 3.8  | 0         |
| 69 | Direct observation of polarization-induced two-dimensional electron/hole gases at ferroelectric-insulator interface. <i>Npj Quantum Materials</i> , <b>2021</b> , 6,  | 5    | 3         |
| 68 | Effective Electrochemical Modulation of SERS Intensity Assisted by Core-Shell Nanoparticles. <i>Analytical Chemistry</i> , <b>2021</b> , 93, 4441-4448  | 7.8  | 5         |
| 67 | High-order superlattices by rolling up van der Waals heterostructures. <i>Nature</i> , <b>2021</b> , 591, 385-390   | 50.4 | 47        |
| 66 | Activating a Two-Dimensional PtSe Basal Plane for the Hydrogen Evolution Reaction through the Simultaneous Generation of Atomic Vacancies and Pt Clusters. <i>Nano Letters</i> , <b>2021</b> , 21, 3857-3863                                  | 11.5 | 16        |
| 65 | Revealing Abnormal Phonon Polaritons Confined at the Edge of Curved Two-Dimensional Boron Nitride. <i>Microscopy and Microanalysis</i> , <b>2021</b> , 27, 130-132  | 0.5  |           |
| 64 | Phonon Reflections from Nanostructured Interfaces Imaged by Momentum- Averaged and Resolved Vibrational EELS. <i>Microscopy and Microanalysis</i> , <b>2021</b> , 27, 1204-1206   | 0.5  |           |
| 63 | Probing phonon propagation in materials by angle-resolved and angle-averaged vibrational EELS. <i>Microscopy and Microanalysis</i> , <b>2021</b> , 27, 118-120  | 0.5  |           |
| 62 | Fe <sub>1</sub> N <sub>1</sub> Electrocatalysts Durability: Effects of Single Atoms Mobility and Clustering. <i>ACS Catalysis</i> , <b>2021</b> , 11, 484-494   | 13.1 | 18        |
| 61 | Solar-assisted co-electrolysis of glycerol and water for concurrent production of formic acid and hydrogen. <i>Journal of Materials Chemistry A</i> , <b>2021</b> , 9, 19975-19983  | 13   | 4         |
| 60 | Directly Probing the Local Coordination, Charge State, and Stability of Single Atom Catalysts by Advanced Electron Microscopy: A Review. <i>Small</i> , <b>2021</b> , 17, e2006482  | 11   | 15        |
| 59 | High-Throughput Intelligent Analysis of High and Low-Loss EELS. <i>Microscopy and Microanalysis</i> , <b>2021</b> , 27, 626-628   | 0.5  |           |

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|----|---|------|-----|
| 58 | Space- and Angle-Resolved Vibrational Spectroscopy to Probe the Local Phonon Modes at Planar Defects. <i>Microscopy and Microanalysis</i> , <b>2021</b> , 27, 1190-1192                                   | 0.5  |     |
| 57 | Capturing 3D atomic defects and phonon localization at the 2D heterostructure interface. <i>Science Advances</i> , <b>2021</b> , 7, eabi6699  | 14.3 | 2   |
| 56 | Laser-Irradiated Holey Graphene-Supported Single-Atom Catalyst towards Hydrogen Evolution and Oxygen Reduction. <i>Advanced Energy Materials</i> , <b>2021</b> , 11, 2101619                              | 21.8 | 14  |
| 55 | Single-defect phonons imaged by electron microscopy. <i>Nature</i> , <b>2021</b> , 589, 65-69   | 50.4 | 44  |
| 54 | Anomalous Linear Layer-dependent Blue Shift of Interband Transition in Two-Dimensional Materials. <i>Microscopy and Microanalysis</i> , <b>2020</b> , 26, 634-635   | 0.5  |     |
| 53 | Directly Probing Local Coordination, Charge State and Stability of Single Atom Catalysts. <i>Microscopy and Microanalysis</i> , <b>2020</b> , 26, 2468-2469   | 0.5  | 1   |
| 52 | General synthesis of two-dimensional van der Waals heterostructure arrays. <i>Nature</i> , <b>2020</b> , 579, 368-374   | 50.4 | 195 |
| 51 | Improved Electrical Properties of Layer Structured La <sub>2</sub> Ti <sub>1.96</sub> V <sub>0.04</sub> O <sub>7</sub> Ceramics. <i>Journal of Electronic Materials</i> , <b>2020</b> , 49, 2584-2595     | 1.9  | 3   |
| 50 | Anomalous Linear Layer-Dependent Blue Shift of Ultraviolet-Range Interband Transition in Two-Dimensional MoS <sub>2</sub> . <i>Journal of Physical Chemistry C</i> , <b>2020</b> , 124, 1609-1616         | 3.8  | 1   |
| 49 | Uniformity Is Key in Defining Structure-Function Relationships for Atomically Dispersed Metal Catalysts: The Case of Pt/CeO. <i>Journal of the American Chemical Society</i> , <b>2020</b> , 142, 169-184 | 16.4 | 90  |
| 48 | Probing Local Vibration Modes at Single Planar Defects by Vibrational Spectroscopy. <i>Microscopy and Microanalysis</i> , <b>2020</b> , 26, 952-953   | 0.5  |     |
| 47 | Size-Dependent Nickel-Based Electrocatalysts for Selective CO Reduction. <i>Angewandte Chemie - International Edition</i> , <b>2020</b> , 59, 18572-18577   | 16.4 | 37  |
| 46 | Size-Dependent Nickel-Based Electrocatalysts for Selective CO <sub>2</sub> Reduction. <i>Angewandte Chemie</i> , <b>2020</b> , 132, 18731-18736   | 3.6  | 13  |
| 45 | Dynamic evolution and reversibility of single-atom Ni(II) active site in 1T-MoS electrocatalysts for hydrogen evolution. <i>Nature Communications</i> , <b>2020</b> , 11, 4114                            | 17.4 | 52  |
| 44 | Probing Thermal-induced Phonon Energy Shift of SiC in Nanoscale by in situ Vibrational Spectroscopy. <i>Microscopy and Microanalysis</i> , <b>2019</b> , 25, 622-623                                      | 0.5  | 2   |
| 43 | 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   |
| 42 | Observation of Strong Polarization Enhancement in Ferroelectric Tunnel Junctions. <i>Nano Letters</i> , <b>2019</b> , 19, 6812-6818   | 11.5 | 12  |
| 41 | Unexpected Strong Thermally Induced Phonon Energy Shift for Mapping Local Temperature. <i>Nano Letters</i> , <b>2019</b> , 19, 7494-7502  | 11.5 | 10  |

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|----|--|------|-----|
| 40 | Rational Design of Graphene-Supported Single Atom Catalysts for Hydrogen Evolution Reaction. <i>Advanced Energy Materials</i> , <b>2019</b> , 9, 1803689   | 21.8 | 147 |
| 39 | Transmission Electron Microscopy of Catalytic Nanomaterials at Atomic Resolution. <i>Microscopy and Microanalysis</i> , <b>2019</b> , 25, 2054-2055  | 0.5  |     |
| 38 | Intrinsic Conductance of Domain Walls in BiFeO <sub>3</sub> . <i>Advanced Materials</i> , <b>2019</b> , 31, e1902099   | 24   | 22  |
| 37 | Mapping the Nanoscale Redshift of Optical Phonon Modes in a Strained Quantum Dot System. <i>Microscopy and Microanalysis</i> , <b>2019</b> , 25, 626-627   | 0.5  | 1   |
| 36 | High Spatial Resolution Low-Voltage Electron Imaging and Spectroscopy of Two-Dimensional Materials and Semiconductor Nanostructures. <i>Microscopy and Microanalysis</i> , <b>2019</b> , 25, 468-469                                 | 0.5  |     |
