Xiuling Li

List of Publications by Citations

110 papers	4,958 citations	36 h-index	69 g-index
130 ext. papers	5,633 ext. citations	9.3 avg, IF	5.87 L-index

#	Paper	IF	Citations
110	Materials science. Assembly of micro/nanomaterials into complex, three-dimensional architectures by compressive buckling. *Science*, **2015**, 347, 154-9	33.3	587
109	Printing, folding and assembly methods for forming 3D mesostructures in advanced materials. *Nature Reviews Materials*, **2017**, 2,	73.3	372
108	Metal assisted chemical etching for high aspect ratio nanostructures: A review of characteristics and applications in photovoltaics. *Current Opinion in Solid State and Materials Science*, **2012**, 16, 71-81	12	312
107	Enhancement-mode Ga2O3 wrap-gate fin field-effect transistors on native (100) Ga2O3 substrate with high breakdown voltage. *Applied Physics Letters*, **2016**, 109, 213501	3.4	228
106	Morphable 3D mesostructures and microelectronic devices by multistable buckling mechanics. *Nature Materials*, **2018**, 17, 268-276	27	216
105	Metal-catalyzed semiconductor nanowires: a review on the control of growth directions. *Semiconductor Science and Technology*, **2010**, 25, 024005	1.8	193
104	Nonlithographic patterning and metal-assisted chemical etching for manufacturing of tunable light-emitting silicon nanowire arrays. *Nano Letters*, **2010**, 10, 1582-8	11.5	181
103	Planar GaAs nanowires on GaAs (100) substrates: self-aligned, nearly twin-defect free, and transfer-printable. *Nano Letters*, **2008**, 8, 4421-7	11.5	152
102	In(x)Ga(1-x)As nanowires on silicon: one-dimensional heterogeneous epitaxy, bandgap engineering, and photovoltaics. *Nano Letters*, **2011**, 11, 4831-8	11.5	126
101	Porosity control in metal-assisted chemical etching of degenerately doped silicon nanowires. *Nanotechnology*, **2012**, 23, 305304	3.4	107
100	Thermal conductivity of silicon nanowire arrays with controlled roughness. *Journal of Applied Physics*, **2012**, 112, 114306	2.5	105
99	Strain induced semiconductor nanotubes: from formation process to device applications. *Journal Physics D: Applied Physics*, **2008**, 41, 193001	3	103
98	Formation of high aspect ratio GaAs nanostructures with metal-assisted chemical etching. *Nano Letters*, **2011**, 11, 5259-63	11.5	102
97	Geometry effect on the strain-induced self-rolling of semiconductor membranes. *Nano Letters*, **2010**, 10, 3927-32	11.5	97
96	In-plane bandgap control in porous GaN through electroless wet chemical etching. *Applied Physics Letters*, **2002**, 80, 980-982	3.4	89
95	In(x)Ga(1-x)As nanowire growth on graphene: van der Waals epitaxy induced phase segregation. *Nano Letters*, **2013**, 13, 1153-61	11.5	84
94	Monolithic III-V nanowire solar cells on graphene via direct van der Waals epitaxy. *Advanced Materials*, **2014**, 26, 3755-60	24	78

