Timothy J Shafer

List of Publications by Year
in descending order

93 papers	4,906 citations	76196 40 h-index	98622 67 g-index
94 all docs	94 docs citations	94 times ranked	4106 citing authors

#	Article	IF	Citations
1	Developmental Neurotoxicity of Pyrethroid Insecticides: Critical Review and Future Research Needs. Environmental Health Perspectives, 2005, 113, 123-136.	2.8	434
2	Microelectrode arrays: A physiologically based neurotoxicity testing platform for the 21st century. NeuroToxicology, 2010, 31, 331-350.	1.4	338
3	The Next Generation Blueprint of Computational Toxicology at the U.S. Environmental Protection Agency. Toxicological Sciences, 2019, 169, 317-332.	1.4	225
4	Assessment of Chemical Effects on Neurite Outgrowth in PC12 cells Using High Content Screening. Toxicological Sciences, 2008, 105, 106-118.	1.4	163
5	Use of alternative assays to identify and prioritize organophosphorus flame retardants for potential developmental and neurotoxicity. Neurotoxicology and Teratology, 2015, 52, 181-193.	1.2	159
6	Evaluation of multi-well microelectrode arrays for neurotoxicity screening using a chemical training set. NeuroToxicology, 2012, 33, 1048-1057.	1.4	139
7	Development of a High-Throughput Screening Assay for Chemical Effects on Proliferation and Viability of Immortalized Human Neural Progenitor Cells. Toxicological Sciences, 2008, 105, 119-133.	1.4	128
8	Recommendation on test readiness criteria for new approach methods in toxicology: Exemplified for developmental neurotoxicity. ALTEX: Alternatives To Animal Experimentation, 2018, 35, 306-352.	0.9	121
9	Development of Micro-Electrode Array Based Tests for Neurotoxicity: Assessment of Interlaboratory Reproducibility with Neuroactive Chemicals. Frontiers in Neuroengineering, 2011, 4, 4.	4.8	113
10	In Vitro Assessment of Developmental Neurotoxicity: Use of Microelectrode Arrays to Measure Functional Changes in Neuronal Network Ontogeny1. Frontiers in Neuroengineering, 2011, 4, 1.	4.8	108
11	Neural progenitor cells as models for high-throughput screens of developmental neurotoxicity: State of the science. Neurotoxicology and Teratology, 2010, 32, 4-15.	1.2	104
12	Effects of pyrethroids on voltage-sensitive calcium channels: a critical evaluation of strengths, weaknesses, data needs, and relationship to assessment of cumulative neurotoxicity. Toxicology and Applied Pharmacology, 2004, 196, 303-318.	1.3	102
13	Differential effects of polychlorinated biphenyl congeners on phosphoinositide hydrolysis and protein kinase C translocation in rat cerebellar granule cells. Brain Research, 1994, 662, 75-82.	1.1	97
14	Developmental neurotoxicity testing: A path forward. Congenital Anomalies (discontinued), 2012, 52, 140-146.	0.3	94
15	Putative adverse outcome pathways relevant to neurotoxicity. Critical Reviews in Toxicology, 2015, 45, 83-91.	1.9	92
16	Multi-well microelectrode array recordings detect neuroactivity of ToxCast compounds. NeuroToxicology, 2014, 44, 204-217.	1.4	91
17	Mechanisms of Pyrethroid Insecticide-Induced Stimulation of Calcium Influx in Neocortical Neurons. Journal of Pharmacology and Experimental Therapeutics, 2011, 336, 197-205.	1.3	84
18	Burst and principal components analyses of MEA data for 16 chemicals describe at least three effects classes. NeuroToxicology, 2014, 40, 75-85.	1.4	82

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19	Volatile organic compounds inhibit human and rat neuronal nicotinic acetylcholine receptors expressed in Xenopus oocytes. Toxicology and Applied Pharmacology, 2005, 205, 77-88.	1.3	78
20	Expanding the test set: Chemicals with potential to disrupt mammalian brain development. Neurotoxicology and Teratology, 2015, 52, 25-35.	1.2	73
21	A multi-laboratory evaluation of microelectrode array-based measurements of neural network activity for acute neurotoxicity testing. NeuroToxicology, 2017, 60, 280-292.	1.4	72
22	Complete inhibition of spontaneous activity in neuronal networks in vitro by deltamethrin and permethrinâ˜†. NeuroToxicology, 2008, 29, 203-212.	1.4	69
23	Comparison of chemical-induced changes in proliferation and apoptosis in human and mouse neuroprogenitor cells. NeuroToxicology, 2012, 33, 1499-1510.	1.4	65
24	Repeated Exposure of Adult Rats to Aroclor 1254 Causes Brain Region-Specific Changes in Intracellular Ca2+Buffering and Protein Kinase C Activity in the Absence of Changes in Tyrosine Hydroxylase. Toxicology and Applied Pharmacology, 1998, 153, 186-198.	1.3	64
25	Characterization of Early Cortical Neural Network Development in Multiwell Microelectrode Array Plates. Journal of Biomolecular Screening, 2016, 21, 510-519.	2.6	61
26	Perturbation of Voltage-Sensitive Ca2+ Channel Function by Volatile Organic Solvents. Journal of Pharmacology and Experimental Therapeutics, 2005, 315, 1109-1118.	1.3	59
27	Developmentally-regulated sodium channel subunits are differentially sensitive to Î±-cyano containing pyrethroidsâ˜†. Toxicology and Applied Pharmacology, 2008, 231, 273-281.	1.3	59
28	Testing for developmental neurotoxicity using a battery of in vitro assays for key cellular events in neurodevelopment. Toxicology and Applied Pharmacology, 2018, 354, 24-39.	1.3	59
29	From the Cover: Developmental Neurotoxicants Disrupt Activity in Cortical Networks on Microelectrode Arrays: Results of Screening 86 Compounds During Neural Network Formation. Toxicological Sciences, 2017, 160, 121-135.	1.4	56
30	Extracellular calcium is required for the polychlorinated biphenyl-induced increase of intracellular free calcium levels in cerebellar granule cell culture. Toxicology, 1999, 136, 27-39.	2.0	55
31	A multiplexed assay for determination of neurotoxicant effects on spontaneous network activity and viability from microelectrode arrays. NeuroToxicology, 2015, 49, 79-85.	1.4	54
32	Disruption of Inositol Phosphate Accumulation in Cerebellar Granule Cells by Polychlorinated Biphenyls: A Consequence of Altered Ca2+Homeostasis. Toxicology and Applied Pharmacology, 1996, 141, 448-455.	1.3	53
33	Pyrethroid modulation of spontaneous neuronal excitability and neurotransmission in hippocampal neurons in culture. NeuroToxicology, 2008, 29, 213-225.	1.4	50
34	Accumulation of methylmercury or polychlorinated biphenyls in in vitro models of rat neuronal tissueâ˜†. Toxicology and Applied Pharmacology, 2005, 205, 177-187.	1.3	48
35	International Regulatory and Scientific Effort for Improved Developmental Neurotoxicity Testing. Toxicological Sciences, 2019, 167, 45-57.	1.4	48
36	Toluene inhibits voltage-sensitive calcium channels expressed in pheochromocytoma cells. Neurochemistry International, 2002, 41, 391-397.	1.9	46

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37	Additivity of Pyrethroid Actions on Sodium Influx in Cerebrocortical Neurons in Primary Culture. Environmental Health Perspectives, 2011, 119, 1239-1246.	2.8	46
38	Screening the ToxCast phase II libraries for alterations in network function using cortical neurons grown on multi-well microelectrode array (mwMEA) plates. Archives of Toxicology, 2018, 92, 487-500.	1.9	46
39	Effects of Cd2+, Pb2+ and CH3Hg+ on high voltage-activated calcium currents in pheochromocytoma (PC12) cells: potency, reversibility, interactions with extracellular Ca2+ and mechanisms of block1Preliminary results were presented at the 36th Annual meeting of the Society of Toxicology in Cincinnati, OH, March 9â€“13, 1997, and were published in abstract form in The Toxicologist 36, 114, 1997. The research described in this article has been reviewed by the National Health and Environmental Effects Research Lab. Toxicology Letters, 1998, 99, 207-221.	0.4	41
40	Developing an exposureâ€“doseâ€“response model for the acute neurotoxicity of organic solvents: overview and progress on in vitro models and dosimetry. Environmental Toxicology and Pharmacology, 2005, 19, 607-614.	2.0	41
41	Editorâ€™s Highlight: Evaluation of a Microelectrode Array-Based Assay for Neural Network Ontogeny Using Training Set Chemicals. Toxicological Sciences, 2016, 154, 126-139.	1.4	41
42	Neurotoxicological Outcomes of Perinatal Heptachlor Exposure in the Rat. Toxicological Sciences, 2001, 60, 315-326.	1.4	37
43	Evaluation of Chemical Effects on Network Formation in Cortical Neurons Grown on Microelectrode Arrays. Toxicological Sciences, 2019, 169, 436-455.	1.4	37
44	Sensitivity of neuroprogenitor cells to chemical-induced apoptosis using a multiplexed assay suitable for high-throughput screening. Toxicology, 2015, 333, 14-24.	2.0	35
45	Toward a Better Testing Paradigm for Developmental Neurotoxicity: OECD Efforts and Regulatory Considerations. Biology, 2021, 10, 86.	1.3	34
46	Identification of calcium-dependent and -independent signaling pathways involved in polychlorinated biphenyl-induced cyclic AMP-responsive element-binding protein phosphorylation in developing cortical neurons. Neuroscience, 2002, 115, 559-573.	1.1	33
47	Glufosinate binds N-methyl-d-aspartate receptors and increases neuronal network activity in vitro. NeuroToxicology, 2014, 45, 38-47.	1.4	33
48	Acute toluene exposure alters expression of genes in the central nervous system associated with synaptic structure and function. Neurotoxicology and Teratology, 2011, 33, 521-529.	1.2	32
49	Improving in vitro to in vivo extrapolation by incorporating toxicokinetic measurements: A case study of lindane-induced neurotoxicity. Toxicology and Applied Pharmacology, 2015, 283, 9-19.	1.3	31
50	Effects of the chlorotriazine herbicide, cyanazine, on GABAA receptors in cortical tissue from rat brain. Toxicology, 1999, 142, 57-68.	2.0	29
51	Concentrationâ€“response evaluation of ToxCast compounds for multivariate activity patterns of neural network function. Archives of Toxicology, 2020, 94, 469-484.	1.9	28
52	Aluminum decreases muscarinic, adrenergic, and metabotropic receptor-stimulated phosphoinositide hydrolysis in hippocampal and cortical slices from rat brain. Brain Research, 1993, 629, 133-140.	1.1	27
53	Effects of aluminum on neuronal signal transduction: Mechanisms underlying disruption of phosphoinositide hydrolysis. General Pharmacology, 1995, 26, 889-895.	0.7	27
54	Effects of gestational methylmercury exposure on immunoreactivity of specific isoforms of PKC and enzyme activity during post-natal development of the rat brain. Developmental Brain Research, 1998, 109, 33-49.	2.1	26