| 35 | Highly crystalline ReSe <sub>2</sub> atomic layers synthesized by chemical vapor transport. <i>Information Materials</i> , <b>2019</b> , 1, 552-558  | 23.1 | 17  |
| 34 | Atomically engineering activation sites onto metallic 1T-MoS <sub>2</sub> catalysts for enhanced electrochemical hydrogen evolution. <i>Nature Communications</i> , <b>2019</b> , 10, 982  | 17.4 | 180 |
| 33 | 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  |
| 32 | PdCo bimetallic nano-electrocatalyst as effective air-cathode for aqueous metal-air batteries. <i>International Journal of Hydrogen Energy</i> , <b>2018</b> , 43, 5001-5011   | 6.7  | 22  |
| 31 | Stable iridium dinuclear heterogeneous catalysts supported on metal-oxide substrate for solar water oxidation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2018</b> , 115, 2902-2907 | 11.5 | 156 |
| 30 | Stacking-mode confined growth of 2H-MoTe <sub>2</sub> /MoS <sub>2</sub> bilayer heterostructures for UV-Vis-IR photodetectors. <i>Nano Energy</i> , <b>2018</b> , 49, 200-208  | 17.1 | 65  |
| 29 | Discovery of a magnetic conductive interface in PbZrTiO <sub>3</sub> /SrTiO <sub>3</sub> heterostructures. <i>Nature Communications</i> , <b>2018</b> , 9, 685   | 17.4 | 12  |
| 28 | 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 |
| 27 | Gate-Induced Interfacial Superconductivity in 1T-SnSe. <i>Nano Letters</i> , <b>2018</b> , 18, 1410-1415   | 11.5 | 54  |
| 26 | Control of Domain Structures in Multiferroic Thin Films through Defect Engineering. <i>Advanced Materials</i> , <b>2018</b> , 30, e1802737   | 24   | 21  |
| 25 | End-On Bound Iridium Dinuclear Heterogeneous Catalysts on WO <sub>3</sub> for Solar Water Oxidation. <i>ACS Central Science</i> , <b>2018</b> , 4, 1166-1172   | 16.8 | 54  |
| 24 | Investigation of Surface and Bulk Vibrational Modes in SiC Polytypes using Spatially Resolved Monochromated HREELS. <i>Microscopy and Microanalysis</i> , <b>2018</b> , 24, 462-463  | 0.5  |     |
| 23 | Investigating Thermal Behavior of Surface Phonon in SiC by in-situ Vibrational Spectroscopy. <i>Microscopy and Microanalysis</i> , <b>2018</b> , 24, 416-417   | 0.5  |     |

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|----|--|------|-----|
| 22 | Bilayer MoS <sub>2</sub> quantum dots with tunable magnetism and spin. <i>AIP Advances</i> , <b>2018</b> , 8, 115103   | 1.5  | 2   |
| 21 | Anisotropic polarization-induced conductance at a ferroelectric-insulator interface. <i>Nature Nanotechnology</i> , <b>2018</b> , 13, 1132-1136  | 28.7 | 37  |
| 20 | Promotion of Ternary PtSnAg Catalysts toward Ethanol Oxidation Reaction: Revealing Electronic and Structural Effects of Additive Metals. <i>ACS Energy Letters</i> , <b>2018</b> , 3, 2550-2557  | 20.1 | 30  |
| 19 | Layer-Dependent Chemically Induced Phase Transition of Two-Dimensional MoS. <i>Nano Letters</i> , <b>2018</b> , 18, 3435-3440  | 11.5 | 50  |
| 18 | High-Mobility Multilayered MoS Flakes with Low Contact Resistance Grown by Chemical Vapor Deposition. <i>Advanced Materials</i> , <b>2017</b> , 29, 1604540  | 24   | 153 |
| 17 | Two-Dimensional Semiconductors Grown by Chemical Vapor Transport. <i>Angewandte Chemie - International Edition</i> , <b>2017</b> , 56, 3611-3615   | 16.4 | 56  |
