

# Laura Ballerini

## List of Publications by Citations

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98  
papers

8,376  
citations

38  
h-index

91  
g-index

108  
ext. papers

9,477  
ext. citations

8  
avg, IF

5.49  
L-index

#	Paper	IF	Citations
98	Science and technology roadmap for graphene, related two-dimensional crystals, and hybrid systems. <i>Nanoscale</i> , <b>2015</b> , 7, 4598-810	7.7	2015
97	Diverse Applications of Nanomedicine. <i>ACS Nano</i> , <b>2017</b> , 11, 2313-2381	16.7	714
96	Carbon nanotube substrates boost neuronal electrical signaling. <i>Nano Letters</i> , <b>2005</b> , 5, 1107-10	11.5	546
95	Carbon nanotubes might improve neuronal performance by favouring electrical shortcuts. <i>Nature Nanotechnology</i> , <b>2009</b> , 4, 126-33	28.7	428
94	Nanomaterials for Neural Interfaces. <i>Advanced Materials</i> , <b>2009</b> , 21, 3970-4004	24	422
93	Safety Assessment of Graphene-Based Materials: Focus on Human Health and the Environment. <i>ACS Nano</i> , <b>2018</b> , 12, 10582-10620	16.7	292
92	Classification framework for graphene-based materials. <i>Angewandte Chemie - International Edition</i> , <b>2014</b> , 53, 7714-8	16.4	287
91	Interfacing neurons with carbon nanotubes: electrical signal transfer and synaptic stimulation in cultured brain circuits. <i>Journal of Neuroscience</i> , <b>2007</b> , 27, 6931-6	6.6	282
90	Carbon nanotubes promote growth and spontaneous electrical activity in cultured cardiac myocytes. <i>Nano Letters</i> , <b>2012</b> , 12, 1831-8	11.5	175
89	Graphene-Based Interfaces Do Not Alter Target Nerve Cells. <i>ACS Nano</i> , <b>2016</b> , 10, 615-23	16.7	172
88	Glutamate uptake from the synaptic cleft does not shape the decay of the non-NMDA component of the synaptic current. <i>Neuron</i> , <b>1993</b> , 11, 541-9	13.9	156
87	Spontaneous rhythmic bursts induced by pharmacological block of inhibition in lumbar motoneurons of the neonatal rat spinal cord. <i>Journal of Neurophysiology</i> , <b>1996</b> , 75, 640-7	3.2	134
86	Carbon nanotube scaffolds tune synaptic strength in cultured neural circuits: novel frontiers in nanomaterial-tissue interactions. <i>Journal of Neuroscience</i> , <b>2011</b> , 31, 12945-53	6.6	132
85	Localization of rhythmogenic networks responsible for spontaneous bursts induced by strychnine and bicuculline in the rat isolated spinal cord. <i>Journal of Neuroscience</i> , <b>1996</b> , 16, 7063-76	6.6	128
84	Serotonin blocks the long-term potentiation induced by primed burst stimulation in the CA1 region of rat hippocampal slices. <i>Neuroscience</i> , <b>1992</b> , 46, 511-8	3.9	125
83	Spinal cord explants use carbon nanotube interfaces to enhance neurite outgrowth and to fortify synaptic inputs. <i>ACS Nano</i> , <b>2012</b> , 6, 2041-55	16.7	112
82	Carbon nanotubes in neuroregeneration and repair. <i>Advanced Drug Delivery Reviews</i> , <b>2013</b> , 65, 2034-44	18.5	111

