

Sliman Bensmaia

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126
papers

6,024
citations

45
h-index

76
g-index

143
ext. papers

7,690
ext. citations

6.4
avg, IF

6.32
L-index

#	Paper	IF	Citations
126	Intracortical microstimulation of human somatosensory cortex. <i>Science Translational Medicine</i> , 2016 , 8, 361ra141	17.5	361
125	Restoring sensorimotor function through intracortical interfaces: progress and looming challenges. <i>Nature Reviews Neuroscience</i> , 2014 , 15, 313-25	13.5	235
124	Spatial and temporal codes mediate the tactile perception of natural textures. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 17107-12	11.5	229
123	Restoring the sense of touch with a prosthetic hand through a brain interface. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 18279-84	11.5	224
122	Individual differences in perceptual space for tactile textures: evidence from multidimensional scaling. <i>Perception & Psychophysics</i> , 2000 , 62, 1534-44		203
121	Pacinian representations of fine surface texture. <i>Perception & Psychophysics</i> , 2005 , 67, 842-54		181
120	The vibrations of texture. <i>Somatosensory & Motor Research</i> , 2003 , 20, 33-43	1.2	164
119	The neural coding of stimulus intensity: linking the population response of mechanoreceptive afferents with psychophysical behavior. <i>Journal of Neuroscience</i> , 2007 , 27, 11687-99	6.6	157
118	Touch is a team effort: interplay of submodalities in cutaneous sensibility. <i>Trends in Neurosciences</i> , 2014 , 37, 689-97	13.3	151
117	The neural basis of perceived intensity in natural and artificial touch. <i>Science Translational Medicine</i> , 2016 , 8, 362ra142	17.5	141
116	Texture perception through direct and indirect touch: an analysis of perceptual space for tactile textures in two modes of exploration. <i>Somatosensory & Motor Research</i> , 2007 , 24, 53-70	1.2	138
115	Biomimetic sensory feedback through peripheral nerve stimulation improves dexterous use of a bionic hand. <i>Science Robotics</i> , 2019 , 4,	18.6	135
114	The representation of stimulus orientation in the early stages of somatosensory processing. <i>Journal of Neuroscience</i> , 2008 , 28, 776-86	6.6	123
113	Simulating tactile signals from the whole hand with millisecond precision. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, E5693-E5702	11.5	117
112	Temporal frequency channels are linked across audition and touch. <i>Current Biology</i> , 2009 , 19, 561-6	6.3	117
111	Natural scenes in tactile texture. <i>Journal of Neurophysiology</i> , 2014 , 111, 1792-802	3.2	116
110	Multiplexing stimulus information through rate and temporal codes in primate somatosensory cortex. <i>PLoS Biology</i> , 2013 , 11, e1001558	9.7	114

109	Vibrotactile adaptation impairs discrimination of fine, but not coarse, textures. <i>Somatosensory & Motor Research</i> , 2001 , 18, 253-62	1.2	110
108	The coding of roughness. <i>Canadian Journal of Experimental Psychology</i> , 2007 , 61, 184-95	0.8	105
107	Biomimetic approaches to bionic touch through a peripheral nerve interface. <i>Neuropsychologia</i> , 2015 , 79, 344-53	3.2	98
106	Millisecond precision spike timing shapes tactile perception. <i>Journal of Neuroscience</i> , 2012 , 32, 15309-176.6		98
105	Vibratory adaptation of cutaneous mechanoreceptive afferents. <i>Journal of Neurophysiology</i> , 2005 , 94, 3023-36	3.2	95
104	A continuum mechanical model of mechanoreceptive afferent responses to indented spatial patterns. <i>Journal of Neurophysiology</i> , 2006 , 95, 3852-64	3.2	94
103	Behavioral demonstration of a somatosensory neuroprosthesis. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2013 , 21, 500-7	4.8	92
102	Vibrotactile intensity and frequency information in the pacinian system: a psychophysical model. <i>Perception & Psychophysics</i> , 2005 , 67, 828-41		89
101	Behavioral assessment of sensitivity to intracortical microstimulation of primate somatosensory cortex. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 15202-11.5	11.5	86
100	Vibrotaction and texture perception. <i>Behavioural Brain Research</i> , 2002 , 135, 51-6	3.4	83
99	Time-course of vibratory adaptation and recovery in cutaneous mechanoreceptive afferents. <i>Journal of Neurophysiology</i> , 2005 , 94, 3037-45	3.2	77
98	Shape invariant coding of motion direction in somatosensory cortex. <i>PLoS Biology</i> , 2010 , 8, e1000305	9.7	76
97	Neural Basis of Touch and Proprioception in Primate Cortex. <i>Comprehensive Physiology</i> , 2018 , 8, 1575-1607	9.7	71
96	Stability of Sensory Topographies in Adult Cortex. <i>Trends in Cognitive Sciences</i> , 2017 , 21, 195-204	14	70
95	Convergence of submodality-specific input onto neurons in primary somatosensory cortex. <i>Journal of Neurophysiology</i> , 2009 , 102, 1843-53	3.2	69
94	The effect of surface wave propagation on neural responses to vibration in primate glabrous skin. <i>PLoS ONE</i> , 2012 , 7, e31203	3.7	65
93	Complex tactile waveform discrimination. <i>Journal of the Acoustical Society of America</i> , 2000 , 108, 1236-45.2	4.5	61
92	A dense array stimulator to generate arbitrary spatio-temporal tactile stimuli. <i>Journal of Neuroscience Methods</i> , 2007 , 161, 62-74	3	59

