Emerging Modalities and Implantable Technologies for

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Citation Report

#	Article	IF	CITATIONS
1	Advanced Electrical and Optical Microsystems for Biointerfacing. Advanced Intelligent Systems, 2020, 2, 2000091.	3.3	16
2	Brain–Machine Interfaces as Commodities: Exchanging Mind for Matter. Linacre quarterly, The, 2020, 87, 387-398.	0.1	4
3	Guidelines to Study and Develop Soft Electrode Systems for Neural Stimulation. Neuron, 2020, 108, 238-258.	3.8	49
4	Water-soluble energy harvester as a promising power solution for temporary electronic implants. APL Materials, 2020, 8, .	2.2	13
5	Flexible Hybrid Sensor Systems with Feedback Functions. Advanced Functional Materials, 2021, 31, 2007436.	7.8	80
6	Flow driven robotic navigation of microengineered endovascular probes. Nature Communications, 2020, 11, 6356.	5.8	58
7	Deep brain optogenetics without intracranial surgery. Nature Biotechnology, 2021, 39, 161-164.	9.4	139
8	Implantable Optofluidic Systems for Wireless Inâ€Vivo Photopharmacology. ChemPhotoChem, 2021, 5, 96-105.	1.5	6
9	Recent advances in three-dimensional microelectrode array technologies for in vitro and in vivo cardiac and neuronal interfaces. Biosensors and Bioelectronics, 2021, 171, 112687.	5.3	62
10	Implantable Optofluidic Systems for Wireless Inâ€Vivo Photopharmacology. ChemPhotoChem, 2021, 5, 92-92.	1.5	1
11	Soft subdermal implant capable of wireless battery charging and programmable controls for applications in optogenetics. Nature Communications, 2021, 12, 535.	5.8	85
12	Recent progress of skin-integrated electronics for intelligent sensing. Light Advanced Manufacturing, 2021, 2, 39.	2.2	18
13	Hybrid Energy-Harvesting Systems Based on Triboelectric Nanogenerators. Matter, 2021, 4, 116-143.	5.0	94
14	Bioresorbable Microdroplet Lasers as Injectable Systems for Transient Thermal Sensing and Modulation. ACS Nano, 2021, 15, 2327-2339.	7.3	20
15	Programmable Stimulation and Actuation in Flexible and Stretchable Electronics. Advanced Intelligent Systems, 2021, 3, 2000228.	3.3	11
16	Wireless and battery-free technologies for neuroengineering. Nature Biomedical Engineering, 2023, 7, 405-423.	11.6	141
17	Three-dimensional, multifunctional neural interfaces for cortical spheroids and engineered assembloids. Science Advances, 2021, 7, .	4.7	128
18	Compliant peripheral nerve interfaces. Journal of Neural Engineering, 2021, 18, 031001.	1.8	33

