

Charles M Lieber

List of Publications by Year in Descending Order

Source: <https://exaly.com/author-pdf/5583096/charles-m-lieber-publications-by-year.pdf>

Version: 2024-04-26

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

152 papers	49,257 citations	88 h-index	159 g-index
159 ext. papers	53,102 ext. citations	17.9 avg, IF	7.72 L-index

#	Paper	IF	Citations
152	All-Tissue-like Multifunctional Optoelectronic Mesh for Deep-Brain Modulation and Mapping. <i>Nano Letters</i> , 2021 , 21, 3184-3190	11.5	1
151	Nanowire-enabled bioelectronics. <i>Nano Today</i> , 2021 , 38, 101135	17.9	6
150	Nanowire probes could drive high-resolution brain-machine interfaces. <i>Nano Today</i> , 2020 , 31, 100821	17.9	11
149	Precision electronic medicine in the brain. <i>Nature Biotechnology</i> , 2019 , 37, 1007-1012	44.5	32
148	Advanced One- and Two-Dimensional Mesh Designs for Injectable Electronics. <i>Nano Letters</i> , 2019 , 19, 4180-4187	11.5	15
147	Nanowired Bioelectric Interfaces. <i>Chemical Reviews</i> , 2019 , 119, 9136-9152	68.1	63
146	Novel electrode technologies for neural recordings. <i>Nature Reviews Neuroscience</i> , 2019 , 20, 330-345	13.5	225
145	Bioinspired neuron-like electronics. <i>Nature Materials</i> , 2019 , 18, 510-517	27	156
144	Nanoenabled Direct Contact Interfacing of Syringe-Injectable Mesh Electronics. <i>Nano Letters</i> , 2019 , 19, 5818-5826	11.5	19
143	Scalable ultrasmall three-dimensional nanowire transistor probes for intracellular recording. <i>Nature Nanotechnology</i> , 2019 , 14, 783-790	28.7	83
142	Single-Cell Profiles of Retinal Ganglion Cells Differing in Resilience to Injury Reveal Neuroprotective Genes. <i>Neuron</i> , 2019 , 104, 1039-1055.e12	13.9	168
141	Highly Transparent Contacts to the 1D Hole Gas in Ultrascaled Ge/Si Core/Shell Nanowires. <i>ACS Nano</i> , 2019 , 13, 14145-14151	16.7	8
140	Gate Tunable Hole Charge Qubit Formed in a Ge/Si Nanowire Double Quantum Dot Coupled to Microwave Photons. <i>Nano Letters</i> , 2019 , 19, 1052-1060	11.5	12
139	Mesh Nanoelectronics: Seamless Integration of Electronics with Tissues. <i>Accounts of Chemical Research</i> , 2018 , 51, 309-318	24.3	57
138	Tissue-like Neural Probes for Understanding and Modulating the Brain. <i>Biochemistry</i> , 2018 , 57, 3995-4004	3.2	24
137	Syringe-injectable Mesh Electronics for Stable Chronic Rodent Electrophysiology. <i>Journal of Visualized Experiments</i> , 2018 ,	1.6	18
136	Mesh electronics: a new paradigm for tissue-like brain probes. <i>Current Opinion in Neurobiology</i> , 2018 , 50, 33-41	7.6	85

