Marco Santