Arto V Nurmikko

List of Publications by Year
in descending order

113 papers	6,193 citations	126907 33 h-index	71685 76 g-index
120 all docs	120 docs citations	120 times ranked	8841 citing authors

#	Article	IF	Citations
1	Grasp-squeeze adaptation to changes in object compliance leads to dynamic beta-band communication between primary somatosensory and motor cortices. Scientific Reports, 2022, 12, 6776.	3.3	2
2	A Distributed Ensemble of wireless Intracortical Microdevices for Charge-balanced Photovoltaic Current Stimulation. , 2021, , .		2
3	Wireless Addressable Cortical Microstimulators Powered by Near-Infrared Harvesting. ACS Sensors, 2021, 6, 2728-2737.	7.8	5
4	Home Use of a Percutaneous Wireless Intracortical Brain-Computer Interface by Individuals With Tetraplegia. IEEE Transactions on Biomedical Engineering, 2021, 68, 2313-2325.	4.2	83
5	Neural recording and stimulation using wireless networks of microimplants. Nature Electronics, 2021, 4, 604-614.	26.0	81
6	A Scalable and Low Stress Post-CMOS Processing Technique for Implantable Microsensors. Micromachines, 2020, 11, 925.	2.9	16
7	Challenges for Large-Scale Cortical Interfaces. Neuron, 2020, 108, 259-269.	8.1	51
8	A method for large-scale implantation of 3D microdevice ensembles into brain and soft tissue. Microsystems and Nanoengineering, 2020, 6, 97.	7.0	5
9	Distributed Microscale Brain Implants with Wireless Power Transfer and Mbps Bi-directional Networked Communications. , 2019, , .		16
10	A shape-memory and spiral light-emitting device for precise multisite stimulation of nerve bundles. Nature Communications, 2019, 10, 2790.	12.8	33
11	An Implantable Wireless Network of Distributed Microscale Sensors for Neural Applications. , 2019, , .		39
12	A Distributed Wireless Network of Implantable Sub-mm Cortical Microstimulators for Brain-Computer Interfaces. , 2019, 2019, 6876-6879.		23
13	Decoding speech from spike-based neural population recordings in secondary auditory cortex of non-human primates. Communications Biology, 2019, 2, 466.	4.4	25
14	Conformal Hermetic Sealing of Wireless Microelectronic Implantable Chiplets by Multilayered Atomic Layer Deposition (ALD). Advanced Functional Materials, 2019, 29, 1806440.	14.9	70
15	Future of Neural Interfaces. Advances in Experimental Medicine and Biology, 2019, 1101, 225-241.	1.6	7
16	Approaches to large scale neural recording by chronic implants for mobile BCIs. , 2018, , .		4
17	A 0.01-mm² Mostly Digital Capacitor-Less AFE for Distributed Autonomous Neural Sensor Nodes. IEEE Solid-State Circuits Letters, 2018, 1, 162-165.	2.0	32
18	Wireless Power and Data Link for Ensembles of Sub-mm scale Implantable Sensors near 1GHz. , 2018, , .		26

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19	Multi-coil High Efficiency Wireless Charger System for Hermetically Sealed Biomedical Implants. , 2018, , .		1
20	A Software-Defined Radio for Wireless Brain Implants Network. , 2018, , .		4
21	Excitonic gain and laser emission from mixed-cation halide perovskite thin films. Optica, 2018, 5, 1141.	9.3	23
22	A CMOS Distributed Sensor System for High-Density Wireless Neural Implants for Brain-Machine Interfaces. , 2018, , .		36
23	Highâ€Q, Lowâ€Threshold Monolithic Perovskite Thinâ€Film Verticalâ€Cavity Lasers. Advanced Materials, 2017, 29, 1604781.	21.0	112
24	Coherent Light Emitters From Solution Chemistry: Inorganic IIâ€“VI Nanocrystals and Organometallic Perovskites. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 1-14.	2.9	3
25	Spontaneous dynamics of neural networks in deep layers of prefrontal cortex. Journal of Neurophysiology, 2017, 117, 1581-1594.	1.8	14
26	Stable Green Perovskite Vertical-Cavity Surface-Emitting Lasers on Rigid and Flexible Substrates. ACS Photonics, 2017, 4, 2486-2494.	6.6	63
27	Widespread functional opsin transduction in the rat cortex via convection-enhanced delivery optimized for horizontal spread. Journal of Neuroscience Methods, 2017, 291, 69-82.	2.5	7
28	Spectroscopy of optical gain in low threshold colloidal quantum dot laser media: dominance of single-exciton states at room temperature. Optical Materials Express, 2016, 6, 3776.	3.0	3
29	A Photonic Crystal Laser from Solution Based Organo-Lead Iodide Perovskite Thin Films. ACS Nano, 2016, 10, 3959-3967.	14.6	238
30	Optogenetically induced spatiotemporal gamma oscillations and neuronal spiking activity in primate motor cortex. Journal of Neurophysiology, 2015, 113, 3574-3587.	1.8	59
31	What future for quantum dot-based light emitters?. Nature Nanotechnology, 2015, 10, 1001-1004.	31.5	68
32	Optoelectronic devices for optogenetics: From rodents to non-human primates. , 2015, , .		3
33	A mobile embedded platform for high performance neural signal computation and communication. , 2015, , .		4
34	Spatiotemporal dynamics of optogenetically induced and spontaneous seizure transitions in primary generalized epilepsy. Journal of Neurophysiology, 2015, 113, 2321-2341.	1.8	33
35	Reusable Inorganic Templates for Electrostatic Self-Assembly of Individual Quantum Dots, Nanodiamonds, and Lanthanide-Doped Nanoparticles. Nano Letters, 2015, 15, 5010-5016.	9.1	31
36	Modified toolbox for optogenetics in the nonhuman primate. Neurophotonics, 2015, 2, 031202.	3.3	27

