

# Stephane Arbault

## List of Publications by Year in descending order

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89  
papers

4,268  
citations

94381

37  
h-index

114418

63  
g-index

101  
all docs

101  
docs citations

101  
times ranked

3446  
citing authors

#	ARTICLE	IF	CITATIONS
1	Electrochemical Monitoring of Single Cell Secretion: Vesicular Exocytosis and Oxidative Stress. <i>Chemical Reviews</i> , 2008, 108, 2585-2621.	23.0	354
2	Single Cell Electrochemiluminescence Imaging: From the Proof-of-Concept to Disposable Device-Based Analysis. <i>Journal of the American Chemical Society</i> , 2017, 139, 16830-16837.	6.6	221
3	Surface-Confined Electrochemiluminescence Microscopy of Cell Membranes. <i>Journal of the American Chemical Society</i> , 2018, 140, 14753-14760.	6.6	221
4	Mapping electrogenerated chemiluminescence reactivity in space: mechanistic insight into model systems used in immunoassays. <i>Chemical Science</i> , 2014, 5, 2568-2572.	3.7	182
5	Electrochemiluminescence Imaging for Bioanalysis. <i>Annual Review of Analytical Chemistry</i> , 2019, 12, 275-295.	2.8	165
6	Monitoring in Real Time with a Microelectrode the Release of Reactive Oxygen and Nitrogen Species by a Single Macrophage Stimulated by its Membrane Mechanical Depolarization. <i>ChemBioChem</i> , 2006, 7, 653-661.	1.3	147
7	Monitoring an oxidative stress mechanism at a single human fibroblast. <i>Analytical Chemistry</i> , 1995, 67, 3382-3390.	3.2	131
8	Glutamatergic Control of Microvascular Tone by Distinct GABA Neurons in the Cerebellum. <i>Journal of Neuroscience</i> , 2006, 26, 6997-7006.	1.7	119
9	Characterization of the Electrochemical Oxidation of Peroxynitrite: Relevance to Oxidative Stress Bursts Measured at the Single Cell Level. <i>Chemistry - A European Journal</i> , 2001, 7, 4171-4179.	1.7	116
10	Formation of reactive nitrogen species including peroxynitrite in physiological buffer exposed to cold atmospheric plasma. <i>RSC Advances</i> , 2016, 6, 78457-78467.	1.7	114
11	Real-time Amperometric Analysis of Reactive Oxygen and Nitrogen Species Released by Single Immunostimulated Macrophages. <i>ChemBioChem</i> , 2008, 9, 1472-1480.	1.3	92
12	Simultaneous Detection of Reactive Oxygen and Nitrogen Species Released by a Single Macrophage by Triple Potential-Step Chronoamperometry. <i>Analytical Chemistry</i> , 2010, 82, 1411-1419.	3.2	89
13	Correlation between Vesicle Quantal Size and Fusion Pore Release in Chromaffin Cell Exocytosis. <i>Biophysical Journal</i> , 2005, 88, 4411-4420.	0.2	86
14	Coupling of Electrochemistry and Fluorescence Microscopy at Indium Tin Oxide Microelectrodes for the Analysis of Single Exocytotic Events. <i>Angewandte Chemie - International Edition</i> , 2006, 45, 4000-4003.	7.2	82
15	Regulation of Exocytosis in Chromaffin Cells by Trans-Insertion of Lysophosphatidylcholine and Arachidonic Acid into the Outer Leaflet of the Cell Membrane. <i>ChemBioChem</i> , 2006, 7, 1998-2003.	1.3	81
16	Electrochemical detection in a microfluidic device of oxidative stress generated by macrophage cells. <i>Lab on A Chip</i> , 2007, 7, 233-238.	3.1	80
17	Analysis of individual biochemical events based on artificial synapses using ultramicroelectrodes: cellular oxidative burst. <i>Faraday Discussions</i> , 2000, 116, 319-333.	1.6	76
18	Generation of electrochemiluminescence at bipolar electrodes: concepts and applications. <i>Analytical and Bioanalytical Chemistry</i> , 2016, 408, 7003-7011.	1.9	73