| 16 | Two-Dimensional Semiconductors Grown by Chemical Vapor Transport. <i>Angewandte Chemie</i> , <b>2017</b> , 129, 3665-3669  | 3.6  | 4   |
| 15 | Atomic interpretation of high activity on transition metal and nitrogen-doped carbon nanofibers for catalyzing oxygen reduction. <i>Journal of Materials Chemistry A</i> , <b>2017</b> , 5, 3336-3345  | 13   | 67  |
| 14 | Direct observation of multiple rotational stacking faults coexisting in freestanding bilayer MoS. <i>Scientific Reports</i> , <b>2017</b> , 7, 8323  | 4.9  | 11  |
| 13 | 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  |
| 12 | Probing the light harvesting and charge rectification of bismuth nanoparticles behind the promoted photoreactivity onto Bi/BiOCl catalyst by (in-situ) electron microscopy. <i>Applied Catalysis B: Environmental</i> , <b>2017</b> , 201, 495-502       | 21.8 | 22  |
| 11 | Controlled Synthesis of Lead-Free and Stable Perovskite Derivative Cs <sub>2</sub> SnI <sub>6</sub> Nanocrystals via a Facile Hot-Injection Process. <i>Chemistry of Materials</i> , <b>2016</b> , 28, 8132-8140   | 9.6  | 239 |
| 10 | Core-shell-shell heterostructures of BaNaLuF <sub>4</sub> :Yb/Er@NaLuF <sub>4</sub> :Yb@MF <sub>2</sub> (M = Ca, Sr, Ba) with remarkably enhanced upconversion luminescence. <i>Dalton Transactions</i> , <b>2016</b> , 45, 11129-36                     | 4.3  | 14  |
| 9  | Electrocatalysis enhancement of iron-based catalysts induced by synergy of methanol and oxygen-containing groups. <i>Nano Energy</i> , <b>2016</b> , 21, 265-275   | 17.1 | 10  |
| 8  | Pyridinic-Nitrogen-Dominated Graphene Aerogels with Fe-N Coordination for Highly Efficient Oxygen Reduction Reaction. <i>Advanced Functional Materials</i> , <b>2016</b> , 26, 5708-5717   | 15.6 | 301 |
| 7  | Optimized electrospinning synthesis of iron-nitrogen-carbon nanofibers for high electrocatalysis of oxygen reduction in alkaline medium. <i>Nanotechnology</i> , <b>2015</b> , 26, 165401  | 3.4  | 11  |
| 6  | Controllable synthesis of porous iron-nitrogen-carbon nanofibers with enhanced oxygen reduction electrocatalysis in acidic medium. <i>RSC Advances</i> , <b>2015</b> , 5, 50324-50327  | 3.7  | 3   |
| 5  | Hierarchical ultrathin rolled-up Co(OH)(CO <sub>3</sub> ) <sub>0.5</sub> films assembled on Ni <sub>0.25</sub> Co <sub>0.75</sub> S <sub>x</sub> nanosheets for enhanced supercapacitive performance. <i>RSC Advances</i> , <b>2014</b> , 4, 57458-57462 | 3.7  | 4   |

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| 4 | Controllable synthesis and enhanced electrocatalysis of iron-based catalysts derived from electrospun nanofibers. <i>Small</i> , <b>2014</b> , 10, 4072-9  | 11   | 26 |
| 3 | Wafer-scale high-throughput ordered arrays of Si and coaxial Si/Si(1-x)Ge(x) wires: fabrication, characterization, and photovoltaic application. <i>ACS Nano</i> , <b>2011</b> , 5, 6629-36                            | 16.7 | 62 |
| 2 | Controlled Synthesis, Structural Evolution, and Photoluminescence Properties of Nanoscale One-Dimensional Hierarchical ZnO/ZnS Heterostructures. <i>Journal of Physical Chemistry C</i> , <b>2011</b> , 115, 1831-1837 | 3.8  | 33 |
| 1 | Generating electricity from biofluid with a nanowire-based biofuel cell for self-powered nanodevices. <i>Advanced Materials</i> , <b>2010</b> , 22, 5388-92  | 24   | 90 |