93	On-chip inductors with self-rolled-up SiNx nanomembrane tubes: a novel design platform for extreme miniaturization. *Nano Letters*, **2012**, 12, 6283-8	11.5	73
92	Toward intelligent synthetic neural circuits: directing and accelerating neuron cell growth by self-rolled-up silicon nitride microtube array. *ACS Nano*, **2014**, 8, 11108-17	16.7	67
91	Self-rolled-up microtube ring resonators: a review of geometrical and resonant properties. *Advances in Optics and Photonics*, **2011**, 3, 366	16.7	55
90	Inverse metal-assisted chemical etching produces smooth high aspect ratio InP nanostructures. *Nano Letters*, **2015**, 15, 641-8	11.5	52
89	High-Speed Planar GaAs Nanowire Arrays with fmax > 75 GHz by Wafer-Scale Bottom-up Growth. *Nano Letters*, **2015**, 15, 2780-6	11.5	50
88	Site-controlled VLS growth of planar nanowires: yield and mechanism. *Nano Letters*, **2014**, 14, 6836-41	11.5	47
87	3D hierarchical architectures based on self-rolled-up silicon nitride membranes. *Nanotechnology*, **2013**, 24, 475301	3.4	45
86	Doubling the Power Output of Bifacial Thin-Film GaAs Solar Cells by Embedding Them in Luminescent Waveguides. *Advanced Energy Materials*, **2013**, 3, 991-996	21.8	44
85	Wafer-scale production of uniform InAs(y)P(1-y) nanowire array on silicon for heterogeneous integration. *ACS Nano*, **2013**, 7, 5463-71	16.7	44
84	Three-dimensional radio-frequency transformers based on a self-rolled-up membrane platform. *Nature Electronics*, **2018**, 1, 305-313	28.4	44
83	III-V Junctionless Gate-All-Around Nanowire MOSFETs for High Linearity Low Power Applications. *IEEE Electron Device Letters*, **2014**, 35, 324-326	4.4	43
82	Ultra-Small, High-Frequency, and Substrate-Immune Microtube Inductors Transformed from 2D to 3D. *Scientific Reports*, **2015**, 5, 9661	4.9	43
81	GaAs pillar array-based light emitting diodes fabricated by metal-assisted chemical etching. *Journal of Applied Physics*, **2013**, 114, 064909	2.5	43
80	GaAs MESFET With a High-Mobility Self-Assembled Planar Nanowire Channel. *IEEE Electron Device Letters*, **2009**, 30, 593-595	4.4	43
79	Self-Folded Gripper-Like Architectures from Stimuli-Responsive Bilayers. *Advanced Materials*, **2018**, 30, e1801669	24	41
78	Precision structural engineering of self-rolled-up 3D nanomembranes guided by transient quasi-static FEM modeling. *Nano Letters*, **2014**, 14, 6293-7	11.5	41
77	Experimental Study of Design Parameters in Silicon Micropillar Array Solar Cells Produced by Soft Lithography and Metal-Assisted Chemical Etching. *IEEE Journal of Photovoltaics*, **2012**, 2, 129-133	3.7	40
76	Tuning the photoluminescence characteristics with curvature for rolled-up GaAs quantum well microtubes. *Applied Physics Letters*, **2010**, 96, 251106	3.4	39

75	IIIV Nanowire Transistors for Low-Power Logic Applications: A Review and Outlook. *IEEE Transactions on Electron Devices*, **2016**, 63, 223-234	2.9	36
74	Device Architectures for Enhanced Photon Recycling in Thin-Film Multijunction Solar Cells. *Advanced Energy Materials*, **2015**, 5, 1400919	21.8	33
73	Enhanced Performance of Ge Photodiodes via Monolithic Antireflection Texturing and Ge Self-Passivation by Inverse Metal-Assisted Chemical Etching. *ACS Nano*, **2018**, 12, 6748-6755	16.7	32
72	High Aspect Ratio GaO Fin Arrays with Low-Interface Charge Density by Inverse Metal-Assisted Chemical Etching. *ACS Nano*, **2019**, 13, 8784-8792	16.7	31
71	Controlled Assembly and Dispersion of Strain-Induced InGaAs/GaAs Nanotubes. *IEEE Nanotechnology Magazine*, **2008**, 7, 493-495	2.6	31
70	Transfer-Printing of Tunable Porous Silicon Microcavities with Embedded Emitters. *ACS Photonics*, **2014**, 1, 1144-1150	6.3	30
69	Monolithic barrier-all-around high electron mobility transistor with planar GaAs nanowire channel. *Nano Letters*, **2013**, 13, 2548-52	11.5	30
68	Relationship between planar GaAs nanowire growth direction and substrate orientation. *Nanotechnology*, **2013**, 24, 035304	3.4	29
67	Nanoscale three dimensional pattern formation in light emitting porous silicon. *Applied Physics Letters*, **2008**, 92, 191113	3.4	29
66	Photonic crystal membrane reflectors by magnetic field-guided metal-assisted chemical etching. *Applied Physics Letters*, **2013**, 103, 214103	3.4	28
65	Minimizing Isolate Catalyst Motion in Metal-Assisted Chemical Etching for Deep Trenching of Silicon Nanohole Array. *ACS Applied Materials & Interfaces*, **2017**, 9, 20981-20990	9.5	27
64	Realization of Unidirectional Planar GaAs Nanowires on GaAs (110) Substrates. *IEEE Electron Device Letters*, **2012**, 33, 522-524	4.4	27
63	Nanoscale groove textured Ga2O3 by room temperature inverse metal-assisted chemical etching and photodiodes with enhanced responsivity. *Applied Physics Letters*, **2018**, 113, 222104	3.4	27
62	Damage-Free Smooth-Sidewall InGaAs Nanopillar Array by Metal-Assisted Chemical Etching. *ACS Nano*, **2017**, 11, 10193-10205	16.7	26
61	Monolithically integrated self-rolled-up microtube-based vertical coupler for three-dimensional photonic integration. *Applied Physics Letters*, **2015**, 107, 031102	3.4	26
60	Evidences for redox reaction driven charge transfer and mass transport in metal-assisted chemical etching of silicon. *Scientific Reports*, **2016**, 6, 36582	4.9	26
59	Mechanically-Guided Deterministic Assembly of 3D Mesostructures Assisted by Residual Stresses. *Small*, **2017**, 13, 1700151	11	25
58	Evolution of GaAs nanowire geometry in selective area epitaxy. *Applied Physics Letters*, **2015**, 106, 133102	3.4	25

57	Anisotropic Rolling and Controlled Chirality of Nanocrystalline Diamond Nanomembranes toward Biomimetic Helical Frameworks. *Nano Letters*, **2018**, 18, 3688-3694	11.5	24
56	Ultra-High Aspect Ratio InP Junctionless FinFETs by a Novel Wet Etching Method. *IEEE Electron Device Letters*, **2016**, 37, 970-973	4.4	23
55	Scalable Monolithically Grown AlGaAs□GaAs Planar Nanowire High-Electron-Mobility Transistor. *IEEE Electron Device Letters*, **2011**, 32, 1227-1229	4.4	23
54	Direct Electrical Probing of Periodic Modulation of Zinc-Dopant Distributions in Planar Gallium Arsenide Nanowires. *ACS Nano*, **2017**, 11, 1530-1539	16.7	21
53	Scaling the Aspect Ratio of Nanoscale Closely Packed Silicon Vias by MacEtch: Kinetics of Carrier Generation and Mass Transport. *Advanced Functional Materials*, **2017**, 27, 1605614	15.6	19
52	CMOS-Compatible Catalyst for MacEtch: Titanium Nitride-Assisted Chemical Etching in Vapor phase for High Aspect Ratio Silicon Nanostructures. *ACS Applied Materials & Interfaces*, **2019**, 11, 27371-27377	9.5	19
51	Fabrication of arbitrarily shaped silicon and silicon oxide nanostructures using tip-based nanofabrication. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2013**, 31, 06FJ01	1.3	19
50	A Distributive-Transconductance Model for Border Traps in III□/High-k MOS Capacitors. *IEEE Electron Device Letters*, **2013**, 34, 735-737	4.4	18
49	Self-Anchored Catalyst Interface Enables Ordered Via Array Formation from Submicrometer to Millimeter Scale for Polycrystalline and Single-Crystalline Silicon. *ACS Applied Materials & Interfaces*, **2018**, 10, 9116-9122	9.5	17
48	Kirigami-Inspired Self-Assembly of 3D Structures. *Advanced Functional Materials*, **2020**, 30, 1909888	15.6	16
47	Enhanced Optical Transmission through MacEtch-Fabricated Buried Metal Gratings. *Advanced Materials*, **2016**, 28, 1441-8	24	16
46	A review of III□ planar nanowire arrays: selective lateral VLS epitaxy and 3D transistors. *Journal Physics D: Applied Physics*, **2017**, 50, 393001	3	16
45	Carbon-doped GaAs single junction solar microcells grown in multilayer epitaxial assemblies. *Applied Physics Letters*, **2013**, 102, 253902	3.4	15
44	Monolithic mtesla-level magnetic induction by self-rolled-up membrane technology. *Science Advances*, **2020**, 6, eaay4508	14.3	14
43	InAs Planar Nanowire Gate-All-Around MOSFETs on GaAs Substrates by Selective Lateral Epitaxy. *IEEE Electron Device Letters*, **2015**, 36, 663-665	4.4	14
42	Colloidal Metal-Organic Framework Hexapods Prepared from Postsynthesis Etching with Enhanced Catalytic Activity and Rollable Packing. *ACS Applied Materials & Interfaces*, **2018**, 10, 40990-40995	9.5	14
41	Laterally confined photonic crystal surface emitting laser incorporating monolayer tungsten disulfide. *Npj 2D Materials and Applications*, **2019**, 3,	8.8	11
40	Ultrathin InAs nanowire growth by spontaneous Au nanoparticle spreading on indium-rich surfaces. *Nanoscale*, **2014**, 6, 15293-300	7.7	11

39	Perturbation of Au-assisted planar GaAs nanowire growth by p-type dopant impurities. *Optical Materials Express*, **2013**, 3, 1687	2.6	11
38	Sub-100 nm Si nanowire and nano-sheet array formation by MacEtch using a non-lithographic InAs nanowire mask. *Nanotechnology*, **2012**, 23, 305305	3.4	10
37	AlGaAs/Si dual-junction tandem solar cells by epitaxial lift-off and print-transfer-assisted direct bonding. *Energy Science and Engineering*, **2018**, 6, 47-55	3.4	9
36	Producing Silicon Carbide Micro and Nanostructures by Plasma-Free Metal-Assisted Chemical Etching. *Advanced Functional Materials*, **2021**, 31, 2103298	15.6	9
35	Direct Observation of Dopants Distribution and Diffusion in GaAs Planar Nanowires with Atom Probe Tomography. *ACS Applied Materials & Interfaces*, **2016**, 8, 26244-26250	9.5	8
34	Low index contrast heterostructure photonic crystal cavities with high quality factors and vertical radiation coupling. *Applied Physics Letters*, **2018**, 112, 141105	3.4	7
33	An Analytical Metal Resistance Model and Its Application for Sub-22-nm Metal-Gate CMOS. *IEEE Electron Device Letters*, **2015**, 36, 384-386	4.4	7
32	Hybrid Integration of n-MoS2/p-GaN Diodes by Quasi-van der Waals Epitaxy. *ACS Applied Electronic Materials*, **2020**, 2, 419-425	4	7
31	RF Performance of Planar III□V Nanowire-Array Transistors Grown by Vapor□Liquid□Solid Epitaxy. *IEEE Electron Device Letters*, **2015**, 36, 445-447	4.4	6
30	Monolithic Heterogeneous Integration of 3D Radio Frequency L□C Elements by Self-Rolled-Up Membrane Nanotechnology. *Advanced Functional Materials*, **2020**, 30, 2004034	15.6	6
29	Passive wavelength tuning and multichannel photonic coupling using monolithically integrated vertical microresonators on ridge waveguides. *Applied Physics Letters*, **2018**, 112, 021108	3.4	5
28	Ultrathin Silicon Nanomembrane in a Tubular Geometry for Enhanced Photodetection. *Advanced Optical Materials*, **2019**, 7, 1900823	8.1	5
27	High voltage gain MESFET amplifier using self-aligned MOCVD grown planar GaAs nanowires **2013**,		5
26	Enhanced axial confinement in a monolithically integrated self-rolled-up SiNx vertical microring photonic coupler. *Applied Physics Letters*, **2016**, 109, 111104	3.4	5
25	Vertically stacked individually tunable nanowire field effect transistors for low power operation with ultrahigh radio frequency linearity. *Applied Physics Letters*, **2012**, 101, 093509	3.4	4
24	Wet etch, dry etch, and MacEtch of □Ga2O3: A review of characteristics and mechanism. *Journal of Materials Research*, **2021**, 36, 4756	2.5	4
23	Homoepitaxial GaN micropillar array by plasma-free photo-enhanced metal-assisted chemical etching. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2021**, 39, 053212	2.9	4
22	Monolithic radio frequency SiN self-rolled-up nanomembrane interdigital capacitor modeling and fabrication. *Nanotechnology*, **2019**, 30, 364001	3.4	3

