Robert Sinclair

List of Publications by Year in Descending Order

135 papers	4,915 citations	30 h-index	69 g-index
139 ext. papers	5,699 ext. citations	8.5 avg, IF	5.44 L-index

#	Paper	IF	Citations
135	Characterization of a Dynamic Y2Ir2O7 Catalyst during the Oxygen Evolution Reaction in Acid. *Journal of Physical Chemistry C*, **2022**, 126, 1751-1760	3.8	2
134	Exploring valence states of abnormal mineral deposits in biological tissues using correlative microscopy and spectroscopy techniques: A case study on ferritin and iron deposits from Alzheimer's disease patients. *Ultramicroscopy*, **2021**, 231, 113254	3.1	1
133	Epitaxial Stabilization and Oxygen Evolution Reaction Activity of Metastable Columbite Iridium Oxide. *ACS Applied Energy Materials*, **2021**, 4, 3074-3082	6.1	2
132	Isolating the Electrocatalytic Activity of a Confined NiFe Motif within Zirconium Phosphate. *Advanced Energy Materials*, **2021**, 11, 2003545	21.8	8
131	Persistent and partially mobile oxygen vacancies in Li-rich layered oxides. *Nature Energy*, **2021**, 6, 642-652	52.3	24
130	Understanding Degradation Mechanisms in SrIrO3 Oxygen Evolution Electrocatalysts: Chemical and Structural Microscopy at the Nanoscale. *Advanced Functional Materials*, **2021**, 31, 2101542	15.6	4
129	Prospects for In Situ TEM on Electrocatalyst Materials for Sustainable Energy Technologies. *Microscopy and Microanalysis*, **2021**, 27, 44-45	0.5	
128	An approach for optimizing gold nanoparticles for possible medical applications, using correlative electron energy loss and Raman spectroscopies on electron beam lithographically fabricated arrays. *Journal of Materials Research*, **2021**, 36, 3383	2.5	
127	Mitochondria-Rich Extracellular Vesicles Rescue Patient-Specific Cardiomyocytes From Doxorubicin Injury: Insights Into the SENECA Trial. *JACC: CardioOncology*, **2021**, 3, 428-440	3.8	14
126	Identifying and Tuning the In Situ Oxygen-Rich Surface of Molybdenum Nitride Electrocatalysts for Oxygen Reduction. *ACS Applied Energy Materials*, **2020**, 3, 12433-12446	6.1	8
125	Nitride or Oxynitride? Elucidating the Composition–Activity Relationships in Molybdenum Nitride Electrocatalysts for the Oxygen Reduction Reaction. *Chemistry of Materials*, **2020**, 32, 2946-2960	9.6	28
124	Pro-efferocytic nanoparticles are specifically taken up by lesional macrophages and prevent atherosclerosis. *Nature Nanotechnology*, **2020**, 15, 154-161	28.7	89
123	Correlative Microscopy to Localize and Characterize Iron Deposition in Alzheimer's Disease. *Journal of Alzheimer's Disease Reports*, **2020**, 4, 525-536	3.3	5
122	Acidic Oxygen Evolution Reaction Activity–Stability Relationships in Ru-Based Pyrochlores. *ACS Catalysis*, **2020**, 10, 12182-12196	13.1	30
121	Nanosized Zirconium Porphyrinic Metal–Organic Frameworks that Catalyze the Oxygen Reduction Reaction in Acid. *Small Methods*, **2020**, 4, 2000085	12.8	10
120	Effect of Adventitious Carbon on Pit Formation of Monolayer MoS. *Advanced Materials*, **2020**, 32, e2003020	24	5
119	Atomic Resolution Observation of the Oxidation of Niobium Oxide Nanowires: Implications for Renewable Energy Applications. *ACS Applied Nano Materials*, **2020**, 3, 9285-9292	5.6	3

118	Magnetization switching using topological surface states. *Science Advances*, **2019**, 5, eaaw3415	14.3	33
117	Cryo-EM structures of atomic surfaces and host-guest chemistry in metal-organic frameworks. *Matter*, **2019**, 1, 428-438	12.7	59
