

Gregoire Courtine

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

129
papers

9,761
citations

51
h-index

98
g-index

142
ext. papers

12,577
ext. citations

15.3
avg, IF

6.1
L-index

#	Paper	IF	Citations
129	Activity-dependent spinal cord neuromodulation rapidly restores trunk and leg motor functions after complete paralysis.. <i>Nature Medicine</i> , 2022 ,	50.5	12
128	Preclinical upper limb neurorobotic platform to assess, rehabilitate, and develop therapies.. <i>Science Robotics</i> , 2022 , 7, eabk2378	18.6	1
127	Implanted System for Orthostatic Hypotension in Multiple-System Atrophy.. <i>New England Journal of Medicine</i> , 2022 , 386, 1339-1344	59.2	1
126	A Whole-Body Musculoskeletal Model of the Mouse.. <i>IEEE Access</i> , 2021 , 9, 163861-163881	3.5	1
125	Engineering spinal cord repair. <i>Current Opinion in Biotechnology</i> , 2021 , 72, 48-53	11.4	2
124	Intrafascicular peripheral nerve stimulation produces fine functional hand movements in primates. <i>Science Translational Medicine</i> , 2021 , 13, eabg6463	17.5	1
123	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	17.4	7
122	MRI-Compatible and Conformal Electrocorticography Grids for Translational Research. <i>Advanced Science</i> , 2021 , 8, 2003761	13.6	9
121	Wearable Sensor-Based Real-Time Gait Detection: A Systematic Review. <i>Sensors</i> , 2021 , 21,	3.8	26
120	Meeting Proceedings for SCI 2020: Launching a Decade of Disruption in Spinal Cord Injury Research. <i>Journal of Neurotrauma</i> , 2021 , 38, 1251-1266	5.4	4
119	Prioritization of cell types responsive to biological perturbations in single-cell data with Augur. <i>Nature Protocols</i> , 2021 , 16, 3836-3873	18.8	4
118	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	7.5	2
117	Cell type prioritization in single-cell data. <i>Nature Biotechnology</i> , 2021 , 39, 30-34	44.5	27
116	Neuroprosthetic baroreflex controls haemodynamics after spinal cord injury. <i>Nature</i> , 2021 , 590, 308-314	50.4	27
115	Recruitment of upper-limb motoneurons with epidural electrical stimulation of the cervical spinal cord. <i>Nature Communications</i> , 2021 , 12, 435	17.4	31
114	Towards adaptive deep brain stimulation: clinical and technical notes on a novel commercial device for chronic brain sensing. <i>Journal of Neural Engineering</i> , 2021 , 18,	5	10
113	Wireless closed-loop optogenetics across the entire dorsoventral spinal cord in mice. <i>Nature Biotechnology</i> , 2021 ,	44.5	9