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19	3D electrogenerated chemiluminescence: from surface-confined reactions to bulk emission. <i>Chemical Science</i> , 2015, 6, 4433-4437.	3.7	72
20	Electrochemiluminescent swimmers for dynamic enzymatic sensing. <i>Chemical Communications</i> , 2014, 50, 10202-10205.	2.2	71
21	Coupling Amperometry and Total Internal Reflection Fluorescence Microscopy at ITO Surfaces for Monitoring Exocytosis of Single Vesicles. <i>Angewandte Chemie - International Edition</i> , 2011, 50, 5081-5084.	7.2	68
22	Finding Out Egyptian Godsâ€™ Secret Using Analytical Chemistry: Biomedical Properties of Egyptian Black Makeup Revealed by Amperometry at Single Cells. <i>Analytical Chemistry</i> , 2010, 82, 457-460.	3.2	67
23	Nitric Oxide Release during Evoked Neuronal Activity in Cerebellum Slices: Detection with Platinized Carbon-Fiber Microelectrodes. <i>ChemPhysChem</i> , 2006, 7, 181-187.	1.0	66
24	Shadow Electrochemiluminescence Microscopy of Single Mitochondria. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 18742-18749.	7.2	63
25	A Sensitive Electrochemiluminescence Immunosensor for Celiac Disease Diagnosis Based on Nanoelectrode Ensembles. <i>Analytical Chemistry</i> , 2015, 87, 12080-12087.	3.2	62
26	Mechanistic insights into the impact of Cold Atmospheric Pressure Plasma on human epithelial cell lines. <i>Scientific Reports</i> , 2017, 7, 41163.	1.6	62
27	Oxidative stress in cancer prone xeroderma pigmentosum fibroblasts. Real-time and single cell monitoring of superoxide and nitric oxide production with microelectrodes. <i>Carcinogenesis</i> , 2003, 25, 509-515.	1.3	57
28	Correlations between gaseous and liquid phase chemistries induced by cold atmospheric plasmas in a physiological buffer. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 9198-9210.	1.3	56
29	Dual Enzymatic Detection by Bulk Electrogenerated Chemiluminescence. <i>Analytical Chemistry</i> , 2016, 88, 6585-6592.	3.2	49
30	Microscopic imaging and tuning of electrogenerated chemiluminescence with boron-doped diamond nanoelectrode arrays. <i>Analytical and Bioanalytical Chemistry</i> , 2016, 408, 7085-7094.	1.9	49
31	Coupling Electrochemistry with Fluorescence Confocal Microscopy To Investigate Electrochemical Reactivity: A Case Study with the Resazurin-Resorufin Fluorogenic Couple. <i>Analytical Chemistry</i> , 2016, 88, 6292-6300.	3.2	47
32	Striking Inflammation from Both Sides: Manganese(II) Pentaazamacrocyclic SOD Mimics Act Also as Nitric Oxide Dismutases: A Single-Cell Study. <i>Angewandte Chemie - International Edition</i> , 2010, 49, 4228-4232.	7.2	46
33	Spatially-resolved multicolor bipolar electrochemiluminescence. <i>Electrochemistry Communications</i> , 2017, 77, 10-13.	2.3	45
34	Dynamics of Full Fusion During Vesicular Exocytotic Events: Release of Adrenaline by Chromaffin Cells. <i>ChemPhysChem</i> , 2003, 4, 147-154.	1.0	44
35	Relationship between amperometric pre-spike feet and secretion granule composition in Chromaffin cells: An overview. <i>Biophysical Chemistry</i> , 2007, 129, 181-189.	1.5	43
36	Oxidative modification and electrochemical inactivation of <i>Escherichia coli</i> upon cold atmospheric pressure plasma exposure. <i>PLoS ONE</i> , 2017, 12, e0173618.	1.1	43