81	From 2D to 3D: novel nanostructured scaffolds to investigate signalling in reconstructed neuronal networks. <i>Scientific Reports</i> , <b>2015</b> , 5, 9562	4.9	105
80	Graphene Oxide Nanosheets Reshape Synaptic Function in Cultured Brain Networks. <i>ACS Nano</i> , <b>2016</b> , 10, 4459-71	16.7	101
79	Carbon nanotubes instruct physiological growth and functionally mature syncytia: nongenetic engineering of cardiac myocytes. <i>ACS Nano</i> , <b>2013</b> , 7, 5746-56	16.7	92
78	Carbon nanotubes: artificial nanomaterials to engineer single neurons and neuronal networks. <i>ACS Chemical Neuroscience</i> , <b>2012</b> , 3, 611-8	5.7	85
77	Properties and behavior of carbon nanomaterials when interfacing neuronal cells: How far have we come?. <i>Carbon</i> , <b>2019</b> , 143, 430-446	10.4	80
76	Single-layer graphene modulates neuronal communication and augments membrane ion currents. <i>Nature Nanotechnology</i> , <b>2018</b> , 13, 755-764	28.7	78
75	3D meshes of carbon nanotubes guide functional reconnection of segregated spinal explants. <i>Science Advances</i> , <b>2016</b> , 2, e1600087	14.3	66
74	Pharmacological block of the electrogenic sodium pump disrupts rhythmic bursting induced by strychnine and bicuculline in the neonatal rat spinal cord. <i>Journal of Neurophysiology</i> , <b>1997</b> , 77, 17-23	3.2	62
73	Carbon Nanotubes Carrying Cell-Adhesion Peptides do not Interfere with Neuronal Functionality. <i>Advanced Materials</i> , <b>2009</b> , 21, 2903-2908	24	60
72	Graphene Improves the Biocompatibility of Polyacrylamide Hydrogels: 3D Polymeric Scaffolds for Neuronal Growth. <i>Scientific Reports</i> , <b>2017</b> , 7, 10942	4.9	59
71	Spinal circuits formation: a study of developmentally regulated markers in organotypic cultures of embryonic mouse spinal cord. <i>Neuroscience</i> , <b>2003</b> , 122, 391-405	3.9	54
70	Nanomaterials for stimulating nerve growth. <i>Science</i> , <b>2017</b> , 356, 1010-1011	33.3	53
69	Opposite changes in synaptic activity of organotypic rat spinal cord cultures after chronic block of AMPA/kainate or glycine and GABAA receptors. <i>Journal of Physiology</i> , <b>2000</b> , 523 Pt 3, 639-51	3.9	52
68	Generation of rhythmic patterns of activity by ventral interneurons in rat organotypic spinal slice culture. <i>Journal of Physiology</i> , <b>1999</b> , 517 ( Pt 2), 459-75	3.9	51
67	Early signs of motoneuron vulnerability in a disease model system: Characterization of transverse slice cultures of spinal cord isolated from embryonic ALS mice. <i>Neuroscience</i> , <b>2006</b> , 138, 1179-94	3.9	50
66	Carbon nanotube scaffolds instruct human dendritic cells: modulating immune responses by contacts at the nanoscale. <i>Nano Letters</i> , <b>2013</b> , 13, 6098-105	11.5	49
65	Adhesion to carbon nanotube conductive scaffolds forces action-potential appearance in immature rat spinal neurons. <i>PLoS ONE</i> , <b>2013</b> , 8, e73621	3.7	49
64	ERG conductance expression modulates the excitability of ventral horn GABAergic interneurons that control rhythmic oscillations in the developing mouse spinal cord. <i>Journal of Neuroscience</i> , <b>2007</b> , 27, 919-28	6.6	46