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37	Modulating dopamine release by optogenetics in transgenic mice reveals terminal dopaminergic dynamics. Neurophotonics, 2015, 2, 031207.	3.3	11
38	Transparent intracortical microprobe array for simultaneous spatiotemporal optical stimulation and multichannel electrical recording. Nature Methods, 2015, 12, 1157-1162.	19.0	106
39	Detection of Optogenetic Stimulation in Somatosensory Cortex by Non-Human Primates - Towards Artificial Tactile Sensation. PLoS ONE, 2014, 9, e114529.	2.5	45
40	Surface-emitting red, green, and blue colloidal quantum dot distributed feedback lasers. Optics Express, 2014, 22, 18800.	3.4	42
41	Wireless Neurosensor for Full-Spectrum Electrophysiology Recordings during Free Behavior. Neuron, 2014, 84, 1170-1182.	8.1	200
42	Sensors and Decoding for Intracortical Brain Computer Interfaces. Annual Review of Biomedical Engineering, 2013, 15, 383-405.	12.3	110
43	Beyond quantum dot LEDs: Optical gain and laser action in red, green, and blue colors. MRS Bulletin, 2013, 38, 737-742.	3.5	22
44	A coaxial optrode as multifunction write-read probe for optogenetic studies in non-human primates. Journal of Neuroscience Methods, 2013, 219, 142-154.	2.5	94
45	Nanotools for Neuroscience and Brain Activity Mapping. ACS Nano, 2013, 7, 1850-1866.	14.6	323
46	An implantable wireless neural interface for recording cortical circuit dynamics in moving primates. Journal of Neural Engineering, 2013, 10, 026010.	3.5	267
47	High Performance, Spatially Coherent, Multicolor Distributed Feedback Lasers in Optically Pumped Colloidal Quantum Dots. , 2013, , .		1
48	An Implantable Neural Sensing Microsystem with Fiber-Optic Data Transmission and Power Delivery. Sensors, 2013, 13, 6014-6031.	3.8	31
49	A 100-Channel Hermetically Sealed Implantable Device for Chronic Wireless Neurosensing Applications. IEEE Transactions on Biomedical Circuits and Systems, 2013, 7, 115-128.	4.0	134
50	Red, green, and blue colloidal quantum dot-based optically pumped distributed feedback lasers. , 2013, , .		0
51	A fiber optic multi-channel neural recording system for freely moving rats. , 2013, , .		0
52	An externally head-mounted wireless neural recording device for laboratory animal research and possible human clinical use. , 2013, 2013, 3109-14.		11
53	A fully wireless platform for correlating behavior and neural data from an implanted, neural recording device: Demonstration in a freely moving swine model. , 2013, , .		5
54	Transient Gain Spectroscopy in the Potent Single-Exciton Regime of Dense II-VI Colloidal Quantum Dot Films. , 2013, , .		1