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37	Amplification of the Inflammatory Cellular Redox State by Human Immunodeficiency Virus Type 1-Immunosuppressive Tat and gp160 Proteins. <i>Journal of Virology</i> , 1999, 73, 1447-1452.	1.5	40
38	Comparison of apex and bottom secretion efficiency at chromaffin cells as measured by amperometry. <i>Biophysical Chemistry</i> , 2007, 127, 165-171.	1.5	39
39	Quantitative investigations of amperometric spike feet suggest different controlling factors of the fusion pore in exocytosis at chromaffin cells. <i>Biophysical Chemistry</i> , 2009, 143, 124-131.	1.5	36
40	Vesicular Exocytosis under Hypotonic Conditions Shows Two Distinct Populations of Dense Core Vesicles in Bovine Chromaffin Cells. <i>ChemPhysChem</i> , 2007, 8, 578-585.	1.0	31
41	In situ electrochemical monitoring of reactive oxygen and nitrogen species released by single MG63 osteosarcoma cell submitted to a mechanical stress. <i>Physical Chemistry Chemical Physics</i> , 2010, 12, 10048.	1.3	29
42	Enhanced Detection of Hydrogen Peroxide with Platinized Microelectrode Arrays for Analyses of Mitochondria Activities. <i>Electrochimica Acta</i> , 2014, 126, 171-178.	2.6	29
43	Angeli's Salt (Na <sub>2</sub> N <sub>2</sub> O <sub>3</sub> ) is a Precursor of HNO and NO: a Voltammetric Study of the Reactive Intermediates Released by Angeli's Salt Decomposition. <i>ChemMedChem</i> , 2007, 2, 898-903.	1.6	28
44	Guiding pancreatic beta cells to target electrodes in a whole-cell biosensor for diabetes. <i>Lab on a Chip</i> , 2015, 15, 3880-3890.	3.1	28
45	Vitamin C stimulates or attenuates reactive oxygen and nitrogen species (ROS, RNS) production depending on cell state: Quantitative amperometric measurements of oxidative bursts at PLB-985 and RAW 264.7 cells at the single cell level. <i>Journal of Electroanalytical Chemistry</i> , 2008, 615, 34-44.	1.9	26
46	Ex vivo Activities of Î²-â€œLapachone and Î±-â€œLapachone on Macrophages: A Quantitative Pharmacological Analysis Based on Amperometric Monitoring of Oxidative Bursts by Single Cells. <i>ChemBioChem</i> , 2009, 10, 528-538.	1.3	26
47	Invariance of Exocytotic Events Detected by Amperometry as a Function of the Carbon Fiber Microelectrode Diameter. <i>Analytical Chemistry</i> , 2009, 81, 3087-3093.	3.2	26
48	Direct oxidative pathway from amplex red to resorufin revealed by in situ confocal imaging. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 25817-25822.	1.3	26
49	Electrochemical Monitoring of the Early Events of Hydrogen Peroxide Production by Mitochondria. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 6655-6658.	7.2	22
50	Dual-Color Electrogenerated Chemiluminescence from Dispersions of Conductive Microbeads Addressed by Bipolar Electrochemistry. <i>ChemElectroChem</i> , 2016, 3, 404-409.	1.7	22
51	Electroformation of phospholipid giant unilamellar vesicles in physiological phosphate buffer. <i>Integrative Biology (United Kingdom)</i> , 2018, 10, 429-434.	0.6	22
52	Selective electrochemiluminescent sensing of saccharides using boronic acid-modified coreactant. <i>Chemical Communications</i> , 2016, 52, 12845-12848.	2.2	20
53	Triangulation Mapping of Oxidative Bursts Released by Single Fibroblasts by Amperometry at Microelectrodes. <i>Analytical Chemistry</i> , 2008, 80, 9635-9641.	3.2	19
54	Pro-oxidant Properties of AZT and other Thymidine Analogues in Macrophages: Implication of the Azido Moiety in Oxidative Stress. <i>ChemMedChem</i> , 2010, 5, 296-301.	1.6	19

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55	Chemo- and Magnetotaxis of Self-Propelled Light-Emitting Chemo-electronic Swimmers. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 7508-7513.	7.2	17
56	Full-Spectral Multiplexing of Bioluminescence Resonance Energy Transfer in Three TRPV Channels. <i>Biophysical Journal</i> , 2017, 112, 87-98.	0.2	16
57	Oxygen Plasma Treatment of Platinized Ultramicroelectrodes Increases Sensitivity for Hydrogen Peroxide Detection on Mitochondria. <i>Electroanalysis</i> , 2013, 25, 656-663.	1.5	15
58	Concerted activities of nitric oxide synthases and NADPH oxidases in PLB-985 cells. <i>Biochemical and Biophysical Research Communications</i> , 2007, 361, 493-498.	1.0	14
59	The Nature and Efficiency of Neurotransmitter Exocytosis also Depend on Physicochemical Parameters. <i>ChemPhysChem</i> , 2007, 8, 1597-1605.	1.0	14
60	A snapshot of the electrochemical reaction layer by using 3 dimensionally resolved fluorescence mapping. <i>Chemical Science</i> , 2018, 9, 6622-6628.	3.7	14
61	Dynamic Electrochemiluminescence Imaging of Single Giant Liposome Opening at Polarized Electrodes. <i>Analytical Chemistry</i> , 2022, 94, 1686-1696.	3.2	14
62	Modelling release of nitric oxide in a slice of rat's brain: describing stimulated functional hyperemia with diffusion-reaction equations. <i>Mathematical Medicine and Biology</i> , 2006, 23, 27-44.	0.8	13
63	Microwell array integrating nanoelectrodes for coupled opto-electrochemical monitorings of single mitochondria. <i>Biosensors and Bioelectronics</i> , 2019, 126, 672-678.	5.3	13
64	Reactive Oxygen Species Generated by Cold Atmospheric Plasmas in Aqueous Solution: Successful Electrochemical Monitoring in Situ under a High Voltage System. <i>Analytical Chemistry</i> , 2019, 91, 8002-8007.	3.2	12
65	Remote Actuation of a Light-Emitting Device Based on Magnetic Stirring and Wireless Electrochemistry. <i>ChemPhysChem</i> , 2020, 21, 600-604.	1.0	12
66	pK <sub>a</sub> tuning in quadrupolar-type two-photon ratiometric fluorescent membrane probes. <i>Chemical Communications</i> , 2015, 51, 15245-15248.	2.2	11
67	Double remote electrochemical addressing and optical readout of electrochemiluminescence at the tip of an optical fiber. <i>Analyst</i> , 2016, 141, 4299-4304.	1.7	11
68	Shadow Electrochemiluminescence Microscopy of Single Mitochondria. <i>Angewandte Chemie</i> , 2021, 133, 18890-18897.	1.6	11
69	Prediction of Local pH Variations during Amperometric Monitoring of Vesicular Exocytotic Events at Chromaffin Cells. <i>ChemPhysChem</i> , 2010, 11, 2931-2941.	1.0	10
70	PDMS microwells for multi-parametric monitoring of single mitochondria on a large scale: a study of their individual membrane potential and endogenous NADH. <i>Integrative Biology (United Kingdom)</i> , 2016, 8, 836-843.	0.6	10
71	Deciphering the Platinized Surface Reactivity to Improve the Detection of Hydrogen Peroxide in Bioanalyses. <i>ChemElectroChem</i> , 2016, 3, 2288-2296.	1.7	10
72	Monitoring Metabolic Responses of Single Mitochondria within Poly(dimethylsiloxane) Wells: Study of Their Endogenous Reduced Nicotinamide Adenine Dinucleotide Evolution. <i>Analytical Chemistry</i> , 2013, 85, 5146-5152.	3.2	9