91	Neural mechanisms of tactile motion integration in somatosensory cortex. <i>Neuron</i> , 2011 , 69, 536-47	13.9	57
90	Influence of visual motion on tactile motion perception. <i>Journal of Neurophysiology</i> , 2006 , 96, 1625-37	3.2	56
89	Restoring tactile and proprioceptive sensation through a brain interface. <i>Neurobiology of Disease</i> , 2015 , 83, 191-8	7.5	53
88	Sensory adaptation to electrical stimulation of the somatosensory nerves. <i>Journal of Neural Engineering</i> , 2018 , 15, 046002	5	52
87	Predicting the timing of spikes evoked by tactile stimulation of the hand. <i>Journal of Neurophysiology</i> , 2010 , 104, 1484-96	3.2	52
86	Tactile intensity and population codes. <i>Behavioural Brain Research</i> , 2008 , 190, 165-73	3.4	52
85	Importance of spike timing in touch: an analogy with hearing?. <i>Current Opinion in Neurobiology</i> , 2016 , 40, 142-149	7.6	48
84	Kinematics of unconstrained tactile texture exploration. <i>Journal of Neurophysiology</i> , 2015 , 113, 3013-20	3.2	47
83	Feeling form: the neural basis of haptic shape perception. <i>Journal of Neurophysiology</i> , 2016 , 115, 631-42	3.2	47
82	The neural basis of tactile motion perception. <i>Journal of Neurophysiology</i> , 2014 , 112, 3023-32	3.2	45
81	Rate and timing of cortical responses driven by separate sensory channels. <i>ELife</i> , 2015 , 4, e10450	8.9	44
80	Biological and bionic hands: natural neural coding and artificial perception. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2015 , 370, 20140209	5.8	43
79	The tactile integration of local motion cues is analogous to its visual counterpart. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008 , 105, 8130-5	11.5	43
78	Biomimetic encoding model for restoring touch in bionic hands through a nerve interface. <i>Journal of Neural Engineering</i> , 2018 , 15, 066033	5	42
77	The effect of chronic intracortical microstimulation on the electrode-tissue interface. <i>Journal of Neural Engineering</i> , 2014 , 11, 026004	5	39
76	The effects of chronic intracortical microstimulation on neural tissue and fine motor behavior. <i>Journal of Neural Engineering</i> , 2015 , 12, 066018	5	38
75	Seeing and Feeling Motion: Canonical Computations in Vision and Touch. <i>PLoS Biology</i> , 2015 , 13, e1002271	3.7	37
74	SA1 and RA afferent responses to static and vibrating gratings. <i>Journal of Neurophysiology</i> , 2006 , 95, 1771-82	3.2	37

