Sliman Bensmaia

List of Publications by Year
in descending order

119 papers	8,775 citations	41258 49 h-index	53109 85 g-index
143 all docs	143 docs citations	143 times ranked	4430 citing authors

#	Article	IF	Citations
1	Restoration of sensory information via bionic hands. Nature Biomedical Engineering, 2023, 7, 443-455.	11.6	111
2	The science and engineering behind sensitized brain-controlled bionic hands. Physiological Reviews, 2022, 102, 551-604.	13.1	32
3	Stoney vs. Histed: Quantifying the spatial effects of intracortical microstimulation. Brain Stimulation, 2022, 15, 141-151.	0.7	20
4	Frequency Shapes the Quality of Tactile Percepts Evoked through Electrical Stimulation of the Nerves. Journal of Neuroscience, 2022, 42, 2052-2064.	1.7	20
5	Proprioceptive sensitivity to imposed finger deflections. Journal of Neurophysiology, 2022, 127, 412-420.	0.9	0
6	Intracortical Somatosensory Stimulation to Elicit Fingertip Sensations in an Individual With Spinal Cord Injury. Neurology, 2022, 98, .	1.5	36
7	Texture is encoded in precise temporal spiking patterns in primate somatosensory cortex. Nature Communications, 2022, 13, 1311.	5.8	15
8	Characterizing the short-latency evoked response to intracortical microstimulation across a multi-electrode array. Journal of Neural Engineering, 2022, 19, 026044.	1.8	17
9	Perceived timing of cutaneous vibration and intracortical microstimulation of human somatosensory cortex. Brain Stimulation, 2022, 15, 881-888.	0.7	9
10	Prehension kinematics in humans and macaques. Journal of Neurophysiology, 2022, 127, 1669-1678.	0.9	0
11	Restoring the sense of touch with electrical stimulation of the nerve and brain. , 2021, , 349-378.		2
12	Information about contact force and surface texture is mixed in the firing rates of cutaneous afferent neurons. Journal of Neurophysiology, 2021, 125, 496-508.	0.9	7
13	Of mice and monkeys: Somatosensory processing in two prominent animal models. Progress in Neurobiology, 2021, 201, 102008.	2.8	17
14	Proprioceptive representations of the hand in somatosensory cortex. Current Opinion in Physiology, 2021, 21, 9-16.	0.9	5
15	Encoding of limb state by single neurons in the cuneate nucleus of awake monkeys. Journal of Neurophysiology, 2021, 126, 693-706.	0.9	17
16	The neural mechanisms of manual dexterity. Nature Reviews Neuroscience, 2021, 22, 741-757.	4.9	73
17	Novel intraoperative online functional mapping of somatosensory finger representations for targeted stimulating electrode placement: technical note. Journal of Neurosurgery, 2021, , 1-8.	0.9	14
18	Sensory computations in the cuneate nucleus of macaques. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	21

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19	Intracortical microstimulation of somatosensory cortex enables object identification through perceived sensations. , 2021, 2021, 6259-6262.		12
20	Artificial sensory feedback for bionic hands. , 2020, , 131-145.		6
21	Emergence of an Invariant Representation of Texture in Primate Somatosensory Cortex. Cerebral Cortex, 2020, 30, 3228-3239.	1.6	16
22	Unexpected complexity of everyday manual behaviors. Nature Communications, 2020, 11, 3564.	5.8	31
23	Effect of scanning speed on texture-elicited vibrations. Journal of the Royal Society Interface, 2020, 17, 20190892.	1.5	26
24	Using Bionics to Restore Sensation to Reconstructed Breasts. Frontiers in Neurorobotics, 2020, 14, 24.	1.6	10
25	The frequency of cortical microstimulation shapes artificial touch. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 1191-1200.	3.3	42
26	Chronic Use of a Sensitized Bionic Hand Does Not Remap the Sense of Touch. Cell Reports, 2020, 33, 108539.	2.9	25
27	Decoding hand kinematics from population responses in sensorimotor cortex during grasping. Journal of Neural Engineering, 2020, 17, 046035.	1.8	26
28	A comprehensive model-based framework for optimal design of biomimetic patterns of electrical stimulation for prosthetic sensation. Journal of Neural Engineering, 2020, 17, 046045.	1.8	23
29	Neural population dynamics in motor cortex are different for reach and grasp. ELife, 2020, 9, .	2.8	46
30	The Neural Mechanisms of Touch and Proprioception at the Somatosensory Periphery. , 2020, , 2-27.		2
31	Biomimetic sensory feedback through peripheral nerve stimulation improves dexterous use of a bionic hand. Science Robotics, 2019, 4, .	9.9	244
32	Postural Representations of the Hand in the Primate Sensorimotor Cortex. Neuron, 2019, 104, 1000-1009.e7.	3.8	40
33	Finger Posture and Finger Load are Perceived Independently. Scientific Reports, 2019, 9, 15031.	1.6	7
34	Feeling fooled: Texture contaminates the neural code for tactile speed. PLoS Biology, 2019, 17, e3000431.	2.6	30
35	Neural Coding of Contact Events in Somatosensory Cortex. Cerebral Cortex, 2019, 29, 4613-4627.	1.6	42
36	Rapid geometric feature signaling in the simulated spiking activity of a complete population of tactile nerve fibers. Journal of Neurophysiology, 2019, 121, 2071-2082.	0.9	18