116	Transmission Electron Microscopy (TEM) Studies on Nickel and Molybdenum Nitrides as Oxygen Reduction Reaction Catalysts. *Microscopy and Microanalysis*, **2019**, 25, 2072-2073	0.5	1
115	Intranasal delivery of targeted polyfunctional gold-iron oxide nanoparticles loaded with therapeutic microRNAs for combined theranostic multimodality imaging and presensitization of glioblastoma to temozolomide. *Biomaterials*, **2019**, 218, 119342	15.6	88
114	Precious Metal-Free Nickel Nitride Catalyst for the Oxygen Reduction Reaction. *ACS Applied Materials & Interfaces*, **2019**, 11, 26863-26871	9.5	47
113	Optimizing Nanostructure Size to Yield High Raman Signal Enhancement by Electron Energy Loss Spectroscopy. *Microscopy and Microanalysis*, **2019**, 25, 610-611	0.5	
112	Nanomedicine for Spontaneous Brain Tumors: A Companion Clinical Trial. *ACS Nano*, **2019**, 13, 2858-2869	16.7	30
111	In Situ High Resolution and Environmental Electron Microscopy Studies of Material Reactions. *Microscopy and Microanalysis*, **2019**, 25, 3-4	0.5	
110	Synthesis, Characterization, and Light-Induced Spatial Charge Separation in Janus Graphene Oxide. *Chemistry of Materials*, **2018**, 30, 2084-2092	9.6	13
109	Atomic and Molecular Layer Deposition of Hybrid Mo□thiolate Thin Films with Enhanced Catalytic Activity. *Advanced Functional Materials*, **2018**, 28, 1800852	15.6	28
108	Anti-Hermitian photodetector facilitating efficient subwavelength photon sorting. *Nature Communications*, **2018**, 9, 316	17.4	20
107	Deformable Organic Nanowire Field-Effect Transistors. *Advanced Materials*, **2018**, 30, 1704401	24	64
106	In-situ visualization of solute-driven phase coexistence within individual nanorods. *Nature Communications*, **2018**, 9, 1775	17.4	15
105	Defective Carbon-Based Materials for the Electrochemical Synthesis of Hydrogen Peroxide. *ACS Sustainable Chemistry and Engineering*, **2018**, 6, 311-317	8.3	153
104	Correlative Magnetic Imaging of Heat-Assisted Magnetic Recording Media in Cross Section Using Lorentz TEM and MFM. *IEEE Transactions on Magnetics*, **2018**, 54, 1-5	2	0
103	Visualizing Facet-Dependent Hydrogenation Dynamics in Individual Palladium Nanoparticles. *Nano Letters*, **2018**, 18, 5357-5363	11.5	22
102	Contributions to High Resolution and In Situ Electron Microscopy. *Microscopy and Microanalysis*, **2018**, 24, 10-11	0.5	1
101	Designing Boron Nitride Islands in Carbon Materials for Efficient Electrochemical Synthesis of Hydrogen Peroxide. *Journal of the American Chemical Society*, **2018**, 140, 7851-7859	16.4	184

100	Tumor Cell-Derived Extracellular Vesicle-Coated Nanocarriers: An Efficient Theranostic Platform for the Cancer-Specific Delivery of Anti-miR-21 and Imaging Agents. *ACS Nano*, **2018**, 12, 10817-10832	16.7	104
99	Highly stretchable polymer semiconductor films through the nanoconfinement effect. *Science*, **2017**, 355, 59-64	33.3	651
98	Observing Plasmon Damping Due to Adhesion Layers in Gold Nanostructures Using Electron Energy Loss Spectroscopy. *ACS Photonics*, **2017**, 4, 268-274	6.3	29
97	Structure and chemistry of epitaxial ceria thin films on yttria-stabilized zirconia substrates, studied by high resolution electron microscopy. *Ultramicroscopy*, **2017**, 175, 25-35	3.1	3
96	Direct visualization of hydrogen absorption dynamics in individual palladium nanoparticles. *Nature Communications*, **2017**, 8, 14020	17.4	72
95	Enhanced Thermal Conduction Through Nanostructured Interfaces. *Nanoscale and Microscale Thermophysical Engineering*, **2017**, 21, 134-144	3.7	12
94	Equilibrium oxygen storage capacity of ultrathin CeO depends non-monotonically on large biaxial strain. *Nature Communications*, **2017**, 8, 15360	17.4	60
