

# Martyn Boutelle

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/7818713/publications.pdf>

Version: 2024-02-01

110  
papers

6,012  
citations

66234

42  
h-index

74018

75  
g-index

110  
all docs

110  
docs citations

110  
times ranked

4876  
citing authors

#	ARTICLE	IF	CITATIONS
1	Spreading and Synchronous Depressions of Cortical Activity in Acutely Injured Human Brain. <i>Stroke</i> , 2002, 33, 2738-2743.	1.0	389
2	Cortical spreading depression and peri-infarct depolarization in acutely injured human cerebral cortex. <i>Brain</i> , 2006, 129, 778-790.	3.7	374
3	The continuum of spreading depolarizations in acute cortical lesion development: Examining Leão's legacy. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2017, 37, 1571-1594.	2.4	297
4	Consensus statement from the 2014 International Microdialysis Forum. <i>Intensive Care Medicine</i> , 2015, 41, 1517-1528.	3.9	263
5	Recording, analysis, and interpretation of spreading depolarizations in neurointensive care: Review and recommendations of the COSBID research group. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2017, 37, 1595-1625.	2.4	255
6	Association of seizures with cortical spreading depression and peri-infarct depolarisations in the acutely injured human brain. <i>Clinical Neurophysiology</i> , 2008, 119, 1973-1984.	0.7	193
7	Physiological Stimulation Increases Nonoxidative Glucose Metabolism in the Brain of the Freely Moving Rat. <i>Journal of Neurochemistry</i> , 1993, 60, 1258-1263.	2.1	171
8	3D Printed Microfluidic Device with Integrated Biosensors for Online Analysis of Subcutaneous Human Microdialysate. <i>Analytical Chemistry</i> , 2015, 87, 7763-7770.	3.2	152
9	Extracellular Brain Glucose Levels Reflect Local Neuronal Activity: A Microdialysis Study in Awake, Freely Moving Rats. <i>Journal of Neurochemistry</i> , 1992, 59, 2141-2147.	2.1	146
10	Dynamic Changes in Brain Glucose and Lactate in Pericontusional Areas of the Human Cerebral Cortex, Monitored with Rapid Sampling On-Line Microdialysis: Relationship with Depolarisation-Like Events. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2005, 25, 402-413.	2.4	140
11	Transient Changes in Cortical Glucose and Lactate Levels Associated with Peri-Infarct Depolarisations, Studied with Rapid-Sampling Microdialysis. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2005, 25, 391-401.	2.4	131
12	Dynamic Metabolic Response to Multiple Spreading Depolarizations in Patients with Acute Brain Injury: An Online Microdialysis Study. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2010, 30, 1343-1355.	2.4	110
13	Evaluation of a minimally invasive glucose biosensor for continuous tissue monitoring. <i>Analytical and Bioanalytical Chemistry</i> , 2016, 408, 8427-8435.	1.9	104
14	An amperometric glucose-oxidase/poly(o-phenylenediamine) biosensor for monitoring brain extracellular glucose: in vivo characterisation in the striatum of freely-moving rats. <i>Journal of Neuroscience Methods</i> , 1998, 79, 65-74.	1.3	103
15	Ultrasensitive Detection of Dopamine Using a Carbon Nanotube Network Microfluidic Flow Electrode. <i>Analytical Chemistry</i> , 2013, 85, 163-169.	3.2	102
16	Glutamate receptor-dependent increments in lactate, glucose and oxygen metabolism evoked in rat cerebellum <i>in vivo</i> . <i>Journal of Physiology</i> , 2008, 586, 1337-1349.	1.3	101
17	Persisting Depletion of Brain Glucose following Cortical Spreading Depression, despite Apparent Hyperaemia: Evidence for Risk of an Adverse Effect of Leão's Spreading Depression. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2009, 29, 166-175.	2.4	101
18	Enzyme packed bed system for the on-line measurement of glucose, glutamate, and lactate in brain microdialysate. <i>Analytical Chemistry</i> , 1992, 64, 1790-1794.	3.2	100