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37	High-dimensional representation of texture in somatosensory cortex of primates. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 3268-3277.	3.3	48
38	Sensory adaptation to electrical stimulation of the somatosensory nerves. Journal of Neural Engineering, 2018, 15, 046002.	1.8	99
39	The Effect of Contact Force on the Responses of Tactile Nerve Fibers to Scanned Textures. Neuroscience, 2018, 389, 99-103.	1.1	15
40	Biomimetic encoding model for restoring touch in bionic hands through a nerve interface. Journal of Neural Engineering, 2018, 15, 066033.	1.8	72
41	Neural Basis of Touch and Proprioception in Primate Cortex. , 2018, 8, 1575-1602.		150
42	Stability of Sensory Topographies in Adult Cortex. Trends in Cognitive Sciences, 2017, 21, 195-204.	4.0	104
43	A Variation Code Accounts for the Perceived Roughness of Coarsely Textured Surfaces. Scientific Reports, 2017, 7, 46699.	1.6	17
44	A computational model that predicts behavioral sensitivity to intracortical microstimulation. Journal of Neural Engineering, 2017, 14, 016012.	1.8	19
45	Methodological considerations for a chronic neural interface with the cuneate nucleus of macaques. Journal of Neurophysiology, 2017, 118, 3271-3281.	0.9	28
46	The neural code for tactile roughness in the somatosensory nerves. Journal of Neurophysiology, 2017, 118, 3107-3117.	0.9	36
47	Speed invariance of tactile texture perception. Journal of Neurophysiology, 2017, 118, 2371-2377.	0.9	33
48	Fingertip skin as a linear medium for wave propagation. , 2017, , .		7
49	Restoring Touch through Intracortical Microstimulation of Human Somatosensory Cortex. , 2017, , .		4
50	Somatic Sensation. Series on Bioengineering and Biomedical Engineering, 2017, , 134-152.	0.1	2
51	Simulating tactile signals from the whole hand with millisecond precision. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E5693-E5702.	3.3	191
52	Haptics in Neuroscience. IEEE Transactions on Haptics, 2016, 9, 443-445.	1.8	0
53	Edge orientation signals in tactile afferents of macaques. Journal of Neurophysiology, 2016, 116, 2647-2655.	0.9	21
54	Robo-Psychophysics: Extracting Behaviorally Relevant Features from the Output of Sensors on a Prosthetic Finger. IEEE Transactions on Haptics, 2016, 9, 499-507.	1.8	10

