Richard J Blaikie

List of Publications by Year
in descending order

123 papers	2,940 citations	201385 27 h-index	174990 52 g-index
124 all docs	124 docs citations	124 times ranked	2451 citing authors

#	Article	IF	Citations
1	Super-resolution imaging through a planar silver layer. Optics Express, 2005, 13, 2127.	1.7	463
2	Performance enhancement of spectral-amplitude-coding optical CDMA using pulse-position modulation. IEEE Transactions on Communications, 1998, 46, 1176-1185.	4.9	252
3	Sub-diffraction-limited patterning using evanescent near-field optical lithography. Applied Physics Letters, 1999, 75, 3560-3562.	1.5	193
4	Singleâ€electron memory. Journal of Applied Physics, 1994, 75, 5123-5134.	1.1	146
5	Submicron imaging with a planar silver lens. Applied Physics Letters, 2004, 84, 4403-4405.	1.5	127
6	Gold Nanohole Array Substrates as Immunobiosensors. Analytical Chemistry, 2008, 80, 2244-2249.	3.2	111
7	Revealing Strong Plasmon-Exciton Coupling between Nanogap Resonators and Two-Dimensional Semiconductors at Ambient Conditions. Physical Review Letters, 2020, 124, 063902.	2.9	85
8	Finite-Size Effects in the Conductivity of Cluster Assembled Nanostructures. Physical Review Letters, 2002, 88, 226802.	2.9	81
9	Patterning, integration and characterisation of polymer optical oxygen sensors for microfluidic devices. Lab on A Chip, 2008, 8, 1300.	3.1	67
10	Subwavelength optical imaging of evanescent fields using reflections from plasmonic slabs. Optics Express, 2007, 15, 11542.	1.7	60
11	Mode Modification of Plasmonic Gap Resonances Induced by Strong Coupling with Molecular Excitons. Nano Letters, 2017, 17, 3246-3251.	4.5	60
12	Imaging through planar silver lenses in the optical near field. Journal of Optics, 2005, 7, S176-S183.	1.5	56
13	Evanescent interferometric lithography. Applied Optics, 2001, 40, 1692.	2.1	55
14	A micropillar-based on-chip system for continuous force measurement ofC. elegans. Journal of Micromechanics and Microengineering, 2012, 22, 095009.	1.5	55
15	Super-resolution near-field lithography using planar silver lenses: A review of recent developments. Microelectronic Engineering, 2006, 83, 723-729.	1.1	49
16	Calculated and measured transmittance of a tunable metallic photonic crystal filter for terahertz frequencies. Applied Physics Letters, 2003, 83, 5362-5364.	1.5	48
17	Experimental comparison of resolution and pattern fidelity in single- and double-layer planar lens lithography. Journal of the Optical Society of America B: Optical Physics, 2006, 23, 461.	0.9	46
18	Plasmonic Lithography: Recent Progress. Advanced Optical Materials, 2019, 7, 1801653.	3.6	45

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19	Contrast in the evanescent near field of Î»/20 period gratings for photolithography. Applied Optics, 2000, 39, 20.	2.1	36
20	Image fidelity for single-layer and multi-layer silver superlenses. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2008, 25, 911.	0.8	34
21	Templated-assembly of conducting antimony cluster wires. Nanotechnology, 2004, 15, 1382-1387.	1.3	32
22	Nanolithography using optical contact exposure in the evanescent near field. Microelectronic Engineering, 1999, 46, 85-88.	1.1	31
23	Tunable SERS using gold nanoaggregates on an elastomeric substrate. Nanoscale, 2013, 5, 8945.	2.8	30
24	Controlling the dimensions of amyloid fibrils: Toward homogenous components for bionanotechnology. Biopolymers, 2012, 97, 123-133.	1.2	29
25	Tunable Valley Polarized Plasmon-Exciton Polaritons in Two-Dimensional Semiconductors. ACS Nano, 2019, 13, 1333-1341.	7.3	29
26	Analysis and optimization of multilayer silver superlenses for near-field optical lithography. Physica B: Condensed Matter, 2007, 394, 197-202.	1.3	28
27	Probing Plasmonic Gap Resonances between Gold Nanorods and a Metallic Surface. Journal of Physical Chemistry C, 2015, 119, 18627-18634.	1.5	28
28	70 nm Features on 140 nm period using evanescent near field optical lithography. Microelectronic Engineering, 2000, 53, 237-240.	1.1	27
29	An improved transfer-matrix â€¨model for optical superlenses. Optics Express, 2009, 17, 14260.	1.7	26
30	The effect of mode coupling on ballistic electron transport in quantum wires. Journal of Physics Condensed Matter, 1991, 3, 5729-5740.	0.7	25
31	A detailed study of resonance-assisted evanescent interference lithography to create high aspect ratio, super-resolved structures. Optics Express, 2013, 21, 13710.	1.7	25
32	Near-field optical lithography using a planar silver lens. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2004, 22, 3470.	1.6	23
33	Multilevel differential polarization shift keying. IEEE Transactions on Communications, 1997, 45, 95-102.	4.9	21
34	Fabrication of optical grayscale masks for tapered microfluidic devices. Microelectronic Engineering, 2008, 85, 1077-1082.	1.1	21
35	Efficient Plasmonic Gas Sensing Based on Cavity-Coupled Metallic Nanoparticles. Journal of Physical Chemistry C, 2017, 121, 24740-24744.	1.5	21
36	Surface charging suppression using PEDOT/PSS in the fabrication of three dimensional structures on a quartz substrate. Microelectronic Engineering, 2009, 86, 535-538.	1.1	20