73	A simple model of mechanotransduction in primate glabrous skin. <i>Journal of Neurophysiology</i> , 2013 , 109, 1350-9	3.2	34
72	Conveying tactile feedback in sensorized hand neuroprostheses using a biofidelic model of mechanotransduction. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2009 , 3, 398-404	5.1	34
71	Temporal factors in tactile spatial acuity: evidence for RA interference in fine spatial processing. <i>Journal of Neurophysiology</i> , 2006 , 95, 1783-91	3.2	34
70	Separate mechanisms for audio-tactile pitch and loudness interactions. <i>Frontiers in Psychology</i> , 2010 , 1, 160	3.4	30
69	The tactile perception of stimulus orientation. <i>Somatosensory & Motor Research</i> , 2008 , 25, 49-59	1.2	30
68	High-dimensional representation of texture in somatosensory cortex of primates. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 3268-3277	11.5	27
67	Key considerations in designing a somatosensory neuroprosthesis. <i>Journal of Physiology (Paris)</i> , 2016 , 110, 402-408		27
66	Long-term stability of sensitivity to intracortical microstimulation of somatosensory cortex. <i>Journal of Neural Engineering</i> , 2015 , 12, 056010	5	26
65	Textural timbre: The perception of surface microtexture depends in part on multimodal spectral cues. <i>Communicative and Integrative Biology</i> , 2009 , 2, 344-6	1.7	25
64	A transduction model of the Meissner corpuscle. <i>Mathematical Biosciences</i> , 2002 , 176, 203-17	3.9	25
63	The neural code for tactile roughness in the somatosensory nerves. <i>Journal of Neurophysiology</i> , 2017 , 118, 3107-3117	3.2	24
62	Sensitivity to microstimulation of somatosensory cortex distributed over multiple electrodes. <i>Frontiers in Systems Neuroscience</i> , 2015 , 9, 47	3.5	24
61	Does afferent heterogeneity matter in conveying tactile feedback through peripheral nerve stimulation?. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2011 , 19, 514-20	4.8	24
60	The frequency of cortical microstimulation shapes artificial touch. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 1191-1200	11.5	23
59	Feeling fooled: Texture contaminates the neural code for tactile speed. <i>PLoS Biology</i> , 2019 , 17, e3000434	4.7	20
58	Methodological considerations for a chronic neural interface with the cuneate nucleus of macaques. <i>Journal of Neurophysiology</i> , 2017 , 118, 3271-3281	3.2	20
57	Restoration of sensory information via bionic hands. <i>Nature Biomedical Engineering</i> , 2020 ,	19	20
56	Speed invariance of tactile texture perception. <i>Journal of Neurophysiology</i> , 2017 , 118, 2371-2377	3.2	19

55	Neural Coding of Contact Events in Somatosensory Cortex. <i>Cerebral Cortex</i> , 2019 , 29, 4613-4627	5.1	18
54	Postural Representations of the Hand in the Primate Sensorimotor Cortex. <i>Neuron</i> , 2019 , 104, 1000-1009, 337	3.7	17
53	Perceptual spaces: mathematical structures to neural mechanisms. <i>Journal of Neuroscience</i> , 2013 , 33, 17597-602	6.6	17
52	Edge orientation signals in tactile afferents of macaques. <i>Journal of Neurophysiology</i> , 2016 , 116, 2647-2655	5.5	15
51	A Variation Code Accounts for the Perceived Roughness of Coarsely Textured Surfaces. <i>Scientific Reports</i> , 2017 , 7, 46699	4.9	13
50	Decoding hand kinematics from population responses in sensorimotor cortex during grasping. <i>Journal of Neural Engineering</i> , 2020 , 17, 046035	5	13
49	A computational model that predicts behavioral sensitivity to intracortical microstimulation. <i>Journal of Neural Engineering</i> , 2017 , 14, 016012	5	12
48	Neural population dynamics in motor cortex are different for reach and grasp. <i>ELife</i> , 2020 , 9,	8.9	12
47	Rapid geometric feature signaling in the simulated spiking activity of a complete population of tactile nerve fibers. <i>Journal of Neurophysiology</i> , 2019 , 121, 2071-2082	3.2	11
46	Chronic Use of a Sensitized Bionic Hand Does Not Remap the Sense of Touch. <i>Cell Reports</i> , 2020 , 33, 108539	5.6	11
45	Emergence of an Invariant Representation of Texture in Primate Somatosensory Cortex. <i>Cerebral Cortex</i> , 2020 , 30, 3228-3239	5.1	11
44	Intracortical Microstimulation Elicits Human Fingertip Sensations		9
43	Robo-Psychophysics: Extracting Behaviorally Relevant Features from the Output of Sensors on a Prosthetic Finger. <i>IEEE Transactions on Haptics</i> , 2016 , 9, 499-507	2.7	9
42	The Effect of Contact Force on the Responses of Tactile Nerve Fibers to Scanned Textures. <i>Neuroscience</i> , 2018 , 389, 99-103	3.9	8
41	A multi-digit tactile motion stimulator. <i>Journal of Neuroscience Methods</i> , 2014 , 226, 80-87	3	8
40	A comprehensive model-based framework for optimal design of biomimetic patterns of electrical stimulation for prosthetic sensation. <i>Journal of Neural Engineering</i> , 2020 , 17, 046045	5	8
39	Unexpected complexity of everyday manual behaviors. <i>Nature Communications</i> , 2020 , 11, 3564	17.4	8
38	Effect of scanning speed on texture-elicited vibrations. <i>Journal of the Royal Society Interface</i> , 2020 , 17, 20190892	4.1	8