21	CMOS-compatible on-chip self-rolled-up inductors for RF/mm-wave applications **2017**,		3
20	Bandstructure Engineering With a 2-D Patterned Quantum Well Superlattice. *IEEE Journal of Quantum Electronics*, **2011**, 47, 417-423	2	3
19	Electrically Controlled Nanofluidic DNA Sluice for Data Storage Applications. *ACS Applied Nano Materials*, **2021**, 4, 11063-11069	5.6	3
18	InAs nanowire gate-all-around MOSFETs by heterogeneous planar VLS growth **2015**,		2
17	Miniaturized on-chip passive devices based on self-rolled-up SiNx nanomembrane inductive tube **2013**,		2
16	Anti-reflective porous Ge by open-circuit and lithography-free metal-assisted chemical etching. *Applied Surface Science*, **2021**, 546, 149083	6.7	2
15	Nonlocal Time-Resolved Terahertz Spectroscopy in the Near Field. *ACS Photonics*,	6.3	2
14	Superior neuronal outgrowth guidance and rate enhancement using silicon nitride self-rolled-up membranes **2015**,		1
13	Effect of Perforation on the Thermal and Electrical Breakdown of Self-Rolled-Up Nanomembrane Structures. *Advanced Materials Interfaces*, **2019**, 6, 1901022	4.6	1
12	GaAs FET with a high mobility self-assembled planar nanowire channel on a (100) substrate **2009**,		1
11	Au-free low-temperature ohmic contacts for AlGaN/AlN/GaN heterostructures. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2020**, 38, 062206	1.3	1
10	Elastocapillary Force Induced Alignment of Large Area Planar Nanowires. *ACS Applied Materials & Interfaces*, **2021**, 13, 11177-11184	9.5	1
9	Large area MoS2 van der Waals epitaxy on III-Ns and the epitaxial formation of a n-MoS2/p-InGaN diode **2016**,		1
8	Enhancing Performance of GaAs Photodiodes via Monolithic Integration of Self-Formed Graphene Quantum Dots and Antireflection Surface Texturing. *Advanced Photonics Research*, **2021**, 2, 2000134	1.9	1
7	Selective Area Heteroepitaxy of p-i-n Junction GaP Nanopillar Arrays on Si (111) by MOCVD. *IEEE Journal of Quantum Electronics*, **2022**, 1-1	2	1
6	Self-assembled microtubular electrodes for on-chip low-voltage electrophoretic manipulation of charged particles and macromolecules.. *Microsystems and Nanoengineering*, **2022**, 8, 27	7.7	1
5	Physical Modeling of Monolithic Self-rolled-up Microtube Interdigital Capacitors. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2021**, 1-1	1.7	0
4	Response to comments to "A distributive-transconductance model for border traps in III-V/High-k MOS capacitors". *IEEE Electron Device Letters*, **2013**, 34, 1441-1441	4.4	

3	Nanodevices and Applications: My Nonlinear Career Trajectory. *Women in Engineering and Science*, **2020**, 79-88	0.5
2	Optical Transmission: Enhanced Optical Transmission through MacEtch-Fabricated Buried Metal Gratings (Adv. Mater. 7/2016). *Advanced Materials*, **2016**, 28, 1440-1440	24
1	Position Control of Self-Grown III-V Nanowire Arrays on Si Substrates via Micrometer-Size Patterns by Photolithography. *Crystal Growth and Design*, **2022**, 22, 2266-2271	3.5