135	Helical Hole State in Multiple Conduction Modes in Ge/Si Core/Shell Nanowire. <i>Nano Letters</i> , 2018 , 18, 6144-6149	11.5	16
134	A method for single-neuron chronic recording from the retina in awake mice. <i>Science</i> , 2018 , 360, 1447-1451	11.5	91
133	Electrochemical Deposition of Conformal and Functional Layers on High Aspect Ratio Silicon Micro/Nanowires. <i>Nano Letters</i> , 2017 , 17, 4502-4507	11.5	40
132	Syringe-injectable mesh electronics integrate seamlessly with minimal chronic immune response in the brain. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 5894-5899	11.5	132
131	Friction between van der Waals Solids during Lattice Directed Sliding. <i>Nano Letters</i> , 2017 , 17, 4116-4121	11.5	33
130	Syringe-Injectable Electronics with a Plug-and-Play Input/Output Interface. <i>Nano Letters</i> , 2017 , 17, 5836-5842	11.5	44
129	Highly scalable multichannel mesh electronics for stable chronic brain electrophysiology. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, E10046-E10055	11.5	97
128	Scaling of subgap excitations in a superconductor-semiconductor nanowire quantum dot. <i>Physical Review B</i> , 2017 , 95,	3.3	30
127	Advances in nanowire bioelectronics. <i>Reports on Progress in Physics</i> , 2017 , 80, 016701	14.4	83
126	Stable long-term chronic brain mapping at the single-neuron level. <i>Nature Methods</i> , 2016 , 13, 875-82	21.6	184
125	Three-dimensional mapping and regulation of action potential propagation in nanoelectronics-innervated tissues. <i>Nature Nanotechnology</i> , 2016 , 11, 776-82	28.7	124
124	Encoding Active Device Elements at Nanowire Tips. <i>Nano Letters</i> , 2016 , 16, 4713-9	11.5	11
123	Shape-Controlled Deterministic Assembly of Nanowires. <i>Nano Letters</i> , 2016 , 16, 2644-50	11.5	46
122	Nano-Bioelectronics. <i>Chemical Reviews</i> , 2016 , 116, 215-57	68.1	426
121	Spontaneous Internalization of Cell Penetrating Peptide-Modified Nanowires into Primary Neurons. <i>Nano Letters</i> , 2016 , 16, 1509-13	11.5	74
120	Specific detection of biomolecules in physiological solutions using graphene transistor biosensors. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 14633-14638	11.5	138
119	Plateau-Rayleigh Crystal Growth of Nanowire Heterostructures: Strain-Modified Surface Chemistry and Morphological Control in One, Two, and Three Dimensions. <i>Nano Letters</i> , 2016 , 16, 2830-6	11.5	43
118	Plateau-Rayleigh crystal growth of periodic shells on one-dimensional substrates. <i>Nature Nanotechnology</i> , 2015 , 10, 345-52	28.7	117

117	Facile, rapid, and large-area periodic patterning of semiconductor substrates with submicron inorganic structures. <i>Journal of the American Chemical Society</i> , 2015 , 137, 3739-42	16.4	5
116	Beyond the patch clamp: nanotechnologies for intracellular recording. <i>Neuron</i> , 2015 , 86, 21-4	13.9	38
115	Three-dimensional macroporous nanoelectronic networks as minimally invasive brain probes. <i>Nature Materials</i> , 2015 , 14, 1286-92	27	246
114	Syringe Injectable Electronics: Precise Targeted Delivery with Quantitative Input/Output Connectivity. <i>Nano Letters</i> , 2015 , 15, 6979-84	11.5	86
113	Syringe-injectable electronics. <i>Nature Nanotechnology</i> , 2015 , 10, 629-636	28.7	416
112	Nanoscience and the nano-bioelectronics frontier. <i>Nano Research</i> , 2015 , 8, 1-22	10	90
111	General strategy for biodetection in high ionic strength solutions using transistor-based nanoelectronic sensors. <i>Nano Letters</i> , 2015 , 15, 2143-8	11.5	158
110	Free-standing kinked nanowire transistor probes for targeted intracellular recording in three dimensions. <i>Nature Nanotechnology</i> , 2014 , 9, 142-7	28.7	197
109	Long term stability of nanowire nanoelectronics in physiological environments. <i>Nano Letters</i> , 2014 , 14, 1614-9	11.5	107
108	Nanowire nanocomputer as a finite-state machine. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 2431-5	11.5	72
107	Spin-resolved Andreev levels and parity crossings in hybrid superconductor-semiconductor nanostructures. <i>Nature Nanotechnology</i> , 2014 , 9, 79-84	28.7	389
106	A room temperature low-threshold ultraviolet plasmonic nanolaser. <i>Nature Communications</i> , 2014 , 5, 4953	17.4	236
105	Semiconductor nanowire solar cells: synthetic advances and tunable properties. <i>Pure and Applied Chemistry</i> , 2014 , 86, 13-26	2.1	10
104	Sub-10-nm intracellular bioelectronic probes from nanowire-nanotube heterostructures. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 1259-64	11.5	51
103	Synthetic nanoelectronic probes for biological cells and tissues. <i>Annual Review of Analytical Chemistry</i> , 2013 , 6, 31-51	12.5	76
102	Semiconductor nanowires: a platform for exploring limits and concepts for nano-enabled solar cells. <i>Energy and Environmental Science</i> , 2013 , 6, 719	35.4	182
101	A nanoscale combing technique for the large-scale assembly of highly aligned nanowires. <i>Nature Nanotechnology</i> , 2013 , 8, 329-35	28.7	228
100	Nanowire nanoelectronics: Building interfaces with tissue and cells at the natural scale of biology. <i>Pure and Applied Chemistry</i> , 2013 , 85, 883-901	2.1	21