63	Improving cardiac myocytes performance by carbon nanotubes platforms. <i>Frontiers in Physiology</i> , <b>2013</b> , 4, 239	4.6	44
62	PEDOT:PSS Interfaces Support the Development of Neuronal Synaptic Networks with Reduced Neuroglia Response In vitro. <i>Frontiers in Neuroscience</i> , <b>2015</b> , 9, 521	5.1	41
61	Interactions Between Cultured Neurons and Carbon Nanotubes: A Nanoneuroscience Vignette. <i>Journal of Nanoneuroscience</i> , <b>2009</b> , 1, 10-16		40
60	GABAergic and glycinergic interneuron expression during spinal cord development: dynamic interplay between inhibition and excitation in the control of ventral network outputs. <i>Progress in Neurobiology</i> , <b>2009</b> , 89, 46-60	10.9	38
59	Network bursting by organotypic spinal slice cultures in the presence of bicuculline and/or strychnine is developmentally regulated. <i>European Journal of Neuroscience</i> , <b>1998</b> , 10, 2871-9	3.5	38
58	Nanomaterials at the neural interface. <i>Current Opinion in Neurobiology</i> , <b>2018</b> , 50, 50-55	7.6	37
57	Desensitization of AMPA receptors limits the amplitude of EPSPs and the excitability of motoneurons of the rat isolated spinal cord. <i>European Journal of Neuroscience</i> , <b>1995</b> , 7, 1229-34	3.5	34
56	Activity-dependent modulation of GABAergic synapses in developing rat spinal networks in vitro. <i>European Journal of Neuroscience</i> , <b>2002</b> , 16, 2123-35	3.5	32
55	Carbon nanotubes: a promise for nerve tissue engineering?. <i>Nanotechnology Reviews</i> , <b>2013</b> , 2, 47-57	6.3	29
54	Interneurons transiently express the ERG K <sup>+</sup> channels during development of mouse spinal networks in vitro. <i>Neuroscience</i> , <b>2005</b> , 135, 1179-92	3.9	29
53	Experimental and modeling studies of novel bursts induced by blocking na <sup>(+)</sup> pump and synaptic inhibition in the rat spinal cord. <i>Journal of Neurophysiology</i> , <b>2002</b> , 88, 676-91	3.2	28
52	Carbon based substrates for interfacing neurons: Comparing pristine with functionalized carbon nanotubes effects on cultured neuronal networks. <i>Carbon</i> , <b>2016</b> , 97, 87-91	10.4	26
51	Graphene Oxide Flakes Tune Excitatory Neurotransmission in Vivo by Targeting Hippocampal Synapses. <i>Nano Letters</i> , <b>2019</b> , 19, 2858-2870	11.5	26
50	Neurons are able to internalize soluble carbon nanotubes: new opportunities or old risks?. <i>Small</i> , <b>2010</b> , 6, 2630-3	11	26
49	Interneurone bursts are spontaneously associated with muscle contractions only during early phases of mouse spinal network development: a study in organotypic cultures. <i>European Journal of Neuroscience</i> , <b>2004</b> , 20, 2697-710	3.5	26
48	Advances in Nano Neuroscience: From Nanomaterials to Nanotools. <i>Frontiers in Neuroscience</i> , <b>2018</b> , 12, 953	5.1	25
47	Carbon nanotube facilitation of myocardial ablation with radiofrequency energy. <i>Journal of Cardiovascular Electrophysiology</i> , <b>2014</b> , 25, 1385-90	2.7	23
46	Activity-independent intracellular Ca <sup>2+</sup> oscillations are spontaneously generated by ventral spinal neurons during development in vitro. <i>Cell Calcium</i> , <b>2007</b> , 41, 317-29	4	23