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55	Stimulated emission in red, green, and blue from colloidal quantum dot films by single exciton optical gain. , 2012, , .		0
56	A 100-channel hermetically sealed implantable device for wireless neurosensing applications. , 2012, , .		10
57	A Waferâ€Level Integrated Whiteâ€Lightâ€Emitting Diode Incorporating Colloidal Quantum Dots as a Nanocomposite Luminescent Material. Advanced Materials, 2012, 24, 5915-5918.	21.0	34
58	Integrated device for combined optical neuromodulation and electrical recording for chronicin vivoapplications. Journal of Neural Engineering, 2012, 9, 016001.	3.5	146
59	Red, green and blue lasing enabled by single-exciton gain in colloidal quantum dot films. Nature Nanotechnology, 2012, 7, 335-339.	31.5	498
60	Brain Enabled by Next-Generation Neurotechnology: Using Multiscale and Multimodal Models. IEEE Pulse, 2012, 3, 31-36.	0.3	3
61	Approaches to optical neuromodulation from rodents to non-human primates by integrated optoelectronic devices. , 2011, 2011, 7525-8.		5
62	A wavelength engineered emitter incorporating CdSe-based colloidal quantum dots into nanoporous InGaN/GaN multiple quantum well matrix. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 2337-2339.	0.8	3
63	Visual Experience-Dependent Maturation of Correlated Neuronal Activity Patterns in a Developing Visual System. Journal of Neuroscience, 2011, 31, 8025-8036.	3.6	26
64	Listening to Brain Microcircuits for Interfacing With External Worldâ€"Progress in Wireless Implantable Microelectronic Neuroengineering Devices. Proceedings of the IEEE, 2010, 98, 375-388.	21.3	114
65	Surface and interface states of gallium-polar versus nitrogen-polar GaN: Impact of thin organic semiconductor overlayers. Journal of Applied Physics, 2010, 107, .	2.5	16
66	Pathway-Specific Feedforward Circuits between Thalamus and Neocortex Revealed by Selective Optical Stimulation of Axons. Neuron, 2010, 65, 230-245.	8.1	394
67	Nitride-organic hybrid heterostructures for possible novel optoelectronic devices: charge injection and transport. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 593-595.	0.8	7
68	Optical Detection of Brain Cell Activity Using Plasmonic Gold Nanoparticles. Nano Letters, 2009, 9, 519-524.	9.1	88
69	Visual Avoidance inXenopusTadpoles Is Correlated With the Maturation of Visual Responses in the Optic Tectum. Journal of Neurophysiology, 2009, 101, 803-815.	1.8	98
70	Combining Multicore Imaging Fiber With Matrix Addressable Blue/Green LED Arrays for Spatiotemporal Photonic Excitation at Cellular Level. IEEE Journal of Selected Topics in Quantum Electronics, 2008, 14, 167-170.	2.9	13
71	Large ordered arrays of single photon sources based on IIâ€"VI semiconductor colloidal quantum dot. Optics Express, 2008, 16, 19592.	3.4	30
72	Nitride/organic hybrid heterostructures for photodetector devices. , 2008, , .		0

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73	Microscale flexible image projection device for spatiotemporal excitation in the research of visual system development. , 2008, , .		0
74	Single photon emission from spatially controlled periodic arrays of II-VI quantum dots. , 2008, , .		0
75	A microscale photovoltaic neurostimulator for fiber optic delivery of functional electrical stimulation. Journal of Neural Engineering, 2007, 4, 213-218.	3.5	20
76	Gallium Nitride LEDs Incorporating Organic Semiconductor Heterojunctions. , 2007, , .		1
77	Highly Efficient Resonance Energy Transfer in Ultrathin Organic-Inorganic Semiconductor Hybrid Films. , 2007, , .		0
78	Solid state cavity QED: Strong coupling in organic thin films. Organic Electronics, 2007, 8, 94-113.	2.6	104
79	Semiconductor ultra-violet light-emitting diodes for flash photolysis. Journal of Neuroscience Methods, 2007, 160, 5-9.	2.5	15
80	Epitaxial growth of aligned GaN nanowires and nanobridges. Physica Status Solidi (B): Basic Research, 2007, 244, 1810-1814.	1.5	9
81	Assistive technology and robotic control using motor cortex ensemble-based neural interface systems in humans with tetraplegia. Journal of Physiology, 2007, 579, 603-611.	2.9	166
82	Spectroscopic Sorting of Aerosols by a Compact Sensor Employing UV LEDs. Aerosol Science and Technology, 2006, 40, 1047-1051.	3.1	17
83	Combined topographical and chemical micropatterns for templating neuronal networks. Biomaterials, 2006, 27, 5734-5739.	11.4	41
84	Ultrafast exciton response of high optical density J-aggregates from ultrathin films of cyanine dyes. , 2006, , .		0
85	Large Enhancement of Fluorescence Efficiency from CdSe/ZnS Quantum Dots Induced by Resonant Coupling to Spatially Controlled Surface Plasmons. Nano Letters, 2005, 5, 1557-1561.	9.1	324
86	Enhanced Magnetooptical Response in Dumbbell-like Agâ˜CoFe2O4 Nanoparticle Pairs. Nano Letters, 2005, 5, 1689-1692.	9.1	191
87	290 and 340 nm UV LED arrays for fluorescence detection from single airborne particles. Optics Express, 2005, 13, 9548.	3.4	91
88	High Performance AlGaInN Ultraviolet Light-Emitting Diode at the 340 nm Wavelength. Japanese Journal of Applied Physics, 2004, 43, L1409-L1412.	1.5	12
89	A Microelectrode/Microelectronic Hybrid Device for Brain Implantable Neuroprosthesis Applications. IEEE Transactions on Biomedical Engineering, 2004, 51, 1845-1853.	4.2	88
90	Strongly Interacting Plasmon Nanoparticle Pairs:â€‰ From Dipoleâ˜Dipole Interaction to Conductively Coupled Regime. Nano Letters, 2004, 4, 1627-1631.	9.1	611