#	ARTICLE	IF	CITATIONS
19	Continuous Monitoring of Extracellular Glucose Concentrations in the Striatum of Freely Moving Rats with an Implanted Glucose Biosensor. <i>Journal of Neurochemistry</i> , 1998, 70, 391-396.	2.1	100
20	The physiologically induced release of ascorbate in rat brain is dependent on impulse traffic, calcium influx and glutamate uptake. <i>Neuroscience</i> , 1994, 62, 87-91.	1.1	97
21	Monitoring biomolecule concentrations in tissue using a wearable droplet microfluidic-based sensor. <i>Nature Communications</i> , 2019, 10, 2741.	5.8	93
22	Online Measurement of Brain Glutamate with an Enzyme/Polymer-Coated Tubular Electrode. <i>Analytical Chemistry</i> , 1994, 66, 2017-2021.	3.2	88
23	Evaluation of Laser Speckle Flowmetry for Imaging Cortical Perfusion in Experimental Stroke Studies: Quantitation of Perfusion and Detection of Peri-Infarct Depolarisations. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2006, 26, 645-653.	2.4	88
24	The role of astrocytes and noradrenaline in neuronal glucose metabolism. <i>Acta Physiologica Scandinavica</i> , 1999, 167, 275-284.	2.3	87
25	Rapid changes in extracellular glucose levels and blood flow in the striatum of the freely moving rat. <i>Brain Research</i> , 1993, 604, 225-231.	1.1	82
26	Measurement of brain tissue oxygen at a carbon paste electrode can serve as an index of increases in regional cerebral blood flow. <i>Journal of Neuroscience Methods</i> , 1997, 71, 177-182.	1.3	75
27	Extracellular glucose turnover in the striatum of unanaesthetized rats measured by quantitative microdialysis. <i>Journal of Physiology</i> , 1997, 504, 721-726.	1.3	74
28	Cooperative anion binding and electrochemical sensing by modular podands. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 5001-5006.	3.3	74
29	An amperometric enzyme electrode for monitoring brain glucose in the freely moving rat. <i>Neuroscience Letters</i> , 1986, 72, 283-288.	1.0	73
30	The determination of the extracellular concentration of brain glutamate using quantitative microdialysis. <i>Brain Research</i> , 1996, 707, 131-133.	1.1	71
31	Rapid changes in striatal ascorbate in response to tail-pinch monitored by constant potential voltammetry. <i>Neuroscience</i> , 1989, 30, 11-17.	1.1	70
32	Practical Methods for Noise Removal: Applications to Spikes, Nonstationary Quasi-Periodic Noise, and Baseline Drift. <i>Analytical Chemistry</i> , 2009, 81, 4987-4994.	3.2	70
33	The role of N-methyl-D-aspartate receptors in the regulation of physiologically released dopamine. <i>Neuroscience</i> , 1995, 65, 767-774.	1.1	66
34	Continuous Online Microdialysis Using Microfluidic Sensors: Dynamic Neurometabolic Changes during Spreading Depolarization. <i>ACS Chemical Neuroscience</i> , 2013, 4, 799-807.	1.7	65
35	A Role for Astrocytes in Glucose Delivery to Neurons?. <i>Developmental Neuroscience</i> , 1996, 18, 360-370.	1.0	61
36	In vivo neurochemical effects of tail pinch. <i>Journal of Neuroscience Methods</i> , 1990, 34, 151-157.	1.3	59

#	ARTICLE	IF	CITATIONS
37	Simultaneous monitoring of potassium, glucose and lactate during spreading depolarization in the injured human brain – Proof of principle of a novel real-time neurochemical analysis system, continuous online microdialysis. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2017, 37, 1883-1895.	2.4	58
38	Effects of an angiogenic benzodiazepine receptor ligand on motor activity and dopamine release in nucleus accumbens and striatum in the rat. <i>Journal of Neuroscience</i> , 1987, 7, 2917-2926.	1.7	57
39	Characterization of carbon paste electrodes in vitro for simultaneous amperometric measurement of changes in oxygen and ascorbic acid concentrations in vivo. <i>Analyst</i> , 1996, 121, 761.	1.7	53
40	ATP microelectrode biosensor for stable long-term in vitro monitoring from gastrointestinal tissue. <i>Biosensors and Bioelectronics</i> , 2011, 26, 2890-2896.	5.3	52
41	Resolving dynamic changes in brain metabolism using biosensors and on-line microdialysis. <i>TrAC - Trends in Analytical Chemistry</i> , 2003, 22, 487-497.	5.8	49
42	Use of Rapid Sampling Microdialysis for Intraoperative Monitoring of Bowel Ischemia. <i>Diseases of the Colon and Rectum</i> , 2008, 51, 1408-1413.	0.7	43
43	Anomalously High Concentrations of Brain Extracellular Uric Acid Detected with Chronically Implanted Probes: Implications for In Vivo Sampling Techniques. <i>Journal of Neurochemistry</i> , 1991, 57, 22-29.	2.1	42
44	Dynamic Changes in Glucose and Lactate in the Cortex of the Freely Moving Rat Monitored Using Microdialysis. <i>Journal of Neurochemistry</i> , 2002, 75, 1703-1708.	2.1	41
45	Real-Time Clinical Monitoring of Biomolecules. <i>Annual Review of Analytical Chemistry</i> , 2013, 6, 427-453.	2.8	40
46	Which Spreading Depolarizations Are Deleterious To Brain Tissue?. <i>Neurocritical Care</i> , 2020, 32, 317-322.	1.2	40
47	3D printed microfluidic device for online detection of neurochemical changes with high temporal resolution in human brain microdialysate. <i>Lab on A Chip</i> , 2019, 19, 2038-2048.	3.1	38
48	Fiber-Based Electrochemical Biosensors for Monitoring pH and Transient Neurometabolic Lactate. <i>Analytical Chemistry</i> , 2021, 93, 6646-6655.	3.2	38
49	Development and comparison of biosensors for in-vivo applications. <i>Faraday Discussions</i> , 2000, 116, 291-303.	1.6	36
50	What Should a Clinician Do When Spreading Depolarizations are Observed in a Patient?. <i>Neurocritical Care</i> , 2020, 32, 306-310.	1.2	36
51	Complementary Metal-Oxide Semiconductor Potentiometric Field-Effect Transistor Array Platform Using Sensor Learning for Multi-ion Imaging. <i>Analytical Chemistry</i> , 2020, 92, 5276-5285.	3.2	34
52	Development of pancreatic machine perfusion: translational steps from porcine to human models. <i>Journal of Surgical Research</i> , 2018, 223, 263-274.	0.8	33
53	Application Of Rapid-Sampling, Online Microdialysis To The Monitoring Of Brain Metabolism During Aneurysm Surgery. <i>Operative Neurosurgery</i> , 2006, 58, ONS-313-ONS-321.	0.4	31
54	Online rapid sampling microdialysis (rsMD) using enzyme-based electroanalysis for dynamic detection of ischaemia during free flap reconstructive surgery. <i>Analytical and Bioanalytical Chemistry</i> , 2013, 405, 3881-3888.	1.9	31

#	ARTICLE	IF	CITATIONS
55	Organ Pretreatment With Cytotoxic Endothelial Localizing Peptides to Ameliorate Microvascular Thrombosis and Perfusion Deficits in Ex Vivo Renal Hemoreperfusion Models. <i>Transplantation</i> , 2016, 100, e128-e139.	0.5	31
56	Chemical Monitoring in Clinical Settings: Recent Developments toward Real-Time Chemical Monitoring of Patients. <i>Analytical Chemistry</i> , 2018, 90, 2-18.	3.2	31
57	Measurement of Electrophysiological Signals In Vitro Using High-Performance Organic Electrochemical Transistors. <i>Advanced Functional Materials</i> , 2021, 31, 2007086.	7.8	30
58	Treatment of Critical Care Patients with Substantial Acute Ischemic or Traumatic Brain Injury. <i>Critical Care Medicine</i> , 2005, 33, 2147-2149.	0.4	28
59	Detection of Spreading Depolarization with Intraparenchymal Electrodes in the Injured Human Brain. <i>Neurocritical Care</i> , 2014, 20, 21-31.	1.2	28
60	High-Performance Bioinstrumentation for Real-Time Neuroelectrochemical Traumatic Brain Injury Monitoring. <i>Frontiers in Human Neuroscience</i> , 2016, 10, 212.	1.0	28
61	Optimisation of a microfluidic analysis chamber for the placement of microelectrodes. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 5298.	1.3	26
62	ATP-Sensitive Potassium Channels and Local Energy Demands in the Rat Hippocampus: An In Vivo Study. <i>Journal of Neurochemistry</i> , 1993, 61, 949-954.	2.1	25
63	The rise and fall of fasciculations in amyotrophic lateral sclerosis. <i>Brain Communications</i> , 2020, 2, fcaa018.	1.5	25
64	Portable Microfluidic Biosensing System for Real-Time Analysis of Microdialysate in Transplant Kidneys. <i>Analytical Chemistry</i> , 2019, 91, 14631-14638.	3.2	24
65	Clinical translation of microfluidic sensor devices: focus on calibration and analytical robustness. <i>Lab on A Chip</i> , 2019, 19, 2537-2548.	3.1	23
66	Dopamine in the basal ganglia and benzodiazepine-induced sedation. <i>Neuropharmacology</i> , 1988, 27, 589-595.	2.0	22
67	Enhancing Continuous Online Microdialysis Using Dexamethasone: Measurement of Dynamic Neurometabolic Changes during Spreading Depolarization. <i>ACS Chemical Neuroscience</i> , 2017, 8, 1779-1788.	1.7	22
68	Effects of Changes in Rat Brain Glucose on Serotonergic and Noradrenergic Neurons. <i>European Journal of Neuroscience</i> , 1995, 7, 175-179.	1.2	21
69	An ion imaging ISFET array for Potassium and Sodium detection. , 2016, , .		21
70	Striatal Ascorbate and its Relationship to Dopamine Receptor Stimulation and Motor Activity. <i>European Journal of Neuroscience</i> , 1991, 3, 940-946.	1.2	20
71	Rapid sampling microdialysis as a novel tool for parenchyma assessment during static cold storage and hypothermic machine perfusion in a translational ex vivo porcine kidney model. <i>Journal of Surgical Research</i> , 2016, 200, 332-345.	0.8	20
72	The effects of anxiolytic and anxiogenic benzodiazepine receptor ligands on motor activity and levels of ascorbic acid in the nucleus accumbens and striatum of the rat. <i>Neuropharmacology</i> , 1989, 28, 509-514.	2.0	12

#	ARTICLE	IF	CITATIONS
73	Quadrature Synthetic Aperture Beamforming Front-End for Miniaturized Ultrasound Imaging. IEEE Transactions on Biomedical Circuits and Systems, 2018, 12, 871-883.	2.7	12
74	Glutamate infusion coupled with hypoxia has a neuroprotective effect in the rat. Journal of Neuroscience Methods, 2002, 119, 129-133.	1.3	11
75	A High-Performance Application Specific Integrated Circuit for Electrical and Neurochemical Traumatic Brain Injury Monitoring. ChemPhysChem, 2018, 19, 1215-1225.	1.0	11
76	High temporal resolution delayed analysis of clinical microdialysate streams. Analyst, The, 2018, 143, 715-724.	1.7	11
77	Extended (10-Day) Real-Time Monitoring by Dexamethasone-Enhanced Microdialysis in the Injured Rat Cortex. ACS Chemical Neuroscience, 2019, 10, 3521-3531.	1.7	11
78	Randomized blinded trial of automated REBOA during CPR in a porcine model of cardiac arrest. Resuscitation, 2021, 160, 39-48.	1.3	11
79	Use of online rapid sampling microdialysis electrochemical biosensor for bowel anastomosis monitoring in swine model. Analytical Methods, 2011, 3, 2010.	1.3	9
80	An ex vivo comparison of adenosine and lidocaine solution and University of Wisconsin solution for hypothermic machine perfusion of porcine kidneys: potential for development. Journal of Surgical Research, 2017, 208, 219-229.	0.8	9
81	Real-time neurochemical measurement of dynamic metabolic events during cardiac arrest and resuscitation in a porcine model. Analyst, The, 2020, 145, 1894-1902.	1.7	9
82	Organic Electrochemical Transistor Common-Source Amplifier for Electrophysiological Measurements. Advanced Functional Materials, 2021, 31, 2103385.	7.8	9
83	Biosensors and Invasive Monitoring in Clinical Applications. SpringerBriefs in Applied Sciences and Technology, 2013, , .	0.2	9
84	Effect of diazepam on behaviour and associated changes in ascorbate concentration in rat brain areas: striatum, n. accumbens and hippocampus. Psychopharmacology, 1990, 100, 230-236.	1.5	8
85	An improved rapid sampling microdialysis system for human and porcine organ monitoring in a hospital setting. Analytical Methods, 2018, 10, 5273-5281.	1.3	8
86	Real-time detection of carboplatin using a microfluidic system. Analyst, The, 2016, 141, 6270-6277.	1.7	7
87	Clinical value of bioelectrical properties of cancerous tissue in advanced epithelial ovarian cancer patients. Scientific Reports, 2018, 8, 14695.	1.6	7
88	Non-invasive measurement of fasciculation frequency demonstrates diagnostic accuracy in amyotrophic lateral sclerosis. Brain Communications, 2020, 2, fcaa141.	1.5	7
89	First-recruited motor units adopt a faster phenotype in amyotrophic lateral sclerosis. Journal of Physiology, 2021, 599, 4117-4130.	1.3	7
90	Development of a disposable bile acid biosensor for use in the management of cholestasis. Analytical Methods, 2015, 7, 3714-3719.	1.3	6