45	Homeostatic plasticity induced by chronic block of AMPA/kainate receptors modulates the generation of rhythmic bursting in rat spinal cord organotypic cultures. <i>European Journal of Neuroscience</i> , <b>2001</b> , 14, 903-17	3.5	22
44	Antagonism by (1,2,5,6-tetrahydropyridine-4-yl) methylphosphinic acid of synaptic transmission in the neonatal rat spinal cord in vitro: an electrophysiological study. <i>Neuroscience</i> , <b>1999</b> , 90, 1085-92	3.9	22
43	EPSP-spike potentiation during primed burst-induced long-term potentiation in the CA1 region of rat hippocampal slices. <i>Neuroscience</i> , <b>1994</b> , 62, 1021-32	3.9	22
42	Sculpting neurotransmission during synaptic development by 2D nanostructured interfaces. <i>Nanomedicine: Nanotechnology, Biology, and Medicine</i> , <b>2018</b> , 14, 2521-2532	6	21
41	Carbon nanotubes in tissue engineering. <i>Topics in Current Chemistry</i> , <b>2014</b> , 348, 181-204		21
40	Interfacing neurons with carbon nanotubes: (re)engineering neuronal signaling. <i>Progress in Brain Research</i> , <b>2011</b> , 194, 241-52	2.9	20
39	3D Organotypic Spinal Cultures: Exploring Neuron and Neuroglia Responses Upon Prolonged Exposure to Graphene Oxide. <i>Frontiers in Systems Neuroscience</i> , <b>2019</b> , 13, 1	3.5	19
38	Exploiting natural polysaccharides to enhance in vitro bio-constructs of primary neurons and progenitor cells. <i>Acta Biomaterialia</i> , <b>2018</b> , 73, 285-301	10.8	19
37	Attenuated Glial Reactivity on Topographically Functionalized Poly(3,4-Ethylenedioxythiophene):P-Toluene Sulfonate (PEDOT:PTS) Neuroelectrodes Fabricated by Microimprint Lithography. <i>Small</i> , <b>2018</b> , 14, e1800863	11	18
36	Nanostructures to Engineer 3D Neural-Interfaces: Directing Axonal Navigation toward Successful Bridging of Spinal Segments. <i>Advanced Functional Materials</i> , <b>2018</b> , 28, 1700550	15.6	17
35	BDNF impact on synaptic dynamics: extra or intracellular long-term release differently regulates cultured hippocampal synapses. <i>Molecular Brain</i> , <b>2020</b> , 13, 43	4.5	15
34	Chemically Cross-Linked Carbon Nanotube Films Engineered to Control Neuronal Signaling. <i>ACS Nano</i> , <b>2019</b> , 13, 8879-8889	16.7	15
33	Altered development in GABA co-release shapes glycinergic synaptic currents in cultured spinal slices of the SOD1(G93A) mouse model of amyotrophic lateral sclerosis. <i>Journal of Physiology</i> , <b>2016</b> , 594, 3827-40	3.9	14
32	Preparation of Cytocompatible ITO Neuroelectrodes with Enhanced Electrochemical Characteristics Using a Facile Anodic Oxidation Process. <i>Advanced Functional Materials</i> , <b>2018</b> , 28, 1605035	15.6	12
31	The patterns of spontaneous Ca <sup>2+</sup> signals generated by ventral spinal neurons in vitro show time-dependent refinement. <i>European Journal of Neuroscience</i> , <b>2009</b> , 29, 1543-59	3.5	10
30	Nanomaterial/neuronal hybrid system for functional recovery of the CNS. <i>Drug Discovery Today: Disease Models</i> , <b>2008</b> , 5, 37-43	1.3	10
29	Tuning Neuronal Circuit Formation in 3D Polymeric Scaffolds by Introducing Graphene at the Bio/Material Interface. <i>Advanced Biology</i> , <b>2020</b> , 4, e1900233	3.5	8
28	Successful Regrowth of Retinal Neurons When Cultured Interfaced to Carbon Nanotube Platforms. <i>Journal of Biomedical Nanotechnology</i> , <b>2017</b> , 13, 559-565	4	8