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19	Rational design of charge-functional materials: Insights from molecular engineering and operando imaging. MRS Bulletin, 2021, 46, 273-279.	1.7	6
20	Soft, wireless and subdermally implantable recording and neuromodulation tools. Journal of Neural Engineering, 2021, 18, 041001.	1.8	13
22	The Future of Neuroscience: Flexible and Wireless Implantable Neural Electronics. Advanced Science, 2021, 8, 2002693.	5.6	47
23	Mechanics of nonbuckling interconnects with prestrain for stretchable electronics. Applied Mathematics and Mechanics (English Edition), 2021, 42, 689-702.	1.9	2
24	Recent advances in electronic devices for monitoring and modulation of brain. Nano Research, 2021, 14, 3070-3095.	5.8	18
25	Boron nitride nanosheets functionalized channel scaffold favors microenvironment rebalance cocktail therapy for piezocatalytic neuronal repair. Nano Energy, 2021, 83, 105779.	8.2	56
26	Digital Health Integration With Neuromodulation Therapies: The Future of Patient-Centric Innovation in Neuromodulation. Frontiers in Digital Health, 2021, 3, 618959.	1.5	10
27	Engineered neuromuscular actuators for medicine, meat, and machines. MRS Bulletin, 2021, 46, 522-533.	1.7	2
28	Rapid custom prototyping of soft poroelastic biosensor for simultaneous epicardial recording and imaging. Nature Communications, 2021, 12, 3710.	5.8	24
29	Nano―and Microscale Optical and Electrical Biointerfaces and Their Relevance to Energy Research. Small, 2021, 17, e2100165.	5.2	7
30	A 1.2nW Analog Electrocardiogram Processor Achieving a 99.63% QRS Complex Detection Sensitivity. IEEE Transactions on Biomedical Circuits and Systems, 2021, 15, 617-628.	2.7	11
32	Biocompatible and Nanoenabled Technologies for Biological Modulation. Advanced Materials Technologies, 2022, 7, 2100216.	3.0	8
33	Dielectric Elastomer Actuators, Neuromuscular Interfaces, and Foreign Body Response in Artificial Neuromuscular Prostheses: A Review of the Literature for an In Vivo Application. Advanced Healthcare Materials, 2021, 10, e2100041.	3.9	25
34	Selfâ€Shaping Soft Electronics Based on Patterned Hydrogel with Stencilâ€Printed Liquid Metal. Advanced Functional Materials, 2021, 31, 2105481.	7.8	83
35	Implantable Pulse Generators for Deep Brain Stimulation: Challenges, Complications, and Strategies for Practicality and Longevity. Frontiers in Human Neuroscience, 2021, 15, 708481.	1.0	30
36	Optimization and Analysis of Multilayer Planar Spiral Coils for the Application of Magnetic Resonance Wireless Power Transfer to Wearable Devices. Energies, 2021, 14, 5113.	1.6	6
37	Ultrasound-driven electrical stimulation of peripheral nerves based on implantable piezoelectric thin film nanogenerators. Nano Energy, 2021, 86, 106123.	8.2	71
38	Recent advances in power supply strategies for untethered neural implants. Journal of Micromechanics and Microengineering, 2021, 31, 104003.	1.5	4

#	Article	IF	CITATIONS
39	Wireless closed-loop optogenetics across the entire dorsoventral spinal cord in mice. Nature Biotechnology, 2022, 40, 198-208.	9.4	48
40	Platinized graphene fiber electrodes uncover direct spleen-vagus communication. Communications Biology, 2021, 4, 1097.	2.0	14
41	Electrochemical enhancement of reactively sputtered rhodium, ruthenium, and iridium oxide thin films for neural modulation, sensing, and recording applications. Electrochimica Acta, 2021, 394, 139118.	2.6	7
42	Platinum Nanocrystal Assisted by Lowâ€Content Iridium for Highâ€Performance Flexible Electrode: Applications on Neural Interface, Water Oxidation, and Antiâ€Microbial Contamination. Advanced Materials Interfaces, 2021, 8, 2100965.	1.9	7
43	Dissecting Biological and Synthetic Soft–Hard Interfaces for Tissue-Like Systems. Chemical Reviews, 2022, 122, 5233-5276.	23.0	32
44	Materials Chemistry of Neural Interface Technologies and Recent Advances in Three-Dimensional Systems. Chemical Reviews, 2022, 122, 5277-5316.	23.0	31
45	Remote Optogenetics Using Up/Down-Conversion Phosphors. Frontiers in Molecular Biosciences, 2021, 8, 771717.	1.6	6
46	Ultraâ€Low Cost, Facile Fabrication of Transparent Neural Electrode Array for Electrocorticography with Photoelectric Artifactâ€Free Optogenetics. Advanced Functional Materials, 2022, 32, .	7.8	34
47	Osseosurface electronics—thin, wireless, battery-free and multimodal musculoskeletal biointerfaces. Nature Communications, 2021, 12, 6707.	5.8	29
48	Recent advances in recording and modulation technologies for next-generation neural interfaces. IScience, 2021, 24, 103550.	1.9	9
49	Bioadhesive and conductive hydrogel-integrated brain-machine interfaces for conformal and immune-evasive contact with brain tissue. Matter, 2022, 5, 1204-1223.	5.0	72
50	Multimodal neural probes for combined optogenetics and electrophysiology. IScience, 2022, 25, 103612.	1.9	14
52	Colocalized, bidirectional optogenetic modulations in freely behaving mice with a wireless dual-color optoelectronic probe. Nature Communications, 2022, 13, 839.	5.8	31
53	Rapid development of an integrated remote programming platform for neuromodulation systems through the biodesign process. Scientific Reports, 2022, 12, 2269.	1.6	2
54	Smart materials: rational design in biosystems via artificial intelligence. Trends in Biotechnology, 2022, 40, 987-1003.	4.9	26
55	Poly(3,4â€ethylenedioxythiophene)â€Based Neural Interfaces for Recording and Stimulation: Fundamental Aspects and In Vivo Applications. Advanced Science, 2022, 9, e2104701.	5.6	32
56	Wireless transmission of voltage transients from a chronically implanted neural stimulation device. Journal of Neural Engineering, 2022, 19, 026049.	1.8	2
57	Optofluidic neural interfaces for inÂvivo photopharmacology. Current Opinion in Pharmacology, 2022, 63, 102195.	1.7	0