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55	Importance of spike timing in touch: an analogy with hearing?. Current Opinion in Neurobiology, 2016, 40, 142-149.	2.0	69
56	Feeling form: the neural basis of haptic shape perception. Journal of Neurophysiology, 2016, 115, 631-642.	0.9	66
57	Intracortical microstimulation of human somatosensory cortex. Science Translational Medicine, 2016, 8, 361ra141.	5.8	547
58	The neural basis of perceived intensity in natural and artificial touch. Science Translational Medicine, 2016, 8, 362ra142.	5.8	205
59	Key considerations in designing a somatosensory neuroprosthesis. Journal of Physiology (Paris), 2016, 110, 402-408.	2.1	31
60	Vision is superior to touch in shape perception even with equivalent peripheral input. Journal of Neurophysiology, 2016, 115, 92-99.	0.9	7
61	Long-term stability of sensitivity to intracortical microstimulation of somatosensory cortex. Journal of Neural Engineering, 2015, 12, 056010.	1.8	40
62	Sensitivity to microstimulation of somatosensory cortex distributed over multiple electrodes. Frontiers in Systems Neuroscience, 2015, 9, 47.	1.2	36
63	Seeing and Feeling Motion: Canonical Computations in Vision and Touch. PLoS Biology, 2015, 13, e1002271.	2.6	50
64	The effects of chronic intracortical microstimulation on neural tissue and fine motor behavior. Journal of Neural Engineering, 2015, 12, 066018.	1.8	64
65	Behavioral assessment of sensitivity to intracortical microstimulation of primate somatosensory cortex. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 15202-15207.	3.3	122
66	Steven Hsiao: In Memoriam. Neuron, 2015, 85, 458-461.	3.8	0
67	Kinematics of unconstrained tactile texture exploration. Journal of Neurophysiology, 2015, 113, 3013-3020.	0.9	58
68	Biomimetic approaches to bionic touch through a peripheral nerve interface. Neuropsychologia, 2015, 79, 344-353.	0.7	148
69	Biological and bionic hands: natural neural coding and artificial perception. Philosophical Transactions of the Royal Society B: Biological Sciences, 2015, 370, 20140209.	1.8	56
70	Restoring tactile and proprioceptive sensation through a brain interface. Neurobiology of Disease, 2015, 83, 191-198.	2.1	66
71	Rate and timing of cortical responses driven by separate sensory channels. ELife, 2015, 4, e10450.	2.8	69
72	The neural basis of tactile motion perception. Journal of Neurophysiology, 2014, 112, 3023-3032.	0.9	63

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73	The effect of chronic intracortical microstimulation on the electrodeâ€“tissue interface. Journal of Neural Engineering, 2014, 11, 026004.	1.8	48
74	Touch is a team effort: interplay of submodalities in cutaneous sensibility. Trends in Neurosciences, 2014, 37, 689-697.	4.2	218
75	Natural scenes in tactile texture. Journal of Neurophysiology, 2014, 111, 1792-1802.	0.9	163
76	Restoring sensorimotor function through intracortical interfaces: progress and looming challenges. Nature Reviews Neuroscience, 2014, 15, 313-325.	4.9	304
77	A multi-digit tactile motion stimulator. Journal of Neuroscience Methods, 2014, 226, 80-87.	1.3	13
78	Tactile Feedback from the Hand. Springer Tracts in Advanced Robotics, 2014, , 143-157.	0.3	7
79	Comparing the effects of isoflurane and pentobarbital on the responses of cutaneous mechanoreceptive afferents. BMC Anesthesiology, 2013, 13, 10.	0.7	9
80	Perceptual Spaces: Mathematical Structures to Neural Mechanisms. Journal of Neuroscience, 2013, 33, 17597-17602.	1.7	30
81	Restoring the sense of touch with a prosthetic hand through a brain interface. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 18279-18284.	3.3	286
82	Behavioral Demonstration of a Somatosensory Neuroprosthesis. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2013, 21, 500-507.	2.7	108
83	A simple model of mechanotransduction in primate glabrous skin. Journal of Neurophysiology, 2013, 109, 1350-1359.	0.9	42
84	Multiplexing Stimulus Information through Rate and Temporal Codes in Primate Somatosensory Cortex. PLoS Biology, 2013, 11, e1001558.	2.6	158
85	Spatial and temporal codes mediate the tactile perception of natural textures. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 17107-17112.	3.3	323
86	Millisecond Precision Spike Timing Shapes Tactile Perception. Journal of Neuroscience, 2012, 32, 15309-15317.	1.7	139
87	The Effect of Surface Wave Propagation on Neural Responses to Vibration in Primate Glabrous Skin. PLoS ONE, 2012, 7, e31203.	1.1	94
88	Neural Mechanisms of Tactile Motion Integration in Somatosensory Cortex. Neuron, 2011, 69, 536-547.	3.8	73
89	Does Afferent Heterogeneity Matter in Conveying Tactile Feedback Through Peripheral Nerve Stimulation?. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2011, 19, 514-520.	2.7	29
90	Separate Mechanisms for Audio-Tactile Pitch and Loudness Interactions. Frontiers in Psychology, 2010, 1, 160.	1.1	42