27	Electrophysiological interactions between 5-hydroxytryptamine and thyrotropin releasing hormone on rat hippocampal CA1 neurons. <i>European Journal of Neuroscience</i> , <b>1994</b> , 6, 953-60	3.5	8
26	Functional rewiring across spinal injuries via biomimetic nanofiber scaffolds. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2020</b> , 117, 25212-25218	11.5	8
25	Bridging pro-inflammatory signals, synaptic transmission and protection in spinal explants in vitro. <i>Molecular Brain</i> , <b>2018</b> , 11, 3	4.5	6
24	Rahmenbedingungen für die Klassifizierung graphenbasierter Materialien. <i>Angewandte Chemie</i> , <b>2014</b> , 126, 7846-7850	3.6	6
23	Transparent carbon nanotubes promote the outgrowth of enthorino-dentate projections in lesioned organ slice cultures. <i>Developmental Neurobiology</i> , <b>2020</b> , 80, 316-331	3.2	6
22	Bilirubin disrupts calcium homeostasis in neonatal hippocampal neurons: a new pathway of neurotoxicity. <i>Archives of Toxicology</i> , <b>2020</b> , 94, 845-855	5.8	5
21	Hybrid Interfaces Made of Nanotubes and Backbone-Altered Dipeptides Tune Neuronal Network Architecture. <i>ACS Chemical Neuroscience</i> , <b>2020</b> , 11, 162-172	5.7	5
20	Interfacing Neurons with Nanostructured Electrodes Modulates Synaptic Circuit Features. <i>Advanced Biology</i> , <b>2020</b> , 4, e2000117	3.5	5
19	Cytokine inflammatory threat, but not LPS one, shortens GABAergic synaptic currents in the mouse spinal cord organotypic cultures. <i>Journal of Neuroinflammation</i> , <b>2019</b> , 16, 127	10.1	4
18	Electrical Stimulation Able to Trigger Locomotor Spinal Circuits Also Induces Dorsal Horn Activity. <i>Neuromodulation</i> , <b>2016</b> , 19, 38-46	3.1	4
17	Graphene-Based Nanomaterials for Neuroengineering: Recent Advances and Future Prospective. <i>Advanced Functional Materials</i> , <b>2021</b> , 31, 2104887	15.6	4
16	Thin graphene oxide nanoflakes modulate glutamatergic synapses in the amygdala cultured circuits: Exploiting synaptic approaches to anxiety disorders. <i>Nanomedicine: Nanotechnology, Biology, and Medicine</i> , <b>2020</b> , 26, 102174	6	3
15	Graphene oxide prevents lateral amygdala dysfunctional synaptic plasticity and reverts long lasting anxiety behavior in rats. <i>Biomaterials</i> , <b>2021</b> , 271, 120749	15.6	3
14	Polystyrene Nanopillars with Inbuilt Carbon Nanotubes Enable Synaptic Modulation and Stimulation in Interfaced Neuronal Networks. <i>Advanced Materials Interfaces</i> , <b>2021</b> , 8, 2002121	4.6	3
13	Nanomedicine and graphene-based materials: advanced technologies for potential treatments of diseases in the developing nervous system. <i>Pediatric Research</i> , <b>2021</b> ,	3.2	3
12	Foxg1 Upregulation Enhances Neocortical Activity. <i>Cerebral Cortex</i> , <b>2020</b> , 30, 5147-5165	5.1	2
11	7.32 Engineering the Neural Interface <b>2017</b> , 642-660		2
10	Bridging multiple levels of exploration: towards a neuroengineering-based approach to physiological and pathological problems in neuroscience. <i>Frontiers in Neuroscience</i> , <b>2008</b> , 2, 24-5	5.1	2

9	Diverse inflammatory threats modulate astrocytes Ca signaling via connexin43 hemichannels in organotypic spinal slices. <i>Molecular Brain</i> , <b>2021</b> , 14, 159	4.5	2
8	Optimization of Organotypic Cultures of Mouse Spleen for Staining and Functional Assays. <i>Frontiers in Immunology</i> , <b>2020</b> , 11, 471	8.4	2
7	Infrared Nanospectroscopy of Individual Extracellular Microvesicles. <i>Molecules</i> , <b>2021</b> , 26,	4.8	2
6	Carbon Nanotubes as Electrical Interfaces to Neurons. <i>Fundamental Biomedical Technologies</i> , <b>2012</b> , 187-207		1
5	Network bursting by organotypic spinal slice cultures in the presence of bicuculline and/or strychnine is developmentally regulated <b>1998</b> , 10, 2871		1
4	Shedding plasma membrane vesicles induced by graphene oxide nanoflakes in brain cultured astrocytes. <i>Carbon</i> , <b>2021</b> , 176, 458-469	10.4	1
3	Foetal neural progenitors contribute to postnatal circuits formation ex vivo: an electrophysiological investigation. <i>Molecular Brain</i> , <b>2020</b> , 13, 78	4.5	
2	Insights into medio-lateral signalling in the developing mouse hindbrain: properties of midline drivers of network activity. <i>Journal of Physiology</i> , <b>2009</b> , 587, 5007	3.9	
1	Nanostructures to Potentiate Axon Navigation and Regrowth in the Damaged Central Nervous Tissue <b>2022</b> , 79-97		