

Quentin Barraud

List of Publications by Year in descending order

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Version: 2024-02-01

91
papers

12,494
citations

41344

49
h-index

53230

85
g-index

98
all docs

98
docs citations

98
times ranked

9617
citing authors

#	ARTICLE	IF	CITATIONS
1	Wireless closed-loop optogenetics across the entire dorsoventral spinal cord in mice. <i>Nature Biotechnology</i> , 2022, 40, 198-208.	17.5	48
2	Activity-dependent spinal cord neuromodulation rapidly restores trunk and leg motor functions after complete paralysis. <i>Nature Medicine</i> , 2022, 28, 260-271.	30.7	174
3	Preclinical upper limb neurorobotic platform to assess, rehabilitate, and develop therapies. <i>Science Robotics</i> , 2022, 7, eabk2378.	17.6	7
4	Epidural electrical stimulation of the cervical dorsal roots restores voluntary upper limb control in paralyzed monkeys. <i>Nature Neuroscience</i> , 2022, 25, 924-934.	14.8	30
5	Cell type prioritization in single-cell data. <i>Nature Biotechnology</i> , 2021, 39, 30-34.	17.5	96
6	Introducing a biomimetic coating for graphene neuroelectronics: toward in-vivo applications. <i>Biomedical Physics and Engineering Express</i> , 2021, 7, 015006.	1.2	3
7	Neuroprosthetic baroreflex controls haemodynamics after spinal cord injury. <i>Nature</i> , 2021, 590, 308-314.	27.8	96
8	Recruitment of upper-limb motoneurons with epidural electrical stimulation of the cervical spinal cord. <i>Nature Communications</i> , 2021, 12, 435.	12.8	92
9	Multi-pronged neuromodulation intervention engages the residual motor circuitry to facilitate walking in a rat model of spinal cord injury. <i>Nature Communications</i> , 2021, 12, 1925.	12.8	35
10	MRI-compatible and Conformal Electrocorticography Grids for Translational Research. <i>Advanced Science</i> , 2021, 8, 2003761.	11.2	33
11	Meeting Proceedings for SCI 2020: Launching a Decade of Disruption in Spinal Cord Injury Research. <i>Journal of Neurotrauma</i> , 2021, 38, 1251-1266.	3.4	14
12	Prioritization of cell types responsive to biological perturbations in single-cell data with Augur. <i>Nature Protocols</i> , 2021, 16, 3836-3873.	12.0	22
13	Elezanumab, a human anti-RGMA monoclonal antibody, promotes neuroprotection, neuroplasticity, and neurorecovery following a thoracic hemicompression spinal cord injury in non-human primates. <i>Neurobiology of Disease</i> , 2021, 155, 105385.	4.4	14
14	Enabling reproducible re-analysis of single-cell data. <i>Genome Biology</i> , 2021, 22, 215.	8.8	9
15	Confronting false discoveries in single-cell differential expression. <i>Nature Communications</i> , 2021, 12, 5692.	12.8	332
16	Engineering spinal cord repair. <i>Current Opinion in Biotechnology</i> , 2021, 72, 48-53.	6.6	18
17	Optogenetic Interrogation of Circuits Following Neurotrauma. <i>Frontiers in Molecular Neuroscience</i> , 2021, 14, 803856.	2.9	0
18	Structured nanoscale metallic glass fibres with extreme aspect ratios. <i>Nature Nanotechnology</i> , 2020, 15, 875-882.	31.5	59

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19	Guidelines to Study and Develop Soft Electrode Systems for Neural Stimulation. <i>Neuron</i> , 2020, 108, 238-258.	8.1	49
20	Soft, Implantable Bioelectronic Interfaces for Translational Research. <i>Advanced Materials</i> , 2020, 32, e1906512.	21.0	67
21	Soft Printable Electrode Coating for Neural Interfaces. <i>ACS Applied Bio Materials</i> , 2020, 3, 4388-4397.	4.6	33
22	Monolayer Graphene Coating of Intracortical Probes for Long-Lasting Neural Activity Monitoring. <i>Advanced Healthcare Materials</i> , 2019, 8, e1801331.	7.6	25
23	Neurorestorative interventions involving bioelectronic implants after spinal cord injury. <i>Bioelectronic Medicine</i> , 2019, 5, 10.	2.3	22
24	Low-Dimensional Motor Cortex Dynamics Preserve Kinematics Information During Unconstrained Locomotion in Nonhuman Primates. <i>Frontiers in Neuroscience</i> , 2019, 13, 1046.	2.8	14
25	Spinal cord repair: advances in biology and technology. <i>Nature Medicine</i> , 2019, 25, 898-908.	30.7	323
26	Cbp-dependent histone acetylation mediates axon regeneration induced by environmental enrichment in rodent spinal cord injury models. <i>Science Translational Medicine</i> , 2019, 11, .	12.4	79
27	Advantages of soft subdural implants for the delivery of electrochemical neuromodulation therapies to the spinal cord. <i>Journal of Neural Engineering</i> , 2018, 15, 026024.	3.5	41
28	Closed-loop control of trunk posture improves locomotion through the regulation of leg proprioceptive feedback after spinal cord injury. <i>Scientific Reports</i> , 2018, 8, 76.	3.3	30
29	Cortico-“reticulo”-spinal circuit reorganization enables functional recovery after severe spinal cord contusion. <i>Nature Neuroscience</i> , 2018, 21, 576-588.	14.8	228
30	Selective Recruitment of Arm Motoneurons in Nonhuman Primates Using Epidural Electrical Stimulation of the Cervical Spinal Cord. , 2018, 2018, 1424-1427.		10
31	Long-term functionality of a soft electrode array for epidural spinal cord stimulation in a minipig model. , 2018, 2018, 1432-1435.		8
32	Targeted neurotechnology restores walking in humans with spinal cord injury. <i>Nature</i> , 2018, 563, 65-71.	27.8	708
33	Electrical spinal cord stimulation must preserve proprioception to enable locomotion in humans with spinal cord injury. <i>Nature Neuroscience</i> , 2018, 21, 1728-1741.	14.8	247
34	Configuration of electrical spinal cord stimulation through real-time processing of gait kinematics. <i>Nature Protocols</i> , 2018, 13, 2031-2061.	12.0	96
35	Reducing neuronal inhibition restores locomotion in paralysed mice. <i>Nature</i> , 2018, 561, 317-318.	27.8	2
36	Required growth facilitators propel axon regeneration across complete spinal cord injury. <i>Nature</i> , 2018, 561, 396-400.	27.8	341

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37	Inhaling xenon ameliorates <scp>l</scp>â€dopaâ€induced dyskinesia in experimental parkinsonism. <i>Movement Disorders</i> , 2018, 33, 1632-1642.	3.9	15
38	Brain-controlled modulation of spinal circuits improves recovery from spinal cord injury. <i>Nature Communications</i> , 2018, 9, 3015.	12.8	108
39	Rehabilitative Soft Exoskeleton for Rodents. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2017, 25, 107-118.	4.9	12
40	Long-term usability and bio-integration of polyimide-based intra-neural stimulating electrodes. <i>Biomaterials</i> , 2017, 122, 114-129.	11.4	132
41	Biodegradable scaffolds promote tissue remodeling and functional improvement in non-human primates with acute spinal cord injury. <i>Biomaterials</i> , 2017, 123, 63-76.	11.4	75
42	A multidirectional gravity-assist algorithm that enhances locomotor control in patients with stroke or spinal cord injury. <i>Science Translational Medicine</i> , 2017, 9, .	12.4	42
43	A Computational Framework for the Design of Spinal Neuroprostheses. <i>Biosystems and Biorobotics</i> , 2017, , 23-27.	0.3	0
44	Engagement of the Rat Hindlimb Motor Cortex across Natural Locomotor Behaviors. <i>Journal of Neuroscience</i> , 2016, 36, 10440-10455.	3.6	60
45	A brainâ€spine interface alleviating gait deficits after spinal cord injury in primates. <i>Nature</i> , 2016, 539, 284-288.	27.8	492
46	Materials and technologies for soft implantable neuroprostheses. <i>Nature Reviews Materials</i> , 2016, 1, .	48.7	485
47	A neurobotic platform for locomotor prosthetic development in rats and mice. <i>Journal of Neural Engineering</i> , 2016, 13, 026007.	3.5	12
48	Spatiotemporal neuromodulation therapies engaging muscle synergies improve motor control after spinal cord injury. <i>Nature Medicine</i> , 2016, 22, 138-145.	30.7	274
49	Mechanisms Underlying the Neuromodulation of Spinal Circuits for Correcting Gait and Balance Deficits after Spinal Cord Injury. <i>Neuron</i> , 2016, 89, 814-828.	8.1	144
50	Influence of Spinal Cord Integrity on Gait Control in Human Spinal Cord Injury. <i>Neurorehabilitation and Neural Repair</i> , 2016, 30, 562-572.	2.9	23
51	Electronic dura mater for long-term multimodal neural interfaces. <i>Science</i> , 2015, 347, 159-163.	12.6	845
52	Neuroprosthetic technologies to augment the impact of neurorehabilitation after spinal cord injury. <i>Annals of Physical and Rehabilitation Medicine</i> , 2015, 58, 232-237.	2.3	26
53	Defining Ecological Strategies in Neuroprosthetics. <i>Neuron</i> , 2015, 86, 29-33.	8.1	27
54	Lack of additive role of ageing in nigrostriatal neurodegeneration triggered by Î±-synuclein overexpression. <i>Acta Neuropathologica Communications</i> , 2015, 3, 46.	5.2	88