112	Neglected physical human-robot interaction may explain variable outcomes in gait neurorehabilitation research. <i>Science Robotics</i> , 2021 , 6, eabf1888	18.6	2
111	Confronting false discoveries in single-cell differential expression. <i>Nature Communications</i> , 2021 , 12, 5692	17.4	21
110	Optogenetic Interrogation of Circuits Following Neurotrauma.. <i>Frontiers in Molecular Neuroscience</i> , 2021 , 14, 803856	6.1	
109	Bioelectronic Interfaces: Soft, Implantable Bioelectronic Interfaces for Translational Research (Adv. Mater. 17/2020). <i>Advanced Materials</i> , 2020 , 32, 2070133	24	2
108	Soft, Implantable Bioelectronic Interfaces for Translational Research. <i>Advanced Materials</i> , 2020 , 32, e1906512	12	38
107	Soft Printable Electrode Coating for Neural Interfaces.. <i>ACS Applied Bio Materials</i> , 2020 , 3, 4388-4397	4.1	17
106	Structured nanoscale metallic glass fibres with extreme aspect ratios. <i>Nature Nanotechnology</i> , 2020 , 15, 875-882	28.7	30
105	Guidelines to Study and Develop Soft Electrode Systems for Neural Stimulation. <i>Neuron</i> , 2020 , 108, 238-258	17	17
104	Introducing a biomimetic coating for graphene neuroelectronics: toward applications.. <i>Biomedical Physics and Engineering Express</i> , 2020 , 7,	1.5	2
103	Spinal cord repair: advances in biology and technology. <i>Nature Medicine</i> , 2019 , 25, 898-908	50.5	161
102	Cbp-dependent histone acetylation mediates axon regeneration induced by environmental enrichment in rodent spinal cord injury models. <i>Science Translational Medicine</i> , 2019 , 11,	17.5	39
101	Monolayer Graphene Coating of Intracortical Probes for Long-Lasting Neural Activity Monitoring. <i>Advanced Healthcare Materials</i> , 2019 , 8, e1801331	10.1	16
100	Neurorestorative interventions involving bioelectronic implants after spinal cord injury. <i>Bioelectronic Medicine</i> , 2019 , 5, 10	5.4	13
99	Low-Dimensional Motor Cortex Dynamics Preserve Kinematics Information During Unconstrained Locomotion in Nonhuman Primates. <i>Frontiers in Neuroscience</i> , 2019 , 13, 1046	5.1	3
98	Development of an Intraneural Peripheral Stimulation Paradigm for the Restoration of Fine Hand Control in Non-human Primates. <i>Biosystems and Biorobotics</i> , 2019 , 112-116	0.2	
97	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	5	30
96	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	4.9	21
95	Cortico-reticulo-spinal circuit reorganization enables functional recovery after severe spinal cord contusion. <i>Nature Neuroscience</i> , 2018 , 21, 576-588	25.5	130

94	Optical cuff for optogenetic control of the peripheral nervous system. <i>Journal of Neural Engineering</i> , 2018 , 15, 015002	5	25
93	Brain-controlled modulation of spinal circuits improves recovery from spinal cord injury. <i>Nature Communications</i> , 2018 , 9, 3015	17.4	61
92	Selective Recruitment of Arm Motoneurons in Nonhuman Primates Using Epidural Electrical Stimulation of the Cervical Spinal Cord. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2018 , 2018, 1424-1427	0.9	6
91	Long-term functionality of a soft electrode array for epidural spinal cord stimulation in a minipig model. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2018 , 2018, 1432-1435	0.9	7
90	Targeted neurotechnology restores walking in humans with spinal cord injury. <i>Nature</i> , 2018 , 563, 65-71	50.4	386
89	Electrical spinal cord stimulation must preserve proprioception to enable locomotion in humans with spinal cord injury. <i>Nature Neuroscience</i> , 2018 , 21, 1728-1741	25.5	138
88	Configuration of electrical spinal cord stimulation through real-time processing of gait kinematics. <i>Nature Protocols</i> , 2018 , 13, 2031-2061	18.8	50
87	Required growth facilitators propel axon regeneration across complete spinal cord injury. <i>Nature</i> , 2018 , 561, 396-400	50.4	184
86	Inhaling xenon ameliorates l-dopa-induced dyskinesia in experimental parkinsonism. <i>Movement Disorders</i> , 2018 , 33, 1632-1642	7	9
85	Rehabilitative Soft Exoskeleton for Rodents. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2017 , 25, 107-118	4.8	11
84	Long-term usability and bio-integration of polyimide-based intra-neural stimulating electrodes. <i>Biomaterials</i> , 2017 , 122, 114-129	15.6	91
83	Biodegradable scaffolds promote tissue remodeling and functional improvement in non-human primates with acute spinal cord injury. <i>Biomaterials</i> , 2017 , 123, 63-76	15.6	58
82	Electronic Dura Mater Meddling in the Central Nervous System. <i>JAMA Neurology</i> , 2017 , 74, 470-475	17.2	14
81	A multidirectional gravity-assist algorithm that enhances locomotor control in patients with stroke or spinal cord injury. <i>Science Translational Medicine</i> , 2017 , 9,	17.5	31
80	A Computational Framework for the Design of Spinal Neuroprostheses. <i>Biosystems and Biorobotics</i> , 2017 , 23-27	0.2	
79	Influence of Spinal Cord Integrity on Gait Control in Human Spinal Cord Injury. <i>Neurorehabilitation and Neural Repair</i> , 2016 , 30, 562-72	4.7	15
78	A brain-spine interface alleviating gait deficits after spinal cord injury in primates. <i>Nature</i> , 2016 , 539, 284-288	50.4	328
77	Materials and technologies for soft implantable neuroprostheses. <i>Nature Reviews Materials</i> , 2016 , 1,	73.3	308