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37	Bandgap control in two-dimensional semiconductors via coherent doping of plasmonic hot electrons. Nature Communications, 2021, 12, 4332.	5.8	20
38	Manipulating light absorption in dye-doped dielectric films on reflecting surfaces. Optics Express, 2014, 22, 25965.	1.7	19
39	Electron transport in multiprobe quantum wires anomalous magnetoresistance effects. Journal of Applied Physics, 1995, 78, 330-343.	1.1	16
40	Analysis of silicon terahertz diffractive optics. Current Applied Physics, 2004, 4, 102-105.	1.1	16
41	Simulations of surface roughness effects in planar superlenses. Journal of Optics, 2009, 11, 105503.	1.5	16
42	Perfect imaging without refraction?. New Journal of Physics, 2011, 13, 125006.	1.2	16
43	Enhancement of resistance anomalies by diffuse boundary scattering in multiprobe ballistic conductors. Physical Review B, 1992, 46, 9796-9799.	1.1	15
44	NANOSCALE OPTICAL PATTERNING USING EVANESCENT FIELDS AND SURFACE PLASMONS. International Journal of Nanoscience, 2004, 03, 405-417.	0.4	14
45	Photolithographic patterning of polymer-encapsulated optical oxygen sensors. Microelectronic Engineering, 2010, 87, 814-816.	1.1	14
46	Metallic tunable photonic crystal filter for terahertz frequencies. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2003, 21, 2878.	1.6	13
47	Survey of Micro/Nanofabricated Chemical, Topographical, and Compound Passive Wetting Gradient Surfaces. Langmuir, 2022, 38, 605-619.	1.6	13
48	Variable width and electron density quantum wires in GaAs/AlGaAs with ionâ€implanted gates and a surface Schottky gate. Applied Physics Letters, 1992, 60, 1618-1620.	1.5	12
49	A variable polarisation compensator using artificial dielectrics. Optics Communications, 1999, 163, 164-168.	1.0	11
50	Genetic algorithm optimization of grating coupled near-field interference lithography systems at extreme numerical apertures. Journal of Optics (United Kingdom), 2017, 19, 095003.	1.0	11
51	Formation of Electrically Conducting Mesoscale Wires Through Self-Assembly of Atomic Clusters. IEEE Nanotechnology Magazine, 2004, 3, 61-66.	1.1	10
52	Spatially Resolved Measurement of Dissolved Oxygen in Multistream Microfluidic Devices. IEEE Sensors Journal, 2010, 10, 1813-1819.	2.4	10
53	Increased process latitude in absorbance-modulated lithography via a plasmonic reflector. Optics Express, 2011, 19, 17790.	1.7	10
54	Ultrahigh NA, high aspect ratio interference lithography with resonant dielectric underlayers. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2014, 32, .	0.6	10

