

Joseph J Pancrazio

List of Publications by Citations

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

124 papers	3,620 citations	34 h-index	55 g-index
135 ext. papers	4,092 ext. citations	6.1 avg, IF	5.03 L-index

#	Paper	IF	Citations
124	Development and application of cell-based biosensors. <i>Annals of Biomedical Engineering</i> , 1999 , 27, 697-714	11.7	311
123	Detection of physiologically active compounds using cell-based biosensors. <i>Trends in Biotechnology</i> , 2001 , 19, 304-9	15.1	175
122	Microlithographic determination of axonal/dendritic polarity in cultured hippocampal neurons. <i>Journal of Neuroscience Methods</i> , 1998 , 82, 167-73	3	139
121	Acetylcholine stimulates cortical precursor cell proliferation in vitro via muscarinic receptor activation and MAP kinase phosphorylation. <i>European Journal of Neuroscience</i> , 2000 , 12, 1227-40	3.5	132
120	Neurological effects of blast injury. <i>Journal of Trauma</i> , 2010 , 68, 1257-63		107
119	A portable microelectrode array recording system incorporating cultured neuronal networks for neurotoxin detection. <i>Biosensors and Bioelectronics</i> , 2003 , 18, 1339-47	11.8	100
118	Characterization of acute neurotoxic effects of trimethylolpropane phosphate via neuronal network biosensors. <i>Biosensors and Bioelectronics</i> , 2001 , 16, 513-25	11.8	87
117	Myocardial depressant effects of sevoflurane. Mechanical and electrophysiologic actions in vitro. <i>Anesthesiology</i> , 1996 , 84, 1166-76	4.3	87
116	Immobilization of neural cells in three-dimensional matrices for biosensor applications. <i>Biosensors and Bioelectronics</i> , 2000 , 14, 871-81	11.8	79
115	Novel Method for Predicting Dexterous Individual Finger Movements by Imaging Muscle Activity Using a Wearable Ultrasonic System. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2014 , 22, 69-76	4.8	74
114	High-Performance Graphene-Fiber-Based Neural Recording Microelectrodes. <i>Advanced Materials</i> , 2019 , 31, e1805867	24	72
113	The MNK-eIF4E Signaling Axis Contributes to Injury-Induced Nociceptive Plasticity and the Development of Chronic Pain. <i>Journal of Neuroscience</i> , 2017 , 37, 7481-7499	6.6	70
112	Multiple ionic mechanisms mediate inhibition of rat motoneurons by inhalation anaesthetics. <i>Journal of Physiology</i> , 1998 , 512 (Pt 3), 851-62	3.9	70
111	Real-Time Classification of Hand Motions Using Ultrasound Imaging of Forearm Muscles. <i>IEEE Transactions on Biomedical Engineering</i> , 2016 , 63, 1687-98	5	67
110	Central neuronal synapse formation on micropatterned surfaces. <i>Developmental Brain Research</i> , 1998 , 111, 231-43		66
109	Lifetime assessment of atomic-layer-deposited Al ₂ O ₃ -Parylene C bilayer coating for neural interfaces using accelerated age testing and electrochemical characterization. <i>Acta Biomaterialia</i> , 2014 , 10, 960-7	10.8	62
108	Portable cell-based biosensor system for toxin detection. <i>Sensors and Actuators B: Chemical</i> , 1998 , 53, 179-185	8.5	62

107	Functional ionotropic glutamate receptors emerge during terminal cell division and early neuronal differentiation of rat neuroepithelial cells. <i>Journal of Neuroscience Research</i> , 2000 , 61, 652-62	4.4	61
106	Enabling tools for tissue engineering. <i>Biosensors and Bioelectronics</i> , 2007 , 22, 2803-11	11.8	60
105	Improving the performance of poly(3,4-ethylenedioxythiophene) for brain-machine interface applications. <i>Acta Biomaterialia</i> , 2014 , 10, 2446-54	10.8	57
104	Measuring synchronization in neuronal networks for biosensor applications. <i>Biosensors and Bioelectronics</i> , 2004 , 19, 675-83	11.8	56
103	Description and demonstration of a CMOS amplifier-based-system with measurement and stimulation capability for bioelectrical signal transduction. <i>Biosensors and Bioelectronics</i> , 1998 , 13, 971-9	11.8	54
102	Quantum Dot-Peptide-Fullerene Bioconjugates for Visualization of in Vitro and in Vivo Cellular Membrane Potential. <i>ACS Nano</i> , 2017 , 11, 5598-5613	16.7	53
101	Neural interfaces at the nanoscale. <i>Nanomedicine</i> , 2008 , 3, 823-30	5.6	51
100	Stimulation of unitary T-type Ca(2+) channel currents by calmodulin-dependent protein kinase II. <i>American Journal of Physiology - Cell Physiology</i> , 2000 , 279, C1694-703	5.4	46
99	A Mosquito Inspired Strategy to Implant Microprobes into the Brain. <i>Scientific Reports</i> , 2018 , 8, 122	4.9	42
98	Design and demonstration of an intracortical probe technology with tunable modulus. <i>Journal of Biomedical Materials Research - Part A</i> , 2017 , 105, 159-168	5.4	42
97	Methods for characterizing interspike intervals and identifying bursts in neuronal activity. <i>Journal of Neuroscience Methods</i> , 2007 , 162, 64-71	3	42
96	Design and demonstration of an automated cell-based biosensor. <i>Biosensors and Bioelectronics</i> , 2001 , 16, 535-42	11.8	42
95	Chronic intracortical neural recordings using microelectrode arrays coated with PEDOT-TFB. <i>Acta Biomaterialia</i> , 2016 , 32, 57-67	10.8	41
94	Thinking Small: Progress on Microscale Neurostimulation Technology. <i>Neuromodulation</i> , 2017 , 20, 745-752	5.2	37
93	Synaptic connectivity in hippocampal neuronal networks cultured on micropatterned surfaces. <i>Developmental Brain Research</i> , 2000 , 120, 223-31		36
92	Potential applications of DNA microarrays in biodefense-related diagnostics. <i>Current Opinion in Biotechnology</i> , 2002 , 13, 208-12	11.4	35
91	Pharmacological effects of the marine toxins, brevetoxin and saxitoxin, on murine frontal cortex neuronal networks. <i>Toxicon</i> , 2004 , 44, 669-76	2.8	34
90	Investigation of in vitro toxicity of jet fuels JP-8 and Jet A. <i>Drug and Chemical Toxicology</i> , 2000 , 23, 279-91	4.3	34

89	Detection of marine toxins, brevetoxin-3 and saxitoxin, in seawater using neuronal networks. <i>Environmental Science & Technology</i> , 2006 , 40, 578-83	10.3	33
88	Chronic Intracortical Recording and Electrochemical Stability of Thiol-ene/Acrylate Shape Memory Polymer Electrode Arrays. <i>Micromachines</i> , 2018 , 9,	3.3	31
87	In vivo Characterization of Amorphous Silicon Carbide As a Biomaterial for Chronic Neural Interfaces. <i>Frontiers in Neuroscience</i> , 2016 , 10, 301	5.1	29
86	Use of cortical neuronal networks for in vitro material biocompatibility testing. <i>Biosensors and Bioelectronics</i> , 2014 , 53, 316-23	11.8	26
85	Acute neuropharmacologic action of chloroquine on cortical neurons in vitro. <i>Brain Research</i> , 2003 , 959, 280-6	3.7	26
84	A Meta-Analysis of Intracortical Device Stiffness and Its Correlation with Histological Outcomes. <i>Micromachines</i> , 2018 , 9,	3.3	26
83	Amyloid beta modulation of neuronal network activity in vitro. <i>Brain Research</i> , 2015 , 1629, 1-9	3.7	25
82	Neurophysiologic effects of chemical agent hydrolysis products on cortical neurons in vitro. <i>NeuroToxicology</i> , 2001 , 22, 393-400	4.4	25
81	Reversal of peripheral nerve injury-induced neuropathic pain and cognitive dysfunction via genetic and tomivosertib targeting of MNK. <i>Neuropsychopharmacology</i> , 2020 , 45, 524-533	8.7	25
80	Responsive, 3D Electronics Enabled by Liquid Crystal Elastomer Substrates. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 19506-19513	9.5	24
79	Neuronal and glial epitopes and transmitter-synthesizing enzymes appear in parallel with membrane excitability during neuroblastoma x glioma hybrid differentiation. <i>Developmental Brain Research</i> , 1998 , 106, 155-63		24
78	Chronic recording and electrochemical performance of Utah microelectrode arrays implanted in rat motor cortex. <i>Journal of Neurophysiology</i> , 2018 , 120, 2083-2090	3.2	23
77	Cultured neuronal networks as environmental biosensors. <i>Journal of Applied Toxicology</i> , 2004 , 24, 379-85	4.1	23
76	Ethanol blocks cytosolic Ca ²⁺ responses triggered by activation of GABA(A) receptor/Cl ⁻ channels in cultured proliferating rat neuroepithelial cells. <i>Neuroscience</i> , 2001 , 104, 913-22	3.9	22
75	Volatile anesthetics reduce low-voltage-activated calcium currents in a thyroid C-cell line. <i>Anesthesiology</i> , 1996 , 85, 1167-75	4.3	22
74	Sterilization of Thiol-ene/Acrylate Based Shape Memory Polymers for Biomedical Applications. <i>Macromolecular Materials and Engineering</i> , 2017 , 302, 1600331	3.9	21
73	From softening polymers to multimaterial based bioelectronic devices. <i>Multifunctional Materials</i> , 2019 , 2, 012001	5.2	21
72	Liquid Crystal Elastomer-Based Microelectrode Array for In Vitro Neuronal Recordings. <i>Micromachines</i> , 2018 , 9,	3.3	20

71	Adult mouse sensory neurons on microelectrode arrays exhibit increased spontaneous and stimulus-evoked activity in the presence of interleukin-6. <i>Journal of Neurophysiology</i> , 2018 , 120, 1374-1385	3.2	19
70	Characterization of the Neuroinflammatory Response to Thiol-ene Shape Memory Polymer Coated Intracortical Microelectrodes. <i>Micromachines</i> , 2018 , 9,	3.3	18
69	Standard guidelines for publication of deep brain stimulation studies in Parkinson's disease (Guide4DBS-PD). <i>Movement Disorders</i> , 2010 , 25, 1530-7	7	17
68	In vitro compatibility testing of thiol-ene/acrylate-based shape memory polymers for use in implantable neural interfaces. <i>Journal of Biomedical Materials Research - Part A</i> , 2018 , 106, 2891-2898	5.4	17
67	Challenges to deep brain stimulation: a pragmatic response to ethical, fiscal, and regulatory concerns. <i>Annals of the New York Academy of Sciences</i> , 2012 , 1265, 80-90	6.5	16
66	Volatile Anesthetic Sensitivity of T-Type Calcium Currents in Various Cell Types. <i>Anesthesia and Analgesia</i> , 1999 , 88, 168-173	3.9	16
65	Electrical Properties of Thiol-ene-based Shape Memory Polymers Intended for Flexible Electronics. <i>Polymers</i> , 2019 , 11,	4.5	15
64	Development and demonstration of a disposable low-cost microelectrode array for cultured neuronal network recording. <i>Sensors and Actuators B: Chemical</i> , 2012 , 161, 655-660	8.5	15
63	Broadband Detection of Environmental Neurotoxicants. <i>Analytical Chemistry</i> , 2007 , 79, 8838-8845	7.8	15
62	Characterization of rat spinal cord neurons cultured in defined media on microelectrode arrays. <i>Neuroscience Letters</i> , 1999 , 271, 179-82	3.3	15
61	Ruthenium oxide based microelectrode arrays for in vitro and in vivo neural recording and stimulation. <i>Acta Biomaterialia</i> , 2020 , 101, 565-574	10.8	15
60	A role for inwardly rectifying K ⁺ channels in differentiation of NG108-15 neuroblastoma glioma cells. <i>Journal of Neurobiology</i> , 1999 , 38, 466-474		14
59	Dopamine enhances a voltage-dependent transient K ⁺ current in the MMQ cell, a clonal pituitary line expressing functional D2 dopamine receptors. <i>Brain Research</i> , 1990 , 506, 331-4	3.7	14
58	Amorphous Silicon Carbide Platform for Next Generation Penetrating Neural Interface Designs. <i>Micromachines</i> , 2018 , 9,	3.3	14
57	Differential responses to Tetrodotoxin IVA in murine frontal cortex and spinal cord derived neuronal networks. <i>NeuroToxicology</i> , 2013 , 37, 19-25	4.4	13
56	Sensitivity of the neuronal network biosensor to environmental threats. <i>Journal of Toxicology and Environmental Health - Part A: Current Issues</i> , 2004 , 67, 809-18	3.2	13
55	Acute exposure of toluene transiently potentiates p42/44 mitogen-activated protein kinase (MAPK) activity in cultured rat cortical astrocytes. <i>Neuroscience Letters</i> , 2002 , 332, 103-6	3.3	13
54	Mechanical and electrophysiological effects of protamine on isolated ventricular myocardium: evidence for calcium overload. <i>Cardiovascular Research</i> , 1994 , 28, 505-14	9.9	13

53	Spontaneous and Evoked Activity from Murine Ventral Horn Cultures on Microelectrode Arrays. <i>Frontiers in Cellular Neuroscience</i> , 2017 , 11, 304	6.1	12
52	Cholera toxin-induced modulation of gene expression: elucidation via cDNA microarray for rational cell-based sensor design. <i>Analytica Chimica Acta</i> , 2002 , 457, 97-108	6.6	12
51	Effects of Bay K 8644 on spontaneous and evoked transmitter release at the mouse neuromuscular junction. <i>Neuroscience</i> , 1989 , 30, 215-21	3.9	12
50	Botulinum toxin suppression of CNS network activity in vitro. <i>Journal of Toxicology</i> , 2014 , 2014, 732913	3.1	11
49	Voltage-sensitive calcium channels in a human small-cell lung cancer cell line. <i>Acta Physiologica Scandinavica</i> , 1992 , 144, 463-8		11
48	Softening Shape Memory Polymer Substrates for Bioelectronic Devices With Improved Hydrolytic Stability. <i>Frontiers in Materials</i> , 2018 , 5,	4	11
47	Toluene inhibits muscarinic receptor-mediated cytosolic Ca ²⁺ responses in neural precursor cells. <i>NeuroToxicology</i> , 2002 , 23, 61-8	4.4	9
46	Volatile anesthetic sensitivity of T-type calcium currents in various cell types. <i>Anesthesia and Analgesia</i> , 1999 , 88, 168-73	3.9	9
45	Liquid crystal elastomers as substrates for 3D, robust, implantable electronics. <i>Journal of Materials Chemistry B</i> , 2020 , 8, 6286-6295	7.3	9
44	Effects of enflurane on the voltage-gated membrane currents of bovine adrenal chromaffin cells. <i>Neuroscience Letters</i> , 1992 , 146, 147-51	3.3	8
43	Gold nanostructure microelectrode arrays for in vitro recording and stimulation from neuronal networks. <i>Nanotechnology</i> , 2019 , 30, 235501	3.4	7
42	Neuron-like neural probes. <i>Nature Materials</i> , 2019 , 18, 429-431	27	7
41	Novel disposable microelectrode array for cultured neuronal network recording exhibiting equivalent performance to commercially available arrays. <i>Sensors and Actuators B: Chemical</i> , 2016 , 226, 232-238	8.5	7
40	Gene expression profiles in the rat central nervous system induced by JP-8 jet fuel vapor exposure. <i>Neuroscience Letters</i> , 2004 , 363, 233-8	3.3	7
39	A major role for calcium-dependent potassium current in action potential repolarization in adrenal chromaffin cells. <i>Brain Research</i> , 1994 , 668, 246-51	3.7	7
38	Mechanically Robust, Softening Shape Memory Polymer Probes for Intracortical Recording. <i>Micromachines</i> , 2020 , 11,	3.3	7
37	Amorphous Silicon Carbide for Neural Interface Applications 2016 , 249-260		7
36	A patterned polystyrene-based microelectrode array for in vitro neuronal recordings. <i>Biomedical Microdevices</i> , 2018 , 20, 48	3.7	7

35	Influence of extracellular matrix proteins on membrane potentials and excitability in NG108-15 cells. <i>Neuroscience Letters</i> , 1998 , 246, 9-12	3.3	6
34	Toward Neurotechnology Innovation: Report from the 2005 Neural Interfaces Workshop. An NIH-Sponsored Event. <i>Neuromodulation</i> , 2006 , 9, 1-7	3.1	6
33	Biological threat detection via host gene expression profiling. <i>Clinical Chemistry</i> , 2003 , 49, 1045-9	5.5	6
32	Kir 4.1 channel expression in neuroblastomaxglioma hybrid NG108-15 cell line. <i>Developmental Brain Research</i> , 1999 , 114, 127-34		6
31	PCS: an IBM-compatible microcomputer program for the analysis and display of voltage-clamp data. <i>Computer Methods and Programs in Biomedicine</i> , 1993 , 40, 175-80	6.9	6
30	Emerging neurotechnology for antinoceptive mechanisms and therapeutics discovery. <i>Biosensors and Bioelectronics</i> , 2019 , 126, 679-689	11.8	6
29	Advances in neural interfaces: report from the 2006 NIH Neural Interfaces Workshop. <i>Journal of Neural Engineering</i> , 2007 , 4, S137-42	5	5
28	The use of GABA(A) receptors expressed in neural precursor cells for cell-based assays. <i>Biosensors and Bioelectronics</i> , 2001 , 16, 481-9	11.8	5
27	Identification of target genes responsive to JP-8 exposure in the rat central nervous system. <i>Toxicology and Industrial Health</i> , 2001 , 17, 262-9	1.8	5
26	Deployable, liquid crystal elastomer-based intracortical probes. <i>Acta Biomaterialia</i> , 2020 , 111, 54-64	10.8	5
25	Understanding the Effects of Both CD14-Mediated Innate Immunity and Device/Tissue Mechanical Mismatch in the Neuroinflammatory Response to Intracortical Microelectrodes. <i>Frontiers in Neuroscience</i> , 2018 , 12, 772	5.1	5
24	Mechanical considerations for design and implementation of peripheral intraneural devices. <i>Journal of Neural Engineering</i> , 2019 , 16, 064001	5	4
23	Identification of differential gene expression profiles in rat cortical cells exposed to the neuroactive agents trimethylolpropane phosphate and bicuculline. <i>Biosensors and Bioelectronics</i> , 2001 , 16, 593-601	11.8	4
22	Trimethylolpropane phosphate induces epileptiform discharges in the CA1 region of the rat hippocampus. <i>Toxicology and Applied Pharmacology</i> , 2001 , 171, 126-34	4.6	4
21	Gene modulation in total brain induced by exposure to the bicyclic phosphorus ester trimethylolpropane phosphate (TMPP). <i>NeuroToxicology</i> , 2002 , 23, 215-21	4.4	4
20	Differential anesthetic-induced opening of calcium-dependent large conductance channels in isolated ventricular myocytes. <i>Pflugers Archiv European Journal of Physiology</i> , 1994 , 429, 134-6	4.6	4
19	Intracortical Microelectrode Array Unit Yield under Chronic Conditions: A Comparative Evaluation. <i>Micromachines</i> , 2021 , 12,	3.3	4
18	Conserved Expression of Nav1.7 and Nav1.8 Contribute to the Spontaneous and Thermally Evoked Excitability in IL-6 and NGF-Sensitized Adult Dorsal Root Ganglion Neurons In Vitro. <i>Bioengineering</i> , 2020 , 7,	5.3	3

17	Adaptation of robust ZSfactor for assay quality assessment in microelectrode array based screening using adult dorsal root ganglion neurons. <i>Journal of Neuroscience Methods</i> , 2020 , 339, 108699	3	3
16	Chronic stability of local field potentials from standard and modified Blackrock microelectrode arrays implanted in the rat motor cortex. <i>Biomedical Physics and Engineering Express</i> , 2019 , 5, 065017	1.5	3
15	Effects of carbon nanotube and conducting polymer coated microelectrodes on single-unit recordings in vitro. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2014 , 2014, 469-73	0.9	3
14	National Institute of Neurological Disorders and Stroke support for brain-machine interface technology. <i>Neurosurgical Focus</i> , 2009 , 27, E14	4.2	3
13	Freeze Drying Improves the Shelf-Life of Conductive Polymer Modified Neural Electrodes. <i>Bioengineering</i> , 2015 , 2, 176-183	5.3	2
12	Ion channel events simulated with the program SIMSTATE. <i>Computer Methods and Programs in Biomedicine</i> , 1995 , 46, 165-74	6.9	2
11	A peptide encoded within a 5'Suntranslated region promotes pain sensitization in mice. <i>Pain</i> , 2021 , 162, 1864-1875	8	2
10	Influence of Implantation Depth on the Performance of Intracortical Probe Recording Sites. <i>Micromachines</i> , 2021 , 12,	3.3	2
9	The Effect of Microfluidic Geometry on Myoblast Migration. <i>Micromachines</i> , 2019 , 10,	3.3	1
8	Microfluidic based contactless dielectrophoretic device: Modeling and analysis. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2010 , 2010, 6506-9	0.9	1
7	Dynamic and geometric analysis of short time series: a new comparative approach to cell-based biosensors. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2001 , 286, 217-224	2.3	1
6	Methods for short time series analysis of cell-based biosensor data. <i>Biosensors and Bioelectronics</i> , 2001 , 16, 503-12	11.8	1
5	Elastographic assessment of micromotion-induced strain in tissue adjacent to intracortical implants in rat 2019 ,		1
4	Liquid Crystalline Polymers: Opportunities to Shape Neural Interfaces. <i>Neuromodulation</i> , 2021 ,	3.1	1
3	Stable softening bioelectronics: A paradigm for chronically viable ester-free neural interfaces such as spinal cord stimulation implants. <i>Biomaterials</i> , 2021 , 277, 121073	15.6	1
2	A role for translational regulation by S6 kinase and a downstream target in inflammatory pain. <i>British Journal of Pharmacology</i> , 2021 , 178, 4675-4690	8.6	0
1	Biomimetic design of neural prostheses 541-553		