76	A neurobotic platform for locomotor prosthetic development in rats and mice. <i>Journal of Neural Engineering</i> , 2016 , 13, 026007	5	11
75	Spatiotemporal neuromodulation therapies engaging muscle synergies improve motor control after spinal cord injury. <i>Nature Medicine</i> , 2016 , 22, 138-45	50.5	177
74	Mechanisms Underlying the Neuromodulation of Spinal Circuits for Correcting Gait and Balance Deficits after Spinal Cord Injury. <i>Neuron</i> , 2016 , 89, 814-28	13.9	92
73	Multisystem Neurorehabilitation in Rodents with Spinal Cord Injury 2016 , 59-77		0
72	Engagement of the Rat Hindlimb Motor Cortex across Natural Locomotor Behaviors. <i>Journal of Neuroscience</i> , 2016 , 36, 10440-10455	6.6	29
71	Regulation of Posture and Locomotion in Decerebrate and Spinal Animals. <i>Neuroscience and Behavioral Physiology</i> , 2015 , 45, 229-237	0.3	4
70	Neuroprosthetic technologies to augment the impact of neurorehabilitation after spinal cord injury. <i>Annals of Physical and Rehabilitation Medicine</i> , 2015 , 58, 232-237	3.8	22
69	Defining ecological strategies in neuroprosthetics. <i>Neuron</i> , 2015 , 86, 29-33	13.9	23
68	Lack of additive role of ageing in nigrostriatal neurodegeneration triggered by α -synuclein overexpression. <i>Acta Neuropathologica Communications</i> , 2015 , 3, 46	7.3	65
67	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	17.5	99
66	Research Update: Platinum-elastomer mesocomposite as neural electrode coating. <i>APL Materials</i> , 2015 , 3, 014701	5.7	20
65	Leveraging biomedical informatics for assessing plasticity and repair in primate spinal cord injury. <i>Brain Research</i> , 2015 , 1619, 124-38	3.7	12
64	Decoding bipedal locomotion from the rat sensorimotor cortex. <i>Journal of Neural Engineering</i> , 2015 , 12, 056014	5	22
63	Biomaterials. Electronic dura mater for long-term multimodal neural interfaces. <i>Science</i> , 2015 , 347, 159-633	63.3	640
62	Corticospinal neuroprostheses to restore locomotion after spinal cord injury. <i>Neuroscience Research</i> , 2014 , 78, 21-9	2.9	38
61	Development of a database for translational spinal cord injury research. <i>Journal of Neurotrauma</i> , 2014 , 31, 1789-99	5.4	59
60	Muscle spindle feedback directs locomotor recovery and circuit reorganization after spinal cord injury. <i>Cell</i> , 2014 , 159, 1626-39	56.2	175
59	Wireless neurosensor for full-spectrum electrophysiology recordings during free behavior. <i>Neuron</i> , 2014 , 84, 1170-82	13.9	143