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55	Development of a Coating-Less Aluminum Superhydrophobic Gradient for Spontaneous Water Droplet Motion Using One-Step Laser-Ablation. Langmuir, 2022, 38, 1954-1965.	1.6	10
56	Electron focusing with a double grid in AlGaAs/GaAs heterostructures. Applied Physics Letters, 1992, 60, 1093-1095.	1.5	9
57	Surface-Plasmon-Enhanced Optical Transmission through Planar Metal Films. Journal of Electromagnetic Waves and Applications, 2005, 19, 1721-1728.	1.0	9
58	Experimental characterization of the transfer function for a Silver-dielectric superlens. Optics Express, 2012, 20, 6412.	1.7	9
59	Negative longitudinal resistance in a mesoscopic wire. Applied Physics Letters, 1993, 62, 870-872.	1.5	8
60	Bideposited thin-film retardation plates for use at deep UV wavelengths. Current Applied Physics, 2004, 4, 106-107.	1.1	8
61	Herpin effective media resonant underlayers and resonant overlayer designs for ultra-high NA interference lithography. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2017, 34, 2243.	0.8	8
62	Fabrication of quantum wires and point contacts in GaAs/AlGaAs heterostructures using focused ion beam implanted gates. Microelectronic Engineering, 1991, 13, 373-376.	1.1	7
63	Three dimensional HSQ structures formed using multiple low energy electron beam lithography. Microelectronic Engineering, 2006, 83, 767-770.	1.1	7
64	Force pattern characterisation of Caenorhabditis elegans in motion. International Journal of Computer Applications in Technology, 2010, 39, 137.	0.3	7
65	Performance enhancements to absorbance-modulation optical lithography II Plasmonic superlenses. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2011, 28, 2218.	0.8	7
66	Study of Micro- and Nanopatterned Aluminum Surfaces Using Different Microfabrication Processes for Water Management. Langmuir, 2022, 38, 1386-1397.	1.6	7
67	Lateral resonant tunneling through constrictions in a Î´â€‰â€doped GaAs layer. Applied Physics Letters, 1994, 64, 118-120.	1.5	6
68	Solid immersion optical lithography: index matching and resonant reflectors for large exposure field, high-aspect ratio imaging in the ultrahigh-numerical aperture regime. Journal of Micro/ Nanolithography, MEMS, and MOEMS, 2015, 14, 043510.	1.0	6
69	A comparison of near-field lithography and planar lens lithography. Current Applied Physics, 2006, 6, 415-418.	1.1	5
70	Robust design of a silver-dielectric near-field superlens for photolithography. Journal of the Optical Society of America B: Optical Physics, 2013, 30, 3272.	0.9	5
71	Enhanced resonant absorption in dye-doped polymer thin-film cavities for water vapour sensing. Sensors and Actuators B: Chemical, 2016, 231, 88-94.	4.0	5
72	Modeling of output resistance in SiGe heterojunction bipolar transistors with significant neutral base recombination. IEEE Transactions on Electron Devices, 1997, 44, 693-699.	1.6	4

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73	Experimental method to extract AC collector-base resistance from SiGe HBT's. IEEE Transactions on Electron Devices, 1997, 44, 1944-1950.	1.6	4
74	Variable polarisation compensator using artificial dielectrics for millimetre and sub-millimetre waves. Electronics Letters, 2001, 37, 149.	0.5	4
75	Improved Analytical Models for Single- and Multi-layer Silver Superlenses. Materials Research Society Symposia Proceedings, 2009, 1182, 30.	0.1	4
76	Plasmon-enhanced optical transmission of nanostructured metallic multilayers. International Journal of Nanotechnology, 2009, 6, 222.	0.1	4
77	Resonant surface roughness interactions in planar superlenses. Microelectronic Engineering, 2010, 87, 887-889.	1.1	4
78	Performance enhancements to absorbance-modulation optical lithography I Plasmonic reflector layers. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2011, 28, 2209.	0.8	4
79	Rethinking our shared futures. Journal of the Royal Society of New Zealand, 2019, 49, 1-3.	1.0	4
80	Bifacial omnidirectional and band-tunable light absorption in free-standing coreâ€“shell resonators. Applied Physics Letters, 2022, 120, .	1.5	4
81	Direct nanoengineering and lithographic patterning of optically anisotropic thin films. Microelectronic Engineering, 2001, 57-58, 833-836.	1.1	3
82	Tunable photonic crystal filter for terahertz frequency applications. , 2003, , .		3
83	Micro-patterning of polymer-based optical oxygen sensors for lab-on-chip applications. , 2007, , .		3
84	Force Pattern Characterization of C. elegans in Motion. , 2008, , .		3
85	Evanescent-coupled antireflection coatings for hyper-numerical aperture immersion lithography. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2014, 32, .	0.6	3
86	Control of fluorescence enhancement and directionality upon excitations in a thin-film system. Physica Status Solidi (B): Basic Research, 2015, 252, 2222-2229.	0.7	3
87	Fabrication of Free-Standing Single-Crystal Silicon Nanostructures for the Study of Thermal Transport and Defect Scattering in Low Dimensional Systems. Japanese Journal of Applied Physics, 1990, 29, 2675-2679.	0.8	2
88	Nanometre-scale electrochemical switches fabricated using a plasma-based sulphidation technique. , 2006, , .		2
89	Analysis and comparison of simulation techniques for silver superlenses. , 2008, , .		2
90	Visualization and measurement of dissolved oxygen concentrations in hydrodynamic flow focusing. , 2009, , .		2

