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	Strongly Interacting Plasmon Nanoparticle Pairs:â€‰ From Dipoleâ^'Dipole Interaction to Conductively Coupled Regime. Nano Letters, 2004, 4, 1627-1631.	9.1	611
2	Red, green and blue lasing enabled by single-exciton gain in colloidal quantum dot films. Nature Nanotechnology, 2012, 7, 335-339.	31.5	498
3	Pathway-Specific Feedforward Circuits between Thalamus and Neocortex Revealed by Selective Optical Stimulation of Axons. Neuron, 2010, 65, 230-245.	8.1	394
4	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
5	Nanotools for Neuroscience and Brain Activity Mapping. ACS Nano, 2013, 7, 1850-1866.	14.6	323
6	An implantable wireless neural interface for recording cortical circuit dynamics in moving primates. Journal of Neural Engineering, 2013, 10, 026010.	3.5	267
7	A Photonic Crystal Laser from Solution Based Organo-Lead Iodide Perovskite Thin Films. ACS Nano, 2016, 10, 3959-3967.	14.6	238
8	Wireless Neurosensor for Full-Spectrum Electrophysiology Recordings during Free Behavior. Neuron, 2014, 84, 1170-1182.	8.1	200
9	Enhanced Magnetooptical Response in Dumbbell-like Agâ^'CoFe2O4 Nanoparticle Pairs. Nano Letters, 2005, 5, 1689-1692.	9.1	191
10	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
11	Integrated device for combined optical neuromodulation and electrical recording for chronicin vivoapplications. Journal of Neural Engineering, 2012, 9, 016001.	3.5	146
12	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
13	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
14	Highâ€Q, Lowâ€Threshold Monolithic Perovskite Thinâ€Film Verticalâ€Cavity Lasers. Advanced Materials, 2017, 29, 1604781.	21.0	112
15	Sensors and Decoding for Intracortical Brain Computer Interfaces. Annual Review of Biomedical Engineering, 2013, 15, 383-405.	12.3	110
16	Transparent intracortical microprobe array for simultaneous spatiotemporal optical stimulation and multichannel electrical recording. Nature Methods, 2015, 12, 1157-1162.	19.0	106
17	Solid state cavity QED: Strong coupling in organic thin films. Organic Electronics, 2007, 8, 94-113.	2.6	104
18	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

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19	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
20	290 and 340 nm UV LED arrays for fluorescence detection from single airborne particles. Optics Express, 2005, 13, 9548.	3.4	91
21	A Microelectrode/Microelectronic Hybrid Device for Brain Implantable Neuroprosthesis Applications. IEEE Transactions on Biomedical Engineering, 2004, 51, 1845-1853.	4.2	88
22	Optical Detection of Brain Cell Activity Using Plasmonic Gold Nanoparticles. Nano Letters, 2009, 9, 519-524.	9.1	88
23	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
24	Neural recording and stimulation using wireless networks of microimplants. Nature Electronics, 2021, 4, 604-614.	26.0	81
25	Conformal Hermetic Sealing of Wireless Microelectronic Implantable Chiplets by Multilayered Atomic Layer Deposition (ALD). Advanced Functional Materials, 2019, 29, 1806440.	14.9	70
26	What future for quantum dot-based light emitters?. Nature Nanotechnology, 2015, 10, 1001-1004.	31.5	68
27	Stable Green Perovskite Vertical-Cavity Surface-Emitting Lasers on Rigid and Flexible Substrates. ACS Photonics, 2017, 4, 2486-2494.	6.6	63
28	Optogenetically induced spatiotemporal gamma oscillations and neuronal spiking activity in primate motor cortex. Journal of Neurophysiology, 2015, 113, 3574-3587.	1.8	59
29	Challenges for Large-Scale Cortical Interfaces. Neuron, 2020, 108, 259-269.	8.1	51
30	Detection of Optogenetic Stimulation in Somatosensory Cortex by Non-Human Primates - Towards Artificial Tactile Sensation. PLoS ONE, 2014, 9, e114529.	2.5	45
31	Surface-emitting red, green, and blue colloidal quantum dot distributed feedback lasers. Optics Express, 2014, 22, 18800.	3.4	42
32	Chapter 63 Development of neuromotor prostheses for humans. Supplements To Clinical Neurophysiology, 2004, 57, 592-606.	2.1	41
33	Combined topographical and chemical micropatterns for templating neuronal networks. Biomaterials, 2006, 27, 5734-5739.	11.4	41
34	An Implantable Wireless Network of Distributed Microscale Sensors for Neural Applications. , 2019, , .		39
35	A CMOS Distributed Sensor System for High-Density Wireless Neural Implants for Brain-Machine Interfaces. , 2018, , .		36
36	Blue and green semiconductor lasers: a status report. Semiconductor Science and Technology, 1997, 12, 1337-1347.	2.0	35

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37	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
38	Coherent transient cyclotron emission from photoexcited GaAs. Physical Review B, 1994, 50, 5783-5786.	3.2	33
39	Investigation of excess carrier diffusion in nitride semiconductors with near-field optical microscopy. Applied Physics Letters, 1999, 74, 850-852.	3.3	33
40	Fabrication and performance of efficient blue light emitting III-nitride photonic crystals. Applied Physics Letters, 2004, 85, 3663-3665.	3.3	33
41	Spatiotemporal dynamics of optogenetically induced and spontaneous seizure transitions in primary generalized epilepsy. Journal of Neurophysiology, 2015, 113, 2321-2341.	1.8	33
42	A shape-memory and spiral light-emitting device for precise multisite stimulation of nerve bundles. Nature Communications, 2019, 10, 2790.	12.8	33
43	Blue-green semiconductor lasers. Solid State Communications, 1994, 92, 113-118.	1.9	32
44	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
45	An Implantable Neural Sensing Microsystem with Fiber-Optic Data Transmission and Power Delivery. Sensors, 2013, 13, 6014-6031.	3.8	31
46	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
47	Large ordered arrays of single photon sources based on IIâ€“VI semiconductor colloidal quantum dot. Optics Express, 2008, 16, 19592.	3.4	30
48	II-VI Blue-Green Laser Diodes: A Frontier of Materials Research. MRS Bulletin, 1995, 20, 15-19.	3.5	29
49	Application of light-emitting diodes for aerosol fluorescence detection. Optics Letters, 2003, 28, 1707.	3.3	28
50	Modified toolbox for optogenetics in the nonhuman primate. Neurophotonics, 2015, 2, 031202.	3.3	27
51	Visual Experience-Dependent Maturation of Correlated Neuronal Activity Patterns in a Developing Visual System. Journal of Neuroscience, 2011, 31, 8025-8036.	3.6	26
52	Wireless Power and Data Link for Ensembles of Sub-mm scale Implantable Sensors near 1GHz. , 2018, , .		26
53	Decoding speech from spike-based neural population recordings in secondary auditory cortex of non-human primates. Communications Biology, 2019, 2, 466.	4.4	25
54	Optical physics and laser devices in IIâ€“VI quantum confined heterostructures. Physica B: Condensed Matter, 1993, 185, 16-26.	2.7	23

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55	Excitonic gain and laser emission from mixed-cation halide perovskite thin films. Optica, 2018, 5, 1141.	9.3	23
56	A Distributed Wireless Network of Implantable Sub-mm Cortical Microstimulators for Brain-Computer Interfaces. , 2019, 2019, 6876-6879.		23
57	Beyond quantum dot LEDs: Optical gain and laser action in red, green, and blue colors. MRS Bulletin, 2013, 38, 737-742.	3.5	22
58	A microscale photovoltaic neurostimulator for fiber optic delivery of functional electrical stimulation. Journal of Neural Engineering, 2007, 4, 213-218.	3.5	20
59	Spectroscopic Sorting of Aerosols by a Compact Sensor Employing UV LEDs. Aerosol Science and Technology, 2006, 40, 1047-1051.	3.1	17
60	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
61	Distributed Microscale Brain Implants with Wireless Power Transfer and Mbps Bi-directional Networked Communications. , 2019, , .		16
62	A Scalable and Low Stress Post-CMOS Processing Technique for Implantable Microsensors. Micromachines, 2020, 11, 925.	2.9	16
63	Semiconductor ultra-violet light-emitting diodes for flash photolysis. Journal of Neuroscience Methods, 2007, 160, 5-9.	2.5	15
64	Spontaneous dynamics of neural networks in deep layers of prefrontal cortex. Journal of Neurophysiology, 2017, 117, 1581-1594.	1.8	14
65	Hot-exciton luminescence and energy transfer intod-electron states inZn1â^'xMnxSe. Physical Review B, 1993, 48, 4418-4422.	3.2	13
66	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
67	Ultrafast photoexcited cyclotron emission: Contributions from real and virtual excitations. Physical Review B, 1996, 53, R13295-R13298.	3.2	12
68	High Performance AlGaInN Ultraviolet Light-Emitting Diode at the 340 nm Wavelength. Japanese Journal of Applied Physics, 2004, 43, L1409-L1412.	1.5	12
69	An externally head-mounted wireless neural recording device for laboratory animal research and possible human clinical use. , 2013, 2013, 3109-14.		11
70	Modulating dopamine release by optogenetics in transgenic mice reveals terminal dopaminergic dynamics. Neurophotonics, 2015, 2, 031207.	3.3	11
71	A 100-channel hermetically sealed implantable device for wireless neurosensing applications. , 2012, , .		10
72	Epitaxial growth of aligned GaN nanowires and nanobridges. Physica Status Solidi (B): Basic Research, 2007, 244, 1810-1814.	1.5	9

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73	Forced mode locking of a singleâ€line highâ€pressure CO laser. Journal of Applied Physics, 1975, 46, 2153-2154.	2.5	8
74	IIâ€“VI lasers â€" new directions. Journal of Crystal Growth, 1996, 159, 644-652.	1.5	8
75	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
76	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
77	Future of Neural Interfaces. Advances in Experimental Medicine and Biology, 2019, 1101, 225-241.	1.6	7
78	Blue and Near-Ultraviolet Vertical-Cavity Surface-Emitting Lasers. MRS Bulletin, 2002, 27, 502-506.	3.5	5
79	Approaches to optical neuromodulation from rodents to non-human primates by integrated optoelectronic devices. , 2011, 2011, 7525-8.		5
80	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
81	A method for large-scale implantation of 3D microdevice ensembles into brain and soft tissue. Microsystems and Nanoengineering, 2020, 6, 97.	7.0	5
82	Wireless Addressable Cortical Microstimulators Powered by Near-Infrared Harvesting. ACS Sensors, 2021, 6, 2728-2737.	7.8	5
83	A mobile embedded platform for high performance neural signal computation and communication. , 2015, , .		4
84	Approaches to large scale neural recording by chronic implants for mobile BCIs. , 2018, , .		4
85	A Software-Defined Radio for Wireless Brain Implants Network. , 2018, , .		4
86	Donors and excitons bound to a thin repulsive layer. Solid State Communications, 1989, 71, 653-656.	1.9	3
87	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
88	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
89	Brain Enabled by Next-Generation Neurotechnology: Using Multiscale and Multimodal Models. IEEE Pulse, 2012, 3, 31-36.	0.3	3
90	Optoelectronic devices for optogenetics: From rodents to non-human primates. , 2015, , .		3

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91	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
92	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
93	A Distributed Ensemble of wireless Intracortical Microdevices for Charge-balanced Photovoltaic Current Stimulation. , 2021, , .		2
94	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
95	NITRIDE LASERS: OPTICAL GAIN AND DEVICE IMPLICATIONS. International Journal of High Speed Electronics and Systems, 1998, 09, 1139-1162.	0.7	1
96	Optical gain and excitonic processes in widegap semiconductor quantum wells. Phase Transitions, 1999, 68, 95-149.	1.3	1
97	Gain spectroscopy and vertical cavity devices in wide-gap semiconductors. Journal of Luminescence, 2000, 87-89, 145-151.	3.1	1
98	Progress towards nitride blue and near-UV VCSELs. III-Vs Review, 2001, 14, 38-41.	0.0	1
99	Versatile ultraviolet light emitting diodes for sensor applications. Physica Status Solidi A, 2004, 201, 2721-2725.	1.7	1
100	Gallium Nitride LEDs Incorporating Organic Semiconductor Heterojunctions. , 2007, , .		1
101	High Performance, Spatially Coherent, Multicolor Distributed Feedback Lasers in Optically Pumped Colloidal Quantum Dots. , 2013, , .		1
102	Multi-coil High Efficiency Wireless Charger System for Hermetically Sealed Biomedical Implants. , 2018, , .		1
103	Transient Gain Spectroscopy in the Potent Single-Exciton Regime of Dense II-VI Colloidal Quantum Dot Films. , 2013, , .		1
104	Chapter 2 Transient Spectroscopy by Ultrashort Laser Pulse Techniques. Semiconductors and Semimetals, 1992, 36, 85-135.	0.7	0
105	Excitons, microcavity physics and devices in wide bandgap semiconductors. Journal of Crystal Growth, 2000, 214-215, 993-1001.	1.5	0
106	Ultrafast exciton response of high optical density J-aggregates from ultrathin films of cyanine dyes. , 2006, , .		0
107	Highly Efficient Resonance Energy Transfer in Ultrathin Organic-Inorganic Semiconductor Hybrid Films. , 2007, , .		0
108	Nitride/organic hybrid heterostructures for photodetector devices. , 2008, , .		0

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109	Microscale flexible image projection device for spatiotemporal excitation in the research of visual system development. , 2008, , .		0
110	Stimulated emission in red, green, and blue from colloidal quantum dot films by single exciton optical gain. , 2012, , .		0
111	Red, green, and blue colloidal quantum dot-based optically pumped distributed feedback lasers. , 2013, , .		0
112	A fiber optic multi-channel neural recording system for freely moving rats. , 2013, , .		0
113	Single photon emission from spatially controlled periodic arrays of II-VI quantum dots. , 2008, , .		0