58	Closed-loop neuromodulation of spinal sensorimotor circuits controls refined locomotion after complete spinal cord injury. <i>Science Translational Medicine</i> , 2014 , 6, 255ra133	17.5	125
57	Personalized neuroprosthetics. <i>Science Translational Medicine</i> , 2013 , 5, 210rv2	17.5	110
56	Soft robot for gait rehabilitation of spinalized rodents 2013 ,		17
55	Brain-machine interface: closer to therapeutic reality?. <i>Lancet, The</i> , 2013 , 381, 515-7	40	22
54	Multisystem neuroprosthetic training improves bladder function after severe spinal cord injury. <i>Journal of Urology</i> , 2013 , 189, 747-53	2.5	23
53	A computational model for epidural electrical stimulation of spinal sensorimotor circuits. <i>Journal of Neuroscience</i> , 2013 , 33, 19326-40	6.6	193
52	Undirected compensatory plasticity contributes to neuronal dysfunction after severe spinal cord injury. <i>Brain</i> , 2013 , 136, 3347-61	11.2	76
51	Versatile robotic interface to evaluate, enable and train locomotion and balance after neuromotor disorders. <i>Nature Medicine</i> , 2012 , 18, 1142-7	50.5	82
50	Animal models of neurologic disorders: a nonhuman primate model of spinal cord injury. <i>Neurotherapeutics</i> , 2012 , 9, 380-92	6.4	65
49	Restoring voluntary control of locomotion after paralyzing spinal cord injury. <i>Science</i> , 2012 , 336, 1182-5	33.3	536
48	Multi-system neurorehabilitative strategies to restore motor functions following severe spinal cord injury. <i>Experimental Neurology</i> , 2012 , 235, 100-9	5.7	49
47	Methods for functional assessment after C7 spinal cord hemisection in the rhesus monkey. <i>Neurorehabilitation and Neural Repair</i> , 2012 , 26, 556-69	4.7	37
46	Comment on "Restoring voluntary control of locomotion after paralyzing spinal cord injury". <i>Science</i> , 2012 , 338, 328; author reply 328	33.3	10
45	Somatosensory control of balance during locomotion in decerebrated cat. <i>Journal of Neurophysiology</i> , 2012 , 107, 2072-82	3.2	56
44	Multisystem Neurorehabilitation in Rodents with Spinal Cord Injury 2012 , 3-21		
43	Spinal cord injury: time to move. <i>Lancet, The</i> , 2011 , 377, 1896-8	40	29
42	Unconstrained three-dimensional reaching in rhesus monkeys. <i>Experimental Brain Research</i> , 2011 , 209, 35-50	2.3	14
41	Controlling specific locomotor behaviors through multidimensional monoaminergic modulation of spinal circuitries. <i>Journal of Neuroscience</i> , 2011 , 31, 9264-78	6.6	105

40	Extensive spontaneous plasticity of corticospinal projections after primate spinal cord injury. <i>Nature Neuroscience</i> , 2010 , 13, 1505-10	25.5	283
39	Phase-dependent modulation of percutaneously elicited multisegmental muscle responses after spinal cord injury. <i>Journal of Neurophysiology</i> , 2010 , 103, 2808-20	3.2	54
38	Differential effects of anti-Nogo-A antibody treatment and treadmill training in rats with incomplete spinal cord injury. <i>Brain</i> , 2009 , 132, 1426-40	11.2	128
37	Recovery of control of posture and locomotion after a spinal cord injury: solutions staring us in the face. <i>Progress in Brain Research</i> , 2009 , 175, 393-418	2.9	54
36	Transformation of nonfunctional spinal circuits into functional states after the loss of brain input. <i>Nature Neuroscience</i> , 2009 , 12, 1333-42	25.5	508
35	Combinatory electrical and pharmacological neuroprosthetic interfaces to regain motor function after spinal cord injury. <i>IEEE Transactions on Biomedical Engineering</i> , 2009 , 56, 2707-11	5	38
34	Recovery of supraspinal control of stepping via indirect propriospinal relay connections after spinal cord injury. <i>Nature Medicine</i> , 2008 , 14, 69-74	50.5	542
33	Training locomotor networks. <i>Brain Research Reviews</i> , 2008 , 57, 241-54		229
32	Step training reinforces specific spinal locomotor circuitry in adult spinal rats. <i>Journal of Neuroscience</i> , 2008 , 28, 7370-5	6.6	137
31	Epidural stimulation induced modulation of spinal locomotor networks in adult spinal rats. <i>Journal of Neuroscience</i> , 2008 , 28, 6022-9	6.6	111
30	Facilitation of stepping with epidural stimulation in spinal rats: role of sensory input. <i>Journal of Neuroscience</i> , 2008 , 28, 7774-80	6.6	108
29	Asymmetrical after-effects of prism adaptation during goal oriented locomotion. <i>Experimental Brain Research</i> , 2008 , 185, 259-68	2.3	25
28	Epidural spinal cord stimulation plus quipazine administration enable stepping in complete spinal adult rats. <i>Journal of Neurophysiology</i> , 2007 , 98, 2525-36	3.2	108
27	Modulation of multisegmental monosynaptic responses in a variety of leg muscles during walking and running in humans. <i>Journal of Physiology</i> , 2007 , 582, 1125-39	3.9	86
26	Can experiments in nonhuman primates expedite the translation of treatments for spinal cord injury in humans?. <i>Nature Medicine</i> , 2007 , 13, 561-6	50.5	322
25	Stance- and locomotion-dependent processing of vibration-induced proprioceptive inflow from multiple muscles in humans. <i>Journal of Neurophysiology</i> , 2007 , 97, 772-9	3.2	71
24	Coordinated modulation of locomotor muscle synergies constructs straight-ahead and curvilinear walking in humans. <i>Experimental Brain Research</i> , 2006 , 170, 320-35	2.3	66
23	Spinal cord reflexes induced by epidural spinal cord stimulation in normal awake rats. <i>Journal of Neuroscience Methods</i> , 2006 , 157, 253-63	3	101