99	Multifunctional three-dimensional macroporous nanoelectronic networks for smart materials. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 6694-9	11.5	72
98	Macroporous nanowire nanoelectronic scaffolds for synthetic tissues. <i>Nature Materials</i> , 2012 , 11, 986-94	27	494
97	Outside looking in: nanotube transistor intracellular sensors. <i>Nano Letters</i> , 2012 , 12, 3329-33	11.5	101
96	Synthetically encoded ultrashort-channel nanowire transistors for fast, pointlike cellular signal detection. <i>Nano Letters</i> , 2012 , 12, 2639-44	11.5	77
95	Kinked p-n junction nanowire probes for high spatial resolution sensing and intracellular recording. <i>Nano Letters</i> , 2012 , 12, 1711-6	11.5	107
94	Intracellular recordings of action potentials by an extracellular nanoscale field-effect transistor. <i>Nature Nanotechnology</i> , 2011 , 7, 174-9	28.7	352
93	Hole spin relaxation in Ge-Si core-shell nanowire qubits. <i>Nature Nanotechnology</i> , 2011 , 7, 47-50	28.7	151
92	Semiconductor nanowires: A platform for nanoscience and nanotechnology. <i>MRS Bulletin</i> , 2011 , 36, 1052-1063	171	
91	Assembly and integration of semiconductor nanowires for functional nanosystems. <i>Pure and Applied Chemistry</i> , 2010 , 82, 2295-2314	2.1	98
90	Nanowire transistor arrays for mapping neural circuits in acute brain slices. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010 , 107, 1882-7	11.5	167
89	Semiconductor nanowires: A platform for nanoscience and nanotechnology 2010 ,		1
88	Three-dimensional, flexible nanoscale field-effect transistors as localized bioprobes. <i>Science</i> , 2010 , 329, 830-4	33.3	656
87	Coaxial silicon nanowires as solar cells and nanoelectronic power sources 2010 , 58-62		1
86	Flexible electrical recording from cells using nanowire transistor arrays. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009 , 106, 7309-13	11.5	191
85	Comment on "Detection, stimulation, and inhibition of neuronal signals with high-density nanowire transistor arrays". <i>Science</i> , 2009 , 323, 1429; author reply 1429	33.3	8
84	Nanomaterials for Neural Interfaces. <i>Advanced Materials</i> , 2009 , 21, 3970-4004	24	422
83	Single-crystalline kinked semiconductor nanowire superstructures. <i>Nature Nanotechnology</i> , 2009 , 4, 824-8	28.7	325
82	12 GHz f_{MAX} GaN/AlN/AlGaIn Nanowire MISFET. <i>IEEE Electron Device Letters</i> , 2009 , 30, 322-324	4.4	54