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55	Pronounced species divergence in corticospinal tract reorganization and functional recovery after lateralized spinal cord injury favors primates. <i>Science Translational Medicine</i> , 2015, 7, 302ra134.	12.4	148
56	Research Update: Platinum-elastomer mesocomposite as neural electrode coating. <i>APL Materials</i> , 2015, 3, .	5.1	29
57	Muscle Spindle Feedback Directs Locomotor Recovery and Circuit Reorganization after Spinal Cord Injury. <i>Cell</i> , 2014, 159, 1626-1639.	28.9	257
58	Wireless Neurosensor for Full-Spectrum Electrophysiology Recordings during Free Behavior. <i>Neuron</i> , 2014, 84, 1170-1182.	8.1	200
59	Closed-loop neuromodulation of spinal sensorimotor circuits controls refined locomotion after complete spinal cord injury. <i>Science Translational Medicine</i> , 2014, 6, 255ra133.	12.4	170
60	Corticospinal neuroprostheses to restore locomotion after spinal cord injury. <i>Neuroscience Research</i> , 2014, 78, 21-29.	1.9	47
61	D1 receptor agonist improves sleep-wake parameters in experimental parkinsonism. <i>Neurobiology of Disease</i> , 2014, 63, 20-24.	4.4	37
62	Personalized Neuroprosthetics. <i>Science Translational Medicine</i> , 2013, 5, 210rv2.	12.4	141
63	Soft robot for gait rehabilitation of spinalized rodents. , 2013, , .		23
64	Brain-machine interface: closer to therapeutic reality?. <i>Lancet, The</i> , 2013, 381, 515-517.	18.7	32
65	Multisystem Neuroprosthetic Training Improves Bladder Function After Severe Spinal Cord Injury. <i>Journal of Urology</i> , 2013, 189, 747-753.	0.4	28
66	A Computational Model for Epidural Electrical Stimulation of Spinal Sensorimotor Circuits. <i>Journal of Neuroscience</i> , 2013, 33, 19326-19340.	3.6	320
67	Undirected compensatory plasticity contributes to neuronal dysfunction after severe spinal cord injury. <i>Brain</i> , 2013, 136, 3347-3361.	7.6	102
68	A real-time platform for studying the modulatory capacity of epidural stimulation after spinal cord injury. , 2013, , .		0
69	Methods for Functional Assessment After C7 Spinal Cord Hemisection in the Rhesus Monkey. <i>Neurorehabilitation and Neural Repair</i> , 2012, 26, 556-569.	2.9	43
70	Response to Comment on "Restoring Voluntary Control of Locomotion After Paralyzing Spinal Cord Injury" • <i>Science</i> , 2012, 338, 328-328.	12.6	11
71	Versatile robotic interface to evaluate, enable and train locomotion and balance after neuromotor disorders. <i>Nature Medicine</i> , 2012, 18, 1142-1147.	30.7	94
72	Animal Models of Neurologic Disorders: A Nonhuman Primate Model of Spinal Cord Injury. <i>Neurotherapeutics</i> , 2012, 9, 380-392.	4.4	80