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91	Versatile ultraviolet light emitting diodes for sensor applications. Physica Status Solidi A, 2004, 201, 2721-2725.	1.7	1
92	Fabrication and performance of efficient blue light emitting III-nitride photonic crystals. Applied Physics Letters, 2004, 85, 3663-3665.	3.3	33
93	Chapter 63 Development of neuromotor prostheses for humans. Supplements To Clinical Neurophysiology, 2004, 57, 592-606.	2.1	41
94	Application of light-emitting diodes for aerosol fluorescence detection. Optics Letters, 2003, 28, 1707.	3.3	28
95	Blue and Near-Ultraviolet Vertical-Cavity Surface-Emitting Lasers. MRS Bulletin, 2002, 27, 502-506.	3.5	5
96	Progress towards nitride blue and near-UV VCSELs. III-Vs Review, 2001, 14, 38-41.	0.0	1
97	Excitons, microcavity physics and devices in wide bandgap semiconductors. Journal of Crystal Growth, 2000, 214-215, 993-1001.	1.5	0
98	Gain spectroscopy and vertical cavity devices in wide-gap semiconductors. Journal of Luminescence, 2000, 87-89, 145-151.	3.1	1
99	Investigation of excess carrier diffusion in nitride semiconductors with near-field optical microscopy. Applied Physics Letters, 1999, 74, 850-852.	3.3	33
100	Optical gain and excitonic processes in widegap semiconductor quantum wells. Phase Transitions, 1999, 68, 95-149.	1.3	1
101	NITRIDE LASERS: OPTICAL GAIN AND DEVICE IMPLICATIONS. International Journal of High Speed Electronics and Systems, 1998, 09, 1139-1162.	0.7	1
102	Blue and green semiconductor lasers: a status report. Semiconductor Science and Technology, 1997, 12, 1337-1347.	2.0	35
103	Wide bandgap semiconductors and their application to light emitting devices. Current Opinion in Solid State and Materials Science, 1996, 1, 4-10.	11.5	3
104	IIâ€“VI lasers â€” new directions. Journal of Crystal Growth, 1996, 159, 644-652.	1.5	8
105	Ultrafast photoexcited cyclotron emission: Contributions from real and virtual excitations. Physical Review B, 1996, 53, R13295-R13298.	3.2	12
106	II-VI Blue-Green Laser Diodes: A Frontier of Materials Research. MRS Bulletin, 1995, 20, 15-19.	3.5	29
107	Coherent transient cyclotron emission from photoexcited GaAs. Physical Review B, 1994, 50, 5783-5786.	3.2	33
108	Blue-green semiconductor lasers. Solid State Communications, 1994, 92, 113-118.	1.9	32

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109	Optical physics and laser devices in IIâ€“VI quantum confined heterostructures. Physica B: Condensed Matter, 1993, 185, 16-26.	2.7	23
110	Hot-exciton luminescence and energy transfer intod-electron states inZn1â^'xMnxSe. Physical Review B, 1993, 48, 4418-4422.	3.2	13
111	Chapter 2 Transient Spectroscopy by Ultrashort Laser Pulse Techniques. Semiconductors and Semimetals, 1992, 36, 85-135.	0.7	0
112	Donors and excitons bound to a thin repulsive layer. Solid State Communications, 1989, 71, 653-656.	1.9	3
113	Forced mode locking of a singleâ€line highâ€pressure CO laser. Journal of Applied Physics, 1975, 46, 2153-2154.	2.5	8