81	Electrical recording from hearts with flexible nanowire device arrays. <i>Nano Letters</i> , 2009 , 9, 914-8	11.5	186
80	Nanoelectronics from the bottom up 2009 , 137-146		12
79	A wavelength-selective photonic-crystal waveguide coupled to a nanowire light source. <i>Nature Photonics</i> , 2008 , 2, 622-626	33.9	143
78	Nanowire Transistor Performance Limits and Applications. <i>IEEE Transactions on Electron Devices</i> , 2008 , 55, 2859-2876	2.9	250
77	Sub-100 nanometer channel length Ge/Si nanowire transistors with potential for 2 THz switching speed. <i>Nano Letters</i> , 2008 , 8, 925-30	11.5	140
76	Single and tandem axial p-i-n nanowire photovoltaic devices. <i>Nano Letters</i> , 2008 , 8, 3456-60	11.5	373
75	Nanomaterial-incorporated blown bubble films for large-area, aligned nanostructures. <i>Journal of Materials Chemistry</i> , 2008 , 18, 728		75
74	Performance analysis of a Ge/Si core/shell nanowire field-effect transistor. <i>Nano Letters</i> , 2007 , 7, 642-6	11.5	143
73	Nanoelectronics from the bottom up. <i>Nature Materials</i> , 2007 , 6, 841-50	27	1290
72	A Ge/Si heterostructure nanowire-based double quantum dot with integrated charge sensor. <i>Nature Nanotechnology</i> , 2007 , 2, 622-5	28.7	252
71	Coaxial silicon nanowires as solar cells and nanoelectronic power sources. <i>Nature</i> , 2007 , 449, 885-9	50.4	2531
70	Semiconductor Nanowire Lasers. <i>Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS</i> , 2007 ,		2
69	Semiconductor nanowires embedded in optical microcavities 2006 ,		1
68	Detection, stimulation, and inhibition of neuronal signals with high-density nanowire transistor arrays. <i>Science</i> , 2006 , 313, 1100-4	33.3	709
67	Single-Walled Carbon Nanotubes. <i>Annals of the New York Academy of Sciences</i> , 2006 , 960, 203-215	6.5	37
66	Ge/Si nanowire mesoscopic Josephson junctions. <i>Nature Nanotechnology</i> , 2006 , 1, 208-13	28.7	232
65	Fabrication of silicon nanowire devices for ultrasensitive, label-free, real-time detection of biological and chemical species. <i>Nature Protocols</i> , 2006 , 1, 1711-24	18.8	605
64	Ge/Si nanowire heterostructures as high-performance field-effect transistors. <i>Nature</i> , 2006 , 441, 489-93	50.4	1262

63	One-dimensional hole gas in germanium/silicon nanowire heterostructures. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005 , 102, 10046-51	11.5	401
62	Multiplexed electrical detection of cancer markers with nanowire sensor arrays. <i>Nature Biotechnology</i> , 2005 , 23, 1294-301	44.5	1995
61	Parallel and Complementary Detection of Proteins by p-type and n-type Silicon Nanowire Transistor Arrays. <i>Materials Research Society Symposia Proceedings</i> , 2005 , 900, 1		
60	Single-crystal metallic nanowires and metal/semiconductor nanowire heterostructures. <i>Nature</i> , 2004 , 430, 61-5	50.4	879
59	Electrical detection of single viruses. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004 , 101, 14017-22	11.5	1056
58	Rational Growth of Branched and Hyperbranched Nanowire Structures. <i>Nano Letters</i> , 2004 , 4, 871-874	11.5	365
57	Scalable Interconnection and Integration of Nanowire Devices without Registration. <i>Nano Letters</i> , 2004 , 4, 915-919	11.5	311
56	Growth and transport properties of complementary germanium nanowire field-effect transistors. <i>Applied Physics Letters</i> , 2004 , 84, 4176-4178	3.4	325
55	Single-Walled Carbon Nanotube AFM Probes: Optimal Imaging Resolution of Nanoclusters and Biomolecules in Ambient and Fluid Environments. <i>Nano Letters</i> , 2004 , 4, 1725-1731	11.5	94
54	Gallium Nitride-Based Nanowire Radial Heterostructures for Nanophotonics. <i>Nano Letters</i> , 2004 , 4, 1975-1979	11.5	566
53	Direct Ultrasensitive Electrical Detection of DNA and DNA Sequence Variations Using Nanowire Nanosensors. <i>Nano Letters</i> , 2004 , 4, 51-54	11.5	1135
52	Controlled Growth and Structures of Molecular-Scale Silicon Nanowires. <i>Nano Letters</i> , 2004 , 4, 433-436	11.5	825
51	Multiplexed Electrical Detection of Single Viruses. <i>Materials Research Society Symposia Proceedings</i> , 2004 , 828, 97		1
50	High Performance Silicon Nanowire Field Effect Transistors. <i>Nano Letters</i> , 2003 , 3, 149-152	11.5	1791
49	Synthesis of p-Type Gallium Nitride Nanowires for Electronic and Photonic Nanodevices. <i>Nano Letters</i> , 2003 , 3, 343-346	11.5	424
48	Nonvolatile Memory and Programmable Logic from Molecule-Gated Nanowires. <i>Nano Letters</i> , 2002 , 2, 487-490	11.5	300
47	Nanowire Superlattices. <i>Nano Letters</i> , 2002 , 2, 81-82	11.5	95
46	Diameter-Controlled Synthesis of Carbon Nanotubes. <i>Journal of Physical Chemistry B</i> , 2002 , 106, 2429-2433	11.5	653