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73	Restoring Voluntary Control of Locomotion after Paralyzing Spinal Cord Injury. <i>Science</i> , 2012, 336, 1182-1185.	12.6	701
74	Multi-system neurorehabilitative strategies to restore motor functions following severe spinal cord injury. <i>Experimental Neurology</i> , 2012, 235, 100-109.	4.1	57
75	Controlling Specific Locomotor Behaviors through Multidimensional Monoaminergic Modulation of Spinal Circuitries. <i>Journal of Neuroscience</i> , 2011, 31, 9264-9278.	3.6	132
76	Extensive spontaneous plasticity of corticospinal projections after primate spinal cord injury. <i>Nature Neuroscience</i> , 2010, 13, 1505-1510.	14.8	346
77	Neuroanatomical Study of the A11 Diencephalospinal Pathway in the Non-Human Primate. <i>PLoS ONE</i> , 2010, 5, e13306.	2.5	82
78	Metabolic activity of the subthalamic nucleus in a primate model of L-Dopa-unresponsive parkinsonism. <i>Neurological Research</i> , 2010, 32, 1050-1053.	1.3	2
79	Transformation of nonfunctional spinal circuits into functional states after the loss of brain input. <i>Nature Neuroscience</i> , 2009, 12, 1333-1342.	14.8	620
80	Sleep disorders in Parkinson's disease: The contribution of the MPTP non-human primate model. <i>Experimental Neurology</i> , 2009, 219, 574-582.	4.1	124
81	Combinatory Electrical and Pharmacological Neuroprosthetic Interfaces to Regain Motor Function After Spinal Cord Injury. <i>IEEE Transactions on Biomedical Engineering</i> , 2009, 56, 2707-2711.	4.2	42
82	Recovery of supraspinal control of stepping via indirect propriospinal relay connections after spinal cord injury. <i>Nature Medicine</i> , 2008, 14, 69-74.	30.7	690
83	Training locomotor networks. <i>Brain Research Reviews</i> , 2008, 57, 241-254.	9.0	268
84	Step Training Reinforces Specific Spinal Locomotor Circuitry in Adult Spinal Rats. <i>Journal of Neuroscience</i> , 2008, 28, 7370-7375.	3.6	157
85	Epidural Stimulation Induced Modulation of Spinal Locomotor Networks in Adult Spinal Rats. <i>Journal of Neuroscience</i> , 2008, 28, 6022-6029.	3.6	147
86	Stance- and Locomotion-Dependent Processing of Vibration-Induced Proprioceptive Inflow From Multiple Muscles in Humans. <i>Journal of Neurophysiology</i> , 2007, 97, 772-779.	1.8	87
87	Can experiments in nonhuman primates expedite the translation of treatments for spinal cord injury in humans?. <i>Nature Medicine</i> , 2007, 13, 561-566.	30.7	403
88	Spinal cord reflexes induced by epidural spinal cord stimulation in normal awake rats. <i>Journal of Neuroscience Methods</i> , 2006, 157, 253-263.	2.5	134
89	Plasticity of Spinal Cord Reflexes After a Complete Transection in Adult Rats: Relationship to Stepping Ability. <i>Journal of Neurophysiology</i> , 2006, 96, 1699-1710.	1.8	189
90	Kinematic and EMG Determinants in Quadrupedal Locomotion of a Non-Human Primate (Rhesus). <i>Journal of Neurophysiology</i> , 2005, 93, 3127-3145.	1.8	135

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91	Performance of locomotion and foot grasping following a unilateral thoracic corticospinal tract lesion in monkeys (<i>Macaca mulatta</i>). <i>Brain</i> , 2005, 128, 2338-2358.	7.6	121