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58	Closed-Loop Vagus Nerve Stimulation for the Treatment of Cardiovascular Diseases: State of the Art and Future Directions. Frontiers in Cardiovascular Medicine, 2022, 9, 866957.	1.1	14
60	Injectable Black Phosphorus Nanosheets for Wireless Nongenetic Neural Stimulation. Small, 2022, 18, e2105388.	5.2	8
61	3D Upconversion Barcodes for Combinatory Wireless Neuromodulation in Behaving Animals. Advanced Healthcare Materials, 2022, 11, e2200304.	3.9	5
62	Sensing and Stimulating Electrodes for Electroceuticals. Frontiers in Sensors, 2022, 3, .	1.7	0
63	Light-triggered autonomous shape-reconfigurable and locomotive rechargeable power sources. Materials Today, 2022, 55, 56-65.	8.3	6
64	Optoelectronic Neural Interfaces Based on Quantum Dots. ACS Applied Materials & Interfaces, 2022, 14, 20468-20490.	4.0	21
65	Electronically Conductive Hydrogels by in Situ Polymerization of a Waterâ€Soluble EDOTâ€Đerived Monomer. Advanced Engineering Materials, 2022, 24, .	1.6	9
66	Simultaneous emulation of synaptic and intrinsic plasticity using a memristive synapse. Nature Communications, 2022, 13, 2811.	5.8	35
68	Advancements in the Quest to Map, Monitor, and Manipulate Neural Circuitry. Frontiers in Neural Circuits, 0, 16, .	1.4	14
69	Molecular engineering of nanoactuators for neuromodulation. Matter, 2022, 5, 1631-1633.	5.0	1
70	Electrochemical modulation enhances the selectivity of peripheral neurostimulation in vivo. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	5
71	High-density stretchable microelectrode array based on multilayer serpentine interconnections. Journal of Micromechanics and Microengineering, 2022, 32, 084002.	1.5	3
72	Deep brain stimulation of fornix for memory improvement in Alzheimer's disease: A critical review. Ageing Research Reviews, 2022, 79, 101668.	5.0	16
73	Properties of Electrospun Aligned Poly(lactic acid)/Collagen Fibers with Nanoporous Surface for Peripheral Nerve Tissue Engineering. Macromolecular Materials and Engineering, 2022, 307, .	1.7	8
74	Remotely controlled near-infrared-triggered photothermal treatment of brain tumours in freely behaving mice using gold nanostars. Nature Nanotechnology, 2022, 17, 1015-1022.	15.6	56
76	Towards Intelligent Noninvasive Closed-loop Neuromodulation Systems. , 2022, , .		1
77	An implantable neurophysiology platform: Broadening research capabilities in free-living and non-traditional animals. Frontiers in Neural Circuits, 0, 16, .	1.4	7
78	Biofeedback electrostimulation for bionic and long-lasting neural modulation. Nature Communications, 2022, 13, .	5.8	11