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73	Optical microwell array for large scale studies of single mitochondria metabolic responses. <i>Analytical and Bioanalytical Chemistry</i> , 2014, 406, 931-941.	1.9	8
74	Dynamic monitoring of a bi-enzymatic reaction at a single biomimetic giant vesicle. <i>Analyst, The</i> , 2020, 145, 7922-7931.	1.7	8
75	Applications of Electrogenerated Chemiluminescence in Analytical Chemistry. , 2017, , 257-291.		6
76	Dual microelectrodes decorated with nanotip arrays: Fabrication, characterization and spectroelectrochemical sensing. <i>Electrochimica Acta</i> , 2019, 328, 135105.	2.6	6
77	Direct Sensing of Superoxide and Its Relatives Reactive Oxygen and Nitrogen Species in Phosphate Buffers during Cold Atmospheric Plasmas Exposures. <i>Analytical Chemistry</i> , 2022, 94, 5555-5565.	3.2	6
78	Electroanalysis at a Single Giant Vesicle Generating Enzymatically a Reactive Oxygen Species. <i>Analytical Chemistry</i> , 2021, 93, 13143-13151.	3.2	5
79	Electrochemical Study of Pharmacological Activity at Single Cells: Beta-lapachone Effect on Oxidative Stress of Macrophages. <i>ECS Transactions</i> , 2007, 3, 3-11.	0.3	3
80	Activation of the TRPV1 Thermoreceptor Induced by Modulated or Unmodulated 1800 MHz Radiofrequency Field Exposure. <i>Radiation Research</i> , 2017, 189, 95.	0.7	3
81	Electroactivity of Superoxide Anion in Aqueous Phosphate Buffers Analyzed with Platinized Microelectrodes. <i>Electroanalysis</i> , 2021, 33, 882-890.	1.5	3
82	Optical Microwell Arrays for Large-Scale Studies of Single Mitochondria Metabolic Responses. <i>Methods in Molecular Biology</i> , 2015, 1264, 47-58.	0.4	3
83	Effects of 50â€‰Hz magnetic fields on gap junctional intercellular communication in NIH3T3 cells. <i>Bioelectromagnetics</i> , 2015, 36, 287-293.	0.9	2
84	Toward the Analysis of Mitochondria Isolated from Leukemic Cells with Electrochemically Instrumented Microwell Arrays. <i>Proceedings (mdpi)</i> , 2017, 1, .	0.2	2
85	Impacts of vesicular environment on Nox2 activity measurements in vitro. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2021, 1865, 129767.	1.1	2
86	Nano-structured optical fiber bundles for remote SPR detection: a first step toward in vivo biomolecular analysis. , 2017, , .		1
87	Ultramicroelectrodes: Their Use in Semi-Artificial Synapses. , 1998, , 409-412.		0
88	Single-Particle Tracking Method in Fluorescence Microscopy to Monitor Bioenergetic Responses of Individual Mitochondria. <i>Methods in Molecular Biology</i> , 2021, 2276, 153-163.	0.4	0
89	Microwell Array Based Optoâ€‰Electrochemical Detections Revealing Coâ€‰Adaptation of Rheological Properties and Oxygen Metabolism in Budding Yeast. <i>Advanced Biology</i> , 2021, 5, e2100484.	1.4	0