93	Structure and chemistry of epitaxial ceria thin films on yttria-stabilized zirconia substrates, studied by high resolution electron microscopy. *Ultramicroscopy*, **2017**, 176, 200-211	3.1	21
92	Assessing and ameliorating the influence of the electron beam on carbon nanotube oxidation in environmental transmission electron microscopy. *Ultramicroscopy*, **2017**, 176, 132-138	3.1	12
91	Unveiling the Atomistic Processes of the Accelerated Decomposition of 8.5 mol% Y2O3-stabilized ZrO2 by Environmental TEM. *Microscopy and Microanalysis*, **2017**, 23, 2034-2035	0.5	
90	Intrinsic Chirality Origination in Carbon Nanotubes. *ACS Nano*, **2017**, 11, 9941-9949	16.7	18
89	Highly Stable Molybdenum Disulfide Protected Silicon Photocathodes for Photoelectrochemical Water Splitting. *ACS Applied Materials & Interfaces*, **2017**, 9, 36792-36798	9.5	60
88	Synthesis and Characterization of Graphite-Encapsulated Iron Nanoparticles from Ball Milling-Assisted Low-Pressure Chemical Vapor Deposition. *Carbon*, **2017**, 124, 170-179	10.4	10
87	Ultratransparent and stretchable graphene electrodes. *Science Advances*, **2017**, 3, e1700159	14.3	168
86	Effects of Gold Substrates on the Intrinsic and Extrinsic Activity of High-Loading Nickel-Based Oxyhydroxide Oxygen Evolution Catalysts. *ACS Catalysis*, **2017**, 7, 5399-5409	13.1	88
85	Field Emission of Carbon Nanotubes in Oxygen Using Environmental TEM and the Influence of the Imaging Electron Beam. *Microscopy and Microanalysis*, **2017**, 23, 910-911	0.5	1
84	The dissipation of field emitting carbon nanotubes in an oxygen environment as revealed by in situ transmission electron microscopy. *Nanoscale*, **2016**, 8, 16405-16415	7.7	18
83	Growth of Highly Strained CeO Ultrathin Films. *ACS Nano*, **2016**, 10, 9938-9947	16.7	23

82	Thermally induced crystallization in NbO thin films. *Scientific Reports*, **2016**, 6, 34294	4.9	16
81	Torsional Deformations in Subnanometer MoS Interconnecting Wires. *Nano Letters*, **2016**, 16, 1210-7	11.5	27
80	Oxidation of Carbon Nanotubes in an Ionizing Environment. *Nano Letters*, **2016**, 16, 856-63	11.5	30
79	Oxidation of Carbon Nanotubes Using Environmental TEM and the Influence of the Imaging Electron Beam **2016**, 115-116		
78	Antiphase Ordered Domains and Optical Diffraction for Copper-Gold and Samarium-doped Ceria: Reflections on Gareth Thomas. *Microscopy and Microanalysis*, **2016**, 22, 1238-1239	0.5	2
77	Reconstructing solute-induced phase transformations within individual nanocrystals. *Nature Materials*, **2016**, 15, 768-74	27	59
76	Rotating Anisotropic Crystalline Silicon Nanoclusters in Graphene. *ACS Nano*, **2015**, 9, 9497-506	16.7	13
75	A correlative optical microscopy and scanning electron microscopy approach to locating nanoparticles in brain tumors. *Micron*, **2015**, 68, 70-76	2.3	22
74	Electron Energy-Loss Spectroscopy (EELS) Study of NbOx Film for Resistive Memory Applications. *Microscopy and Microanalysis*, **2015**, 21, 285-286	0.5	3
73	Preliminary Investigations of Chemical & Morphological Inhomogeneities in Laft6 Sro.4CoO3-□ Single-Crystalline Perovskite Thin Films by ACTEM and STEM-EELS. *Microscopy and Microanalysis*, **2015**, 21, 1055-1056	0.5	3
72	Evaluating Adhesion Layers for Plasmonic Nanostructures with Monochromated STEM-EELS and Surface Enhanced Raman Spectroscopy. *Microscopy and Microanalysis*, **2015**, 21, 2055-2056	0.5	1