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55	Perturbation by the PCB Mixture Aroclor 1254 of GABAA Receptor-Mediated Calcium and Chloride Responses during Maturation in Vitro of Rat Neocortical Cells. Toxicology and Applied Pharmacology, 2000, 164, 184-195.	1.3	26
56	Effects of prolonged exposure to nanomolar concentrations of methylmercury on voltage-sensitive sodium and calcium currents in PC12 cells. Developmental Brain Research, 2002, 136, 151-164.	2.1	26
57	Acute Toluene Exposure and Rat Visual Function in Proportion to Momentary Brain Concentration. Toxicological Sciences, 2007, 99, 572-581.	1.4	26
58	<i>In vitro</i>screening of metal oxide nanoparticles for effects on neural function using cortical networks on microelectrode arrays. Nanotoxicology, 2016, 10, 619-628.	1.6	26
59	Defining toxicological tipping points in neuronal network development. Toxicology and Applied Pharmacology, 2018, 354, 81-93.	1.3	26
60	Permethrin, but not deltamethrin, increases spontaneous glutamate release from hippocampal neurons in cultureâ˜†. NeuroToxicology, 2006, 27, 594-603.	1.4	23
61	Evaluating the NMDA-Glutamate Receptor as a Site of Action for Toluene, In Vivo. Toxicological Sciences, 2007, 98, 159-166.	1.4	23
62	Approaches to extrapolating animal toxicity data on organic solvents to public health. NeuroToxicology, 2007, 28, 221-226.	1.4	23
63	Application of Microelectrode Array Approaches to Neurotoxicity Testing and Screening. Advances in Neurobiology, 2019, 22, 275-297.	1.3	23
64	Effects of methylmercury on perineurial Na+ and Ca2+-dependent potentials at neuromuscular junctions of the mouse. Brain Research, 1992, 595, 215-219.	1.1	21
65	Ontogeny of voltage-sensitive calcium channel Î±1A and Î±1E subunit expression and synaptic function in rat central nervous system. Developmental Brain Research, 2003, 142, 47-65.	2.1	21
66	Integrating Data From<i>In Vitro</i>New Approach Methodologies for Developmental Neurotoxicity. Toxicological Sciences, 2022, 187, 62-79.	1.4	20
67	Mechanisms underlying AlCl3 inhibition of agonist-stimulated inositol phosphate accumulation. Biochemical Pharmacology, 1994, 47, 1417-1425.	2.0	19
68	Accumulation of pyrethroid compounds in primary cultures from rat cortex. Toxicology in Vitro, 2010, 24, 2053-2057.	1.1	18
69	Effects of an environmentally-relevant mixture of pyrethroid insecticides on spontaneous activity in primary cortical networks on microelectrode arrays. NeuroToxicology, 2017, 60, 234-239.	1.4	18
70	A multivariate extension of mutual information for growing neural networks. Neural Networks, 2017, 95, 29-43.	3.3	18
71	Inhibition of Rat Brain Phosphatidylinositol-Specific Phospholipase C by Aluminum: Regional Differences, Interactions with Aluminum Salts, and Mechanisms. Toxicology and Applied Pharmacology, 1996, 136, 118-125.	1.3	15
72	Current status and future directions for a neurotoxicity hazard assessment framework that integrates in silico approaches. Computational Toxicology, 2022, 22, 100223.	1.8	15