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91	Predicting the Timing of Spikes Evoked by Tactile Stimulation of the Hand. Journal of Neurophysiology, 2010, 104, 1484-1496.	0.9	64
92	Shape Invariant Coding of Motion Direction in Somatosensory Cortex. PLoS Biology, 2010, 8, e1000305.	2.6	94
93	Textural timbre. Communicative and Integrative Biology, 2009, 2, 344-346.	0.6	30
94	Convergence of Submodality-Specific Input Onto Neurons in Primary Somatosensory Cortex. Journal of Neurophysiology, 2009, 102, 1843-1853.	0.9	96
95	Temporal Frequency Channels Are Linked across Audition and Touch. Current Biology, 2009, 19, 561-566.	1.8	151
96	Conveying Tactile Feedback in Sensorized Hand Neuroprostheses Using a Biofidelic Model of Mechanotransduction. IEEE Transactions on Biomedical Circuits and Systems, 2009, 3, 398-404.	2.7	36
97	Discriminating smooth from grooved surfaces: effects of random variations in skin penetration. Experimental Brain Research, 2008, 188, 331-340.	0.7	7
98	Tactile intensity and population codes. Behavioural Brain Research, 2008, 190, 165-173.	1.2	66
99	The Representation of Stimulus Orientation in the Early Stages of Somatosensory Processing. Journal of Neuroscience, 2008, 28, 776-786.	1.7	166
100	The tactile perception of stimulus orientation. Somatosensory & Motor Research, 2008, 25, 49-59.	0.4	45
101	The tactile integration of local motion cues is analogous to its visual counterpart. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 8130-8135.	3.3	55
102	The Neural Coding of Stimulus Intensity: Linking the Population Response of Mechanoreceptive Afferents with Psychophysical Behavior. Journal of Neuroscience, 2007, 27, 11687-11699.	1.7	204
103	The coding of roughness.. Canadian Journal of Experimental Psychology, 2007, 61, 184-195.	0.7	125
104	Texture perception through direct and indirect touch: An analysis of perceptual space for tactile textures in two modes of exploration. Somatosensory & Motor Research, 2007, 24, 53-70.	0.4	165
105	A dense array stimulator to generate arbitrary spatio-temporal tactile stimuli. Journal of Neuroscience Methods, 2007, 161, 62-74.	1.3	71
106	Temporal Factors in Tactile Spatial Acuity: Evidence for RA Interference in Fine Spatial Processing. Journal of Neurophysiology, 2006, 95, 1783-1791.	0.9	42
107	Influence of Visual Motion on Tactile Motion Perception. Journal of Neurophysiology, 2006, 96, 1625-1637.	0.9	64
108	A Continuum Mechanical Model of Mechanoreceptive Afferent Responses to Indented Spatial Patterns. Journal of Neurophysiology, 2006, 95, 3852-3864.	0.9	119

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109	SA1 and RA Afferent Responses to Static and Vibrating Gratings. Journal of Neurophysiology, 2006, 95, 1771-1782.	0.9	44
110	Vibratory Adaptation of Cutaneous Mechanoreceptive Afferents. Journal of Neurophysiology, 2005, 94, 3023-3036.	0.9	105
111	Vibrotactile intensity and frequency information in the Pacinian system: A psychophysical model. Perception & Psychophysics, 2005, 67, 828-841.	2.3	114
112	Pacinian representations of fine surface texture. Perception & Psychophysics, 2005, 67, 842-854.	2.3	229
113	Time-Course of Vibratory Adaptation and Recovery in Cutaneous Mechanoreceptive Afferents. Journal of Neurophysiology, 2005, 94, 3037-3045.	0.9	87
114	The vibrations of texture. Somatosensory & Motor Research, 2003, 20, 33-43.	0.4	209
115	A transduction model of the Meissner corpuscle. Mathematical Biosciences, 2002, 176, 203-217.	0.9	30
116	Vibrotaction and texture perception. Behavioural Brain Research, 2002, 135, 51-56.	1.2	104
117	Vibrotactile adaptation impairs discrimination of fine, but not coarse, textures. Somatosensory & Motor Research, 2001, 18, 253-262.	0.4	133
118	Individual differences in perceptual space for tactile textures: Evidence from multidimensional scaling. Perception & Psychophysics, 2000, 62, 1534-1544.	2.3	258
119	Complex tactile waveform discrimination. Journal of the Acoustical Society of America, 2000, 108, 1236.	0.5	76