71	Lorentz Transmission Electron Microscopy for Imaging Magnetic Fields from a Perpendicular Ferromagnetic Stripe Domain Thin Film. *Microscopy and Microanalysis*, **2015**, 21, 1947-1948	0.5	
70	A tunable silk-alginate hydrogel scaffold for stem cell culture and transplantation. *Biomaterials*, **2014**, 35, 3736-43	15.6	72
69	Designing Active and Stable Silicon Photocathodes for Solar Hydrogen Production Using Molybdenum Sulfide Nanomaterials. *Advanced Energy Materials*, **2014**, 4, 1400739	21.8	145
68	Imaging Perpendicular Magnetic Domains in Plan-view Using Lorentz Transmission Electron Microscopy. *Microscopy and Microanalysis*, **2014**, 20, 286-287	0.5	
67	Observing Plasmon Damping Effects of Metallic Adhesion Layers in E-Beam Synthesized Nanostructures Using STEM-EELS and Raman Spectroscopy. *Microscopy and Microanalysis*, **2014**, 20, 588-589	0.5	
66	HREM analysis of graphite-encapsulated metallic nanoparticles for possible medical applications. *Ultramicroscopy*, **2013**, 134, 167-74	3.1	9
65	Amorphous thin film TaWSiC as a diffusion barrier for copper interconnects. *Applied Physics Letters*, **2013**, 103, 022104	3.4	10

64	Oxidation Studies of Carbon Nanotubes for Applications as X-Ray Field Emitters Using an Aberration-Corrected, Environmental TEM. *Microscopy and Microanalysis*, **2013**, 19, 466-467	0.5	
63	Oxygen Surface Exchange at Grain Boundaries of Oxide Ion Conductors. *Advanced Functional Materials*, **2012**, 22, 965-971	15.6	109
62	Aberration-corrected transmission electron microscopy of the intergranular phase in magnetic recording media. *Nano Letters*, **2012**, 12, 2595-8	11.5	3
61	Atomic layer deposition of CdxZn1⊠S films. *Journal of Materials Chemistry*, **2011**, 21, 743-751		23
60	Scanning Electron Microscopy and Surface Enhanced Raman Spectroscopy Correlation Studies of Functionalized Composite Organic-Inorganic SERS Nanoparticles on Cancer Cells. *Materials Research Society Symposia Proceedings*, **2011**, 1316, 1		
59	Atomic Layer Deposition of CdS Films. *Chemistry of Materials*, **2010**, 22, 4669-4678	9.6	51
58	Microstructure and Exchange Coupling of Segregated Oxide Perpendicular Recording Media. *IEEE Transactions on Magnetics*, **2007**, 43, 639-644	2	23
57	TEM Observations of Bio-Conjugated Streptavidin-Gold Nanoparticles. *Materials Research Society Symposia Proceedings*, **2007**, 1019, 1		3
56	FIB and TEM studies of interface structure in diamond⊠SiC composites. *Journal of Materials Science*, **2006**, 41, 4611-4616	4.3	9
55	Carbide Evolution in Temper Embrittled NiCrMoV Bainitic Steel. *Steel Research International*, **2004**, 75, 47-54	1.6	9
54	Nanoscale Investigation of Composition and Grain Boundary Effects in Magnetic Hard Disk Media. *Microscopy and Microanalysis*, **2003**, 9, 512-513	0.5	
53	The Effects of Slider Material on the Gasification of Carbon. *Journal of Tribology*, **2002**, 124, 771-774	1.8	1
52	In situ TEM studies of metal-carbon reactions. *Microscopy and Microanalysis*, **2002**, 8, 288-304	0.5	73
51	Grain Size Relationships between the Magnetic Layer and the Underlayers in CoCrPtTa Recording Media. *Materials Research Society Symposia Proceedings*, **2000**, 614, 341		
50	Thermal Stability of The Copper/Tantalum Interfaces In Advanced Microelectronic Metallization. *Microscopy and Microanalysis*, **1999**, 5, 176-177	0.5	
49	Magnetic Imaging Of Recording Media. *Microscopy and Microanalysis*, **1999**, 5, 28-29	0.5	
48	Solid-state amorphization at tetragonal-Ta/Cu interfaces. *Applied Physics Letters*, **1999**, 75, 935-937	3.4	75