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73	Evaluation of microelectrode array data using Bayesian modeling as an approach to screening and prioritization for neurotoxicity testing. NeuroToxicology, 2013, 36, 34-41.	1.4	14
74	In vitro exposure to aluminum does not alter long-term potentiation or glutamate release in rat hippocampal slices. Neurotoxicology and Teratology, 1996, 18, 175-180.	1.2	13
75	Role of NMDA, nicotinic, and GABA receptors in the steady-state visual-evoked potential in rats. Pharmacology Biochemistry and Behavior, 2005, 82, 635-645.	1.3	13
76	Time and concentration dependent accumulation of [3H]-deltamethrin in Xenopus laevis oocytesâ˜†. Toxicology Letters, 2005, 157, 79-88.	0.4	13
77	Comparison of Human Induced Pluripotent Stem Cell-Derived Neurons and Rat Primary Cortical Neurons as In Vitro Models of Neurite Outgrowth. Applied in Vitro Toxicology, 2016, 2, 26-36.	0.6	12
78	Comparison of Acute Effects of Neurotoxic Compounds on Network Activity in Human and Rodent Neural Cultures. Toxicological Sciences, 2021, 180, 295-312.	1.4	12
79	Integration of toxicodynamic and toxicokinetic new approach methods into a weight-of-evidence analysis for pesticide developmental neurotoxicity assessment: A case-study with DL- and L-glufosinate. Regulatory Toxicology and Pharmacology, 2022, 131, 105167.	1.3	12
80	Assaying Spontaneous Network Activity and Cellular Viability Using Multi-well Microelectrode Arrays. Methods in Molecular Biology, 2017, 1601, 153-170.	0.4	11
81	Use of Neural Models of Proliferation and Neurite Outgrowth to Screen Environmental Chemicals in the ToxCast Phase I Library. Applied in Vitro Toxicology, 2015, 1, 131-139.	0.6	10
82	In vitro screening of silver nanoparticles and ionic silver using neural networks yields differential effects on spontaneous activity and pharmacological responses. Toxicology, 2016, 355-356, 1-8.	2.0	10
83	Calcium channels: critical targets of toxicants and diseases.. Environmental Health Perspectives, 2000, 108, 1215-1218.	2.8	5
84	Concentration-dependent accumulation of [3H]-deltamethrin in sodium channel Nav1.2/Î²1 expressing Xenopus laevis oocytes. Toxicology in Vitro, 2007, 21, 1672-1677.	1.1	4
85	Transcriptional responses in rat brain associated with sub-chronic toluene inhalation are not predicted by effects of acute toluene inhalation. Neurotoxicology and Teratology, 2012, 34, 530-533.	1.2	4
86	Comments on: â€˜Perinatal toxicity of cyfluthrin in mice: developmental and behavioral effectsâ€™ by Soni and colleagues. Human and Experimental Toxicology, 2011, 30, 1112-1113.	1.1	3
87	Channelopathies: Summary of the hot topic keynotes session. NeuroToxicology, 2011, 32, 661-665.	1.4	3
88	Acute in vitro effects on embryonic rat dorsal root ganglion (DRG) cultures by in silico predicted neurotoxic chemicals: Evaluations on cytotoxicity, neurite length, and neurophysiology. Toxicology in Vitro, 2020, 69, 104989.	1.1	3
89	Aluminum-Induced Alteration of Phosphoinositide and Calcium Signaling. , 2001, , 345-360.		2
90	Integrated Omic Analyses Identify Pathways and Transcriptomic Regulators Associated With Chemical Alterations of <i>In Vitro</i> Neural Network Formation. Toxicological Sciences, 2022, 186, 118-133.	1.4	2

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91	Electrophysiological Methods for Analysis of Effects of Neurotoxicants on Synaptic Transmission. , 1995, , 157-181.		1
92	Wholeâ€Cell Patchâ€Clamp Electrophysiology of Voltageâ€Sensitive Channels. Current Protocols in Toxicology / Editorial Board, Mahin D Maines (editor-in-chief) [et Al], 2003, 17, Unit11.12.	1.1	0
93	Mammalian cell culture models. , 2020, , 463-475.		0