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91	Automated vision-based force measurement of moving C. elegans. , 2010, , .		2
92	Solid-immersion Lloyd's mirror as a testbed for plasmon-enhanced high-NA lithography. , 2011, , .		2
93	A solid immersion interference lithography system for imaging ultra-high numerical apertures with high-aspect ratios in photoresist using resonant enhancement from effective gain media. Proceedings of SPIE, 2012, , .	0.8	2
94	Illumination Dependent Optical Properties of Plasmonic Nanorods Coupled to Thin-Film Cavities. Plasmonics, 2016, 11, 1101-1107.	1.8	2
95	Micro-fabricated aluminium surfaces for reduced ice adhesion. Experimental Thermal and Fluid Science, 2022, 136, 110646.	1.5	2
96	Transport properties of dual quantum dots. Surface Science, 1994, 305, 659-663.	0.8	1
97	Effects of Mask Materials on Near Field Optical Nanolithography. Materials Research Society Symposia Proceedings, 2001, 705, 711.	0.1	1
98	<title>Novel silicon bulk micromachining process for submillimeter rectangular waveguide fabrication</title>. , 2001, 4407, 372.		1
99	Response to â€œComment on â€˜Submicron imaging with a planar silver lensâ€™â€‰â€•[Appl. Phys. Lett. 86, 126101 (2005)]. Applied Physics Letters, 2005, 86, 126102.	1.5	1
100	Using surface-plasmon effects to improve process latitute in near-field optical lithography. , 2006, , .		1
101	Negative permeability using planar-patterned metallic multilayer structures. Journal of Optics, 2007, 9, S385-S388.	1.5	1
102	Near-field imaging through plasmonic superlenses. Proceedings of SPIE, 2007, , .	0.8	1
103	Selective Filling and Sintering of Copper Nanoclusters for Interconnect. IEEE Nanotechnology Magazine, 2007, 6, 556-560.	1.1	1
104	Patterning of polymer-encapsulated optical oxygen sensors by electron beam lithography. , 2010, , .		1
105	Flexible poly(dimethyl siloxane) support layers for the evanescent characterization of near-field lithography systems. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, 06FH02.	0.6	1
106	Solid immersion optical lithography: tuning the prism/sample interface for improved ultra high-NA, high aspect ratio resist patterns over large exposure fields. , 2015, , .		1
107	Resonant absorption in dielectric thin films for humidity sensing. International Journal of Nanotechnology, 2017, 14, 204.	0.1	1
108	Role of optical losses in metalâ€“organic framework thin-film-based gas sensors. Journal of the Optical Society of America B: Optical Physics, 2018, 35, 1780.	0.9	1

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109	Surface wetting on micromilled and laser-etched aluminum with ion-beam postprocessing. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2021, 39, .	0.6	1
110	Optical Nanolithography Using Evanescent Fields. Materials Research Society Symposia Proceedings, 2002, 739, 241.	0.1	0
111	Formation of nanowires at the percolation threshold in rectangular 2D systems. , 2003, , .		0
112	Formation of electrically conducting mesoscale wires through self-assembly of atomic clusters. , 2003, , .		0
113	Development of Si/SiO2 super-lattices deposited by RF reactive sputtering. Current Applied Physics, 2006, 6, 491-494.	1.1	0
114	Enhanced optical transmission through planar metallic films via excitation of surface plasmons. , 2006, , .		0
115	Fault Models and Device Yield of a Large Population of Room Temperature Operation Single-Electron Transistors. , 2007, , .		0
116	Finite element simulation of absorbance modulation optical lithography. , 2008, , .		0
117	The MacDiarmid Institute for Advanced Materials and Nanotechnology: a New Zealand Centre of Research Excellence. International Journal of Nanotechnology, 2009, 6, 298.	0.1	0
118	THE MACDIARMID INSTITUTE AND NANOTECHNOLOGY RESEARCH IN NEW ZEALAND. , 2009, , 281-302.		0
119	Evaluation of three exposure schemes for absorbance-modulated interference lithography. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, 06FH01.	0.6	0
120	Microfabrication Process for XYZ Stage-Needle Assembly for Cellular Delivery and Surgery. Materials Science Forum, 2011, 700, 195-198.	0.3	0
121	Relative humidity sensing using dye-doped polymer thin-films on metal substrates. Proceedings of SPIE, 2015, , .	0.8	0
122	Experimental demonstration of evanescent-coupled antireflection coatings. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2018, 36, 011601.	0.6	0
123	Reflective metamaterial polarizer enabled by solid-immersion Lloyd's mirror interference lithography. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2019, 37, 061801.	0.6	0