47	Microstructural Characterization of Longitudinal Magnetic Recording Media. *Materials Research Society Symposia Proceedings*, **1999**, 589, 3		1

46	Nanoroughness effect on Cr growth mechanism. *Journal of Applied Physics*, **1997**, 81, 3943-3945	2.5	8
45	Applications of TEM for Analysis of Local Failures Occurring During Silicon Metallization Process. *Microscopy and Microanalysis*, **1997**, 3, 465-466	0.5	
44	The Failure Mechanism of MOCVD TiN Diffusion Barrier at high Temperature. *Materials Research Society Symposia Proceedings*, **1996**, 428, 279		1
43	Metal-mediated crystallization of amorphous germanium in germanium-silver layered systems. *The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties*, **1995**, 71, 179-199		28
42	Reaction-mediated texturing of barium ferrite magnetic thin films on ZnO underlayer. *Journal of Materials Research*, **1995**, 10, 2343-2349	2.5	10
41	Metal-mediated crystallization of amorphous silicon in silicon-silver layered systems. *The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties*, **1995**, 71, 163-178		41
40	Tem Study of Crystallization of a-SiC in Contact With Silver. *Materials Research Society Symposia Proceedings*, **1995**, 382, 39		2
39	In Situ Tem Study of Reactions in Iron/amorphous Carbon Layered Thin Films. *Materials Research Society Symposia Proceedings*, **1995**, 382, 45		4
38	Study of Diffusion Barrier Performance in MOCVD TiN by Transmission Electron Microscopy. *Materials Research Society Symposia Proceedings*, **1995**, 391, 205		
37	Thermochemical stability of BaFe12O19 and BaFe2O4 and phase relations in the Ba-Fe-O ternary system. *Journal of Materials Research*, **1994**, 9, 1499-1512	2.5	16
36	In-Situ Tem Observation of Interfacial Reactions in the Zr/Si System. *Materials Research Society Symposia Proceedings*, **1994**, 337, 481		
35	Transmission Electron Microscopy of MOCVD Titanium Nitride Films. *Materials Research Society Symposia Proceedings*, **1994**, 337, 735		2
34	Characterization of Sputtered Barium Ferrite Thin Films on Silicon Nitride Coated Carbon Substrates. *Materials Research Society Symposia Proceedings*, **1994**, 341, 59		4
33	Effects of Substrate Temperature on Magnetic and Crystallographic Properties of Co-Cr-Pt/Cr Films Deposited by Laser Ablation. *Materials Research Society Symposia Proceedings*, **1994**, 343, 345		2
32	Nickel Mediated Transformation of Amorphous Carbon to Graphite. *Materials Research Society Symposia Proceedings*, **1994**, 349, 31		12
31	Interface Reaction Enhanced Epitaxial Growth of Barium Ferrite Magnetic Thin Films. *Materials Research Society Symposia Proceedings*, **1994**, 357, 165		1
30	Atomic-scale planarization of SiO2/Si(001) interfaces. *Applied Physics Letters*, **1993**, 63, 675-677	3.4	12
29	Reactions in Metal-Metalloid Multilayers. *Materials Research Society Symposia Proceedings*, **1993**, 311, 3		3

28	Crystallization of Amorphous Germanium in a Silver Germanium Layered System. *Materials Research Society Symposia Proceedings*, **1993**, 311, 99		3
27	Structure and Magnetic Properties of FE/ZR Multilayer Films. *Materials Research Society Symposia Proceedings*, **1993**, 313, 731		
26	Direct Solid State Phase Transformation from Co to Epitaxial CoSi2 in Co / Thin Ti / (100) Si Structure and its Application for Shallow Junction Formation. *Materials Research Society Symposia Proceedings*, **1993**, 320, 355		5
25	Structural Properties of Anisotropic PtCo(001) and PtFe(001) Thin Films on MgO(001). *Materials Research Society Symposia Proceedings*, **1993**, 311, 9		1
24	Magnetic and Magneto-Optic Properties of PtFe(001) and PtCo(OOl) Thin Films. *Materials Research Society Symposia Proceedings*, **1993**, 313, 805		2
23	Amorphous phase formation and initial interfacial reactions in the platinum/GaAs system. *Journal of Applied Physics*, **1992**, 72, 2036-2042	2.5	27
22	Reactions at the Titanium-Silicon Interface Studied Using Hot-Stage Tem. *Materials Research Society Symposia Proceedings*, **1992**, 260, 227		7
21	Crystallization of silicon in aluminium/amorphous-silicon multilayers. *The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties*, **1992**, 66, 749-765		124
20	Crystallization of Amorphous Silicon-Aluminum thin Films: IN-SITU Observation and Thermal Analysis.. *Materials Research Society Symposia Proceedings*, **1991**, 237, 609		3
19	Crystallization of Amorphous Si In Al/Si Multilayers. *Materials Research Society Symposia Proceedings*, **1991**, 230, 189		5
18	Amorphous phase formation in an as-deposited platinum-GaAs interface. *Applied Physics Letters*, **1991**, 58, 1851-1853	3.4	15
17	Interface microstructure of titanium thin-film/silicon single-crystal substrate correlated with electrical barrier heights. *Journal of Applied Physics*, **1991**, 70, 827-832	2.5	51
16	SiO2/Si Interfaces Studied by STM and HRTEM. *Materials Research Society Symposia Proceedings*, **1990**, 183, 141		5
15	Structure and Thermodynamics of Amorphous Ti-Si Produced by Solid-State Interdiffusion. *Materials Research Society Symposia Proceedings*, **1990**, 187, 71		11
14	Evidence for a Grain Boundary Grooving Model of Agglomeration in Polycrystalline Tisi2 Thin Films. *Materials Research Society Symposia Proceedings*, **1990**, 202, 95		5
13	Thermodynamic Stability of PtAl Thin Films on GaAs. *Materials Research Society Symposia Proceedings*, **1990**, 181, 333		1
12	Structure and electrical properties of interfaces between silicon films and n+ silicon crystals. *Journal of Applied Physics*, **1989**, 65, 668-671	2.5	5
11	Interfacial reactions on annealing molybdenum-silicon multilayers. *Journal of Applied Physics*, **1989**, 65, 474-480	2.5	140

10	In-Situannealing Transmission Electron Microscopy(Tem) Study of the Ti/GaAs Interfacial Reactions. *Materials Research Society Symposia Proceedings*, **1989**, 148, 21		2
9	Hrem In Situ Annealing of the CdTe/GaAs Heterojunction. *Materials Research Society Symposia Proceedings*, **1989**, 139, 205		4
8	Amorphous Ti-Si alloy formed by interdiffusion of amorphous Si and crystalline Ti multilayers. *Journal of Applied Physics*, **1987**, 61, 1359-1364	2.5	217
7	IN-SITU and High-Resolution TEM Observation of Interfacial Reactions in Metal-Silicon Multilayers. *Materials Research Society Symposia Proceedings*, **1987**, 103, 167		2
6	Phase equilibria in metal-gallium-arsenic systems: Thermodynamic considerations for metallization materials. *Journal of Applied Physics*, **1987**, 61, 2195-2202	2.5	125
5	Interfacial Reactions in Titanium - Silicon Multilayers. *Materials Research Society Symposia Proceedings*, **1986**, 77, 357		8
4	The Phase Formation Sequence in Titanium-Silicon Thin Films. *Materials Research Society Symposia Proceedings*, **1985**, 54, 44		
3	Metastable phase formation in titanium-silicon thin films. *Journal of Applied Physics*, **1985**, 57, 5240-5245	2.5	376
2	The preparation of cross-section specimens for transmission electron microscopy. *Journal of Electron Microscopy Technique*, **1984**, 1, 53-61		490
1	Morphological Studies of Polysilicon Emitter Contacts. *Materials Research Society Symposia Proceedings*, **1984**, 37, 461		