# 79	ARTICLE Bioresorbable thin-film silicon diodes for the optoelectronic excitation and inhibition of neural activities. Nature Biomedical Engineering, 2023, 7, 486-498.	IF 11.6	CITATIONS 25
80	Bioelectronic medicine: Preclinical insights and clinical advances. Neuron, 2022, 110, 3627-3644.	3.8	28
81	Brainy biomaterials: Latest advances in smart biomaterials to develop the next generation of neural interfaces. Current Opinion in Biomedical Engineering, 2023, 25, 100420.	1.8	5
82	Transfer printing technologies for soft electronics. Nanoscale, 2022, 14, 16749-16760.	2.8	9
83	Paradigm shift in future biophotonics for imaging and therapy: Miniature living lasers to cellular scale optoelectronics. Theranostics, 2022, 12, 7335-7350.	4.6	5
84	Electrodeposited PEDOT:BF ₄ Coatings Improve Impedance of Chronic Neural Stimulating Probes In Vivo. Advanced Materials Interfaces, 2022, 9, .	1.9	5
85	An Effective Design Formula for Single-Layer Printed Spiral Coils with the Maximum Quality Factor (Q-Factor) in the Megahertz Frequency Range. Sensors, 2022, 22, 7761.	2.1	2
86	Hierarchically Oriented Jellyfishâ€Like Gold Nanowires Film for Elastronics. Advanced Functional Materials, 0, , 2209760.	7.8	1
87	Restoring After Central Nervous System Injuries: Neural Mechanisms and Translational Applications of Motor Recovery. Neuroscience Bulletin, 2022, 38, 1569-1587.	1.5	12
88	Engineering graphene-based electrodes for optical neural stimulation. Nanoscale, 2023, 15, 687-706.	2.8	2
89	Cellphone remote intelligent neuroregulation with self-powered piezoelectric wireless brain probe. Nano Energy, 2023, 106, 108105.	8.2	9
91	Electrochemical biomaterials for self-powered implantable "tissue batteries― A tutorial review. Nano Research, 2023, 16, 5447-5463.	5.8	2
92	Investigation of the effect of heat treatment on the inductive effect of GO membrane during the ion diffusion process. , 0, , .		1
93	Electron Conductive and Transparent Hydrogels for Recording Brain Neural Signals and Neuromodulation. Advanced Materials, 2023, 35, .	11.1	18
94	Preventing incubation of drug craving to treat drug relapse: from bench to bedside. Molecular Psychiatry, 2023, 28, 1415-1429.	4.1	6
95	Advances in Triboelectric Nanogenerators for Selfâ€powered Neuromodulation. Advanced Functional Materials, 2023, 33, .	7.8	16
96	Injectable 2D flexible hydrogel sheets for optoelectrical/biochemical dual stimulation of neurons. , 2023, 146, 213284.		4
97	Ultrasound-Triggered In Situ Photon Emission for Noninvasive Optogenetics. Journal of the American Chemical Society, 2023, 145, 1097-1107.	6.6	16

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98	Neuroflex: Intraneural and Extraneural Flexible Sensor Architectures for Neural Probing. , 2023, , 531-559.		0
99	Principles and applications of sono-optogenetics. Advanced Drug Delivery Reviews, 2023, 194, 114711.	6.6	10
100	High-efficiency stretchable light-emitting polymers from thermally activated delayed fluorescence. Nature Materials, 2023, 22, 737-745.	13.3	28
101	An Allâ€Inâ€One Selfâ€Degradable Flexible Skin Patch with Thermostatic Control and Spontaneous Release of Antibacterial Ions to Accelerate Wound Healing. Advanced Materials Technologies, 2023, 8, .	3.0	4
102	Soft Wireless Optogenetic and Hybrid Implants for Advanced Neural Interfacing. , 2022, , .		0
103	Cardiogenic control of affective behavioural state. Nature, 2023, 615, 292-299.	13.7	72
104	Infrared neural stimulation and electrophysiology in a soft fiber-based neural interface. , 2023, , .		0
105	Engineering optical tools for remotely controlled brain stimulation and regeneration. Biomaterials Science, 0, , .	2.6	0
106	Modalities of Neuromodulation for Neurological Diseases. , 0, 36, 166-175.		0
107	Semi-Implantable Wireless Power Transfer (WPT) System Integrated With On-Chip Power Management Unit (PMU) for Neuromodulation Application. IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology, 2023, 7, 193-200.	2.3	2
109	Translational opportunities and challenges of invasive electrodes for neural interfaces. Nature Biomedical Engineering, 2023, 7, 424-442.	11.6	17
113	Futures orientations. , 2023, , 297-304.		0
115	Recent developments in implantable neural probe technologies. MRS Bulletin, 2023, 48, 484-494.	1.7	2
122	Bioinspired nanofluidic iontronics for brain-like computing. Nano Research, 2024, 17, 503-514.	5.8	6
125	Recent advances in flexible noninvasive electrodes for surface electromyography acquisition. Npj Flexible Electronics, 2023, 7, .	5.1	5
130	Bioinspired nanotransducers for neuromodulation. Nano Research, 2024, 17, 618-632.	5.8	1
147	Perspective chapter: Optoelectronics for neural interfaces. , 0, , .		0