22	Plasticity of functional connectivity in the adult spinal cord. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2006 , 361, 1635-46	5.8	58
21	Plasticity of spinal cord reflexes after a complete transection in adult rats: relationship to stepping ability. <i>Journal of Neurophysiology</i> , 2006 , 96, 1699-710	3.2	147
20	Performance of locomotion and foot grasping following a unilateral thoracic corticospinal tract lesion in monkeys (<i>Macaca mulatta</i>). <i>Brain</i> , 2005 , 128, 2338-58	11.2	102
19	Kinematic and EMG determinants in quadrupedal locomotion of a non-human primate (Rhesus). <i>Journal of Neurophysiology</i> , 2005 , 93, 3127-45	3.2	111
18	Tuning of a basic coordination pattern constructs straight-ahead and curved walking in humans. <i>Journal of Neurophysiology</i> , 2004 , 91, 1524-35	3.2	122
17	Gait-dependent motor memory facilitation in covert movement execution. <i>Cognitive Brain Research</i> , 2004 , 22, 67-75		50
16	Recovery of the locomotor function after prolonged microgravity exposure. I. Head-trunk movement and locomotor equilibrium during various tasks. <i>Experimental Brain Research</i> , 2004 , 158, 86-99	3.3	21
15	Gait-dependent integration of neck muscle afferent input. <i>NeuroReport</i> , 2003 , 14, 2365-8	1.7	22
14	Human walking along a curved path. I. Body trajectory, segment orientation and the effect of vision. <i>European Journal of Neuroscience</i> , 2003 , 18, 177-90	3.5	198
13	Human walking along a curved path. II. Gait features and EMG patterns. <i>European Journal of Neuroscience</i> , 2003 , 18, 191-205	3.5	134
12	Neck muscle vibration and spatial orientation during stepping in place in humans. <i>Journal of Neurophysiology</i> , 2002 , 88, 2232-41	3.2	102
11	Prolonged exposure to microgravity modifies limb endpoint kinematics during the swing phase of human walking. <i>Neuroscience Letters</i> , 2002 , 332, 70-4	3.3	18
10	Head position during various locomotor executions after prolonged microgravity exposure. <i>Journal of Gravitational Physiology: A Journal of the International Society for Gravitational Physiology</i> , 2002 , 9, P163-4		
9	Continuous, bilateral Achilles' tendon vibration is not detrimental to human walk. <i>Brain Research Bulletin</i> , 2001 , 55, 107-15	3.9	50
8	Résonance de l'effet vibratoire durant la marche humaine. <i>Société de Biologie Journal</i> , 2001 , 195, 443-446		3
7	Cell type prioritization in single-cell data		2
6	Recruitment of Upper-Limb Motoneurons with Epidural Electrical Stimulation of the Primate Cervical Spinal Cord		3
5	Motor cortical dynamics are shaped by multiple distinct subspaces during naturalistic behavior		5

4	Epidural Electrical Stimulation of the Cervical Dorsal Roots Restores Voluntary Arm Control In Paralyzed Monkeys	2
3	Confronting false discoveries in single-cell differential expression	7
2	A Single Cell Atlas of Spared Tissue Below a Spinal Cord Injury Reveals Cellular Mechanisms of Repair	4
1	Principles of gait encoding in the subthalamic nucleus of people with Parkinson's disease	1