#	ARTICLE	IF	CITATIONS
91	Traumatic brain injury neuroelectrochemical monitoring: behind-the-ear micro-instrument and cloud application. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2020, 17, 114.	2.4	6
92	Fasciculation analysis reveals a novel parameter that correlates with predicted survival in amyotrophic lateral sclerosis. <i>Muscle and Nerve</i> , 2021, 63, 392-396.	1.0	6
93	Lactate monitoring in droplet microfluidics: a cautionary tale in assay miniaturisation. <i>Analytical Methods</i> , 2019, 11, 6119-6123.	1.3	4
94	Fasciculations demonstrate daytime consistency in amyotrophic lateral sclerosis. <i>Muscle and Nerve</i> , 2020, 61, 745-750.	1.0	4
95	Development and Evaluation of a Method for Automated Detection of Spreading Depolarizations in the Injured Human Brain. <i>Neurocritical Care</i> , 2021, 35, 160-175.	1.2	4
96	Novel technologies in the treatment and monitoring of advanced and relapsed epithelial ovarian cancer. <i>Convergent Science Physical Oncology</i> , 2017, 3, 013002.	2.6	2
97	Comparison of synthetic aperture architectures for miniaturised ultrasound imaging front-ends. <i>BioMedical Engineering OnLine</i> , 2018, 17, 83.	1.3	2
98	Validation of Dexamethasone-Enhanced Continuous-Online Microdialysis for Monitoring Glucose for 10 Days after Brain Injury. <i>ACS Chemical Neuroscience</i> , 2021, 12, 3588-3597.	1.7	2
99	A LoC Ion Imaging Platform for Spatio-Temporal Characterisation of Ion-Selective Membranes. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2022, 16, 545-556.	2.7	2
100	Measurements of bowel microdialysis recovery with an online biosensor system. , 2011, , .		1
101	Live demonstration: Real-time chemical imaging of ionic solutions using an ISFET array. , 2017, , .		1
102	Analytical science in neurochemistry. <i>Analyst, The</i> , 2020, 145, 3774-3775.	1.7	1
103	Accurate interpretation of fasciculation frequency in amyotrophic lateral sclerosis hinges on both muscle type and stage of disease. <i>Brain Communications</i> , 2020, 2, fcaa189.	1.5	1
104	A novel electrolytic titrator design - Coating platinum cathodes with an electron sink using Nafion® and hexaammineruthenium (III). <i>Electrochemistry Communications</i> , 2016, 73, 50-54.	2.3	0
105	Live Demonstration : A Portable Multi-Ion Platform with Integrated Microfluidics. , 2019, , .		0
106	The military applications of physiological sensors. <i>Trauma</i> , 2019, 21, 3-5.	0.2	0
107	Response to Stevens et al. Glucose Dynamics of Cortical Spreading Depolarization in Acute Brain Injury: A Systematic Review (DOI: 10.1089/neu.2018.6175). <i>Journal of Neurotrauma</i> , 2020, 37, 1266-1267.	1.7	0
108	Initial evidence for peri-infarct depolarization or cortical spreading depression as a cause of neurological deterioration in patients with subarachnoid haemorrhage. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2005, 25, S116-S116.	2.4	0

#	ARTICLE	IF	CITATIONS
109	The application of rapid-sampling, on-line microdialysis to intraoperative brain monitoring during aneurysm surgery. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2005, 25, S565-S565.	2.4	0
110	REAL TIME NEUROCHEMICAL MONITORING USING MICRODIALYSIS. , 2017, , 71-94.		0