45	Vectorial Growth of Metallic and Semiconducting Single-Wall Carbon Nanotubes. <i>Nano Letters</i> , 2002 , 2, 1137-1141	11.5	230
44	Nanowire nanosensors for highly sensitive and selective detection of biological and chemical species. <i>Science</i> , 2001 , 293, 1289-92	33.3	5041
43	Diameter-controlled synthesis of single-crystal silicon nanowires. <i>Applied Physics Letters</i> , 2001 , 78, 2214-2216	34.1	974
42	Resonant electron scattering by defects in single-walled carbon nanotubes. <i>Science</i> , 2001 , 291, 283-5	33.3	367
41	High-Yield Assembly of Individual Single-Walled Carbon Nanotube Tips for Scanning Probe Microscopies. <i>Journal of Physical Chemistry B</i> , 2001 , 105, 743-746	3.4	308
40	Directed assembly of one-dimensional nanostructures into functional networks. <i>Science</i> , 2001 , 291, 630-3	33.3	1912
39	Direct haplotyping of kilobase-size DNA using carbon nanotube probes. <i>Nature Biotechnology</i> , 2000 , 18, 760-3	44.5	150
38	Doping and Electrical Transport in Silicon Nanowires. <i>Journal of Physical Chemistry B</i> , 2000 , 104, 5213-5216	3.4	800
37	Structure and Electronic Properties of Carbon Nanotubes. <i>Journal of Physical Chemistry B</i> , 2000 , 104, 2794-2809	3.4	545
36	Molybdenum Selenide Molecular Wires as One-Dimensional Conductors. <i>Physical Review Letters</i> , 1999 , 83, 5334-5337	7.4	94
35	Growth of nanotubes for probe microscopy tips. <i>Nature</i> , 1999 , 398, 761-762	50.4	344
34	Controlled growth and electrical properties of heterojunctions of carbon nanotubes and silicon nanowires. <i>Nature</i> , 1999 , 399, 48-51	50.4	641
33	Nanotube nanotweezers. <i>Science</i> , 1999 , 286, 2148-50	33.3	1010
32	Load-Independent Friction: MoO ₃ Nanocrystal Lubricants. <i>Journal of Physical Chemistry B</i> , 1999 , 103, 8405-8409	3.4	89
31	Assembly of A beta amyloid protofibrils: an in vitro model for a possible early event in Alzheimer's disease. <i>Biochemistry</i> , 1999 , 38, 8972-80	3.2	458
30	Covalently functionalized nanotubes as nanometre-sized probes in chemistry and biology. <i>Nature</i> , 1998 , 394, 52-5	50.4	1301
29	Chemically-Sensitive Imaging in Tapping Mode by Chemical Force Microscopy: Relationship between Phase Lag and Adhesion. <i>Langmuir</i> , 1998 , 14, 1508-1511	4	150
28	A laser ablation method for the synthesis of crystalline semiconductor nanowires. <i>Science</i> , 1998 , 279, 208-11	33.3	3867