37	The Neural Basis of Haptic Perception 2018 , 1-39		6
36	Vision is superior to touch in shape perception even with equivalent peripheral input. <i>Journal of Neurophysiology</i> , 2016 , 115, 92-9	3.2	6
35	Comparing the effects of isoflurane and pentobarbital on the responses of cutaneous mechanoreceptive afferents. <i>BMC Anesthesiology</i> , 2013 , 13, 10	2.4	6
34	The neural mechanisms of manual dexterity. <i>Nature Reviews Neuroscience</i> , 2021 , 22, 741-757	13.5	6
33	Artificial sensory feedback for bionic hands 2020 , 131-145		6
32	Finger Posture and Finger Load are Perceived Independently. <i>Scientific Reports</i> , 2019 , 9, 15031	4.9	5
31	Discriminating smooth from grooved surfaces: effects of random variations in skin penetration. <i>Experimental Brain Research</i> , 2008 , 188, 331-40	2.3	5
30	Restoring Touch through Intracortical Microstimulation of Human Somatosensory Cortex 2017 ,		4
29	Novel intraoperative online functional mapping of somatosensory finger representations for targeted stimulating electrode placement: technical note. <i>Journal of Neurosurgery</i> , 2021 , 1-8	3.2	4
28	Tactile Feedback from the Hand. <i>Springer Tracts in Advanced Robotics</i> , 2014 , 143-157	0.5	4
27	Frequency shapes the quality of tactile percepts evoked through electrical stimulation of the nerves		4
26	NEURAL POPULATION DYNAMICS IN MOTOR CORTEX ARE DIFFERENT FOR REACH AND GRASP		4
25	Proprioceptive representations of the hand in somatosensory cortex. <i>Current Opinion in Physiology</i> , 2021 , 21, 9-16	2.6	4
24	Encoding of limb state by single neurons in the cuneate nucleus of awake monkeys. <i>Journal of Neurophysiology</i> , 2021 , 126, 693-706	3.2	4
23	The science and engineering behind sensitized brain-controlled bionic hands. <i>Physiological Reviews</i> , 2021 ,	47.9	4
22	Intracortical Somatosensory Stimulation to Elicit Fingertip Sensations in an Individual With Spinal Cord Injury. <i>Neurology</i> , 2021 ,	6.5	4
21	Fingertip skin as a linear medium for wave propagation 2017 ,		3
20	Modulation of Cutaneous Responses in the Cuneate Nucleus of Macaques During Active Movement		3

19	High-Dimensional Representation of Texture in the Somatosensory Cortex of Primates		3
18	The frequency of cortical microstimulation shapes artificial touch		3
17	Information about contact force and surface texture is mixed in the firing rates of cutaneous afferent neurons. <i>Journal of Neurophysiology</i> , 2021 , 125, 496-508	3.2	3
16	Using Bionics to Restore Sensation to Reconstructed Breasts. <i>Frontiers in Neurorobotics</i> , 2020 , 14, 24	3.4	2
15	Stoney vs. Histed: Quantifying the spatial effects of intracortical microstimulation. <i>Brain Stimulation</i> , 2021 , 15, 141-151	5.1	2
14	Sensory computations in the cuneate nucleus of macaques. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021 , 118,	11.5	2
13	Unexpected complexity of everyday manual behaviors		2
12	Chronic use of a sensitized bionic hand does not remap the sense of touch		2
11	Postural Representations of the Hand in Primate Sensorimotor Cortex		2
10	Somatic Sensation. <i>Series on Bioengineering and Biomedical Engineering</i> , 2017 , 134-152		1
9	The Neural Mechanisms of Touch and Proprioception at the Somatosensory Periphery 2020 , 2-27		1
8	Emergence of an invariant representation of texture in primate somatosensory cortex		1
7	Of mice and monkeys: Somatosensory processing in two prominent animal models. <i>Progress in Neurobiology</i> , 2021 , 201, 102008	10.9	1
6	Sensory computations in the cuneate nucleus of macaques		1
5	Texture is encoded in precise temporal spiking patterns in primate somatosensory cortex.. <i>Nature Communications</i> , 2022 , 13, 1311	17.4	1
4	Intracortical microstimulation of somatosensory cortex enables object identification through perceived sensations. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2021 , 2021, 6259-6262	0.9	1
3	Restoring the sense of touch with electrical stimulation of the nerve and brain 2021 , 349-378		0
2	Steven Hsiao: in memoriam. <i>Neuron</i> , 2015 , 85, 458-61	13.9	

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