27	Single-walled carbon nanotube probes for high-resolution nanostructure imaging. <i>Applied Physics Letters</i> , 1998 , 73, 3465-3467	3.4	152
26	Chemical Force Microscopy: Probing and Imaging Interactions Between Functional Groups. <i>ACS Symposium Series</i> , 1998 , 312-320	0.4	1
25	Columnar defect formation in nanorod/Tl ₂ Ba ₂ Ca ₂ Cu ₃ O _z superconducting composites. <i>Applied Physics Letters</i> , 1997 , 70, 3158-3160	3.4	21
24	High-Pressure Chemistry of Carbon Nitride Materials. <i>Materials Research Society Symposia Proceedings</i> , 1997 , 499, 309		4
23	Nanostructured high-temperature superconductors: Creation of strong-pinning columnar defects in nanorod/superconductor composites. <i>Journal of Materials Research</i> , 1997 , 12, 2981-2996	2.5	258
22	CHEMICAL FORCE MICROSCOPY. <i>Annual Review of Materials Research</i> , 1997 , 27, 381-421		380
21	Chemical Force Microscopy. <i>Microscopy and Microanalysis</i> , 1997 , 3, 1253-1254	0.5	
20	High-Temperature Superconductors. <i>Science</i> , 1997 , 277, 1909-1914	33.3	
19	Growth of Metal Carbide Nanotubes and Nanorods. <i>Chemistry of Materials</i> , 1996 , 8, 2041-2046	9.6	94
18	Pulsed Laser Deposition of Diamond-Like Carbon Thin Films: Ablation Dynamics and Growth. <i>Materials Research Society Symposia Proceedings</i> , 1996 , 438, 593		4
17	Creation of Nanocrystals Via a Tip-Induced Solid-Solid Transformation. <i>Materials Research Society Symposia Proceedings</i> , 1996 , 466, 89		2
16	Pulsed laser deposition and physical properties of carbon nitride thin films. <i>Journal of Electronic Materials</i> , 1996 , 25, 57-61	1.9	44
15	Diamondlike properties in a single phase carbon nitride solid. <i>Applied Physics Letters</i> , 1996 , 68, 2639-2641	3.4	49
14	Synthesis and characterization of carbide nanorods. <i>Nature</i> , 1995 , 375, 769-772	50.4	1017
13	Growth and composition of covalent carbon nitride solids. <i>Applied Physics Letters</i> , 1995 , 66, 3582-3584	3.4	114
12	Coulomb gap and correlated vortex pinning in superconductors. <i>Physical Review Letters</i> , 1995 , 74, 5132-5135	51.5	39
11	Growth and Structure of Carbide Nanorods. <i>Materials Research Society Symposia Proceedings</i> , 1995 , 410, 103		2
10	Path of magnetic flux lines through high-T _c copper oxide superconductors. <i>Nature</i> , 1994 , 371, 777-779	50.4	37

9	Isotope Effect and Superconductivity in Metal-Doped C60. <i>Science</i> , 1993 , 259, 655-658	33.3	68
8	Nanotube structure and electronic properties probed by scanning tunneling microscopy. <i>Applied Physics Letters</i> , 1993 , 62, 2792-2794	3.4	65
7	Growth of the infinite layer phase of Sr _{1-x} NdxCuO ₂ by laser ablation. <i>Applied Physics Letters</i> , 1992 , 61, 1712-1714	3.4	31
6	Field-induced surface modification on the atomic scale by scanning tunneling microscopy. <i>Applied Physics Letters</i> , 1992 , 61, 1528-1530	3.4	25
5	Superconductivity at 30 K in caesium-doped C60. <i>Nature</i> , 1991 , 352, 223-225	50.4	207
4	Characterization of nanometer scale wear and oxidation of transition metal dichalcogenide lubricants by atomic force microscopy. <i>Applied Physics Letters</i> , 1991 , 59, 3404-3406	3.4	97
3	Single-cell profiles of retinal neurons differing in resilience to injury reveal neuroprotective genes		1
2			
1	Applications of Scanning Tunneling Microscopy to Inorganic Chemistry. <i>Progress in Inorganic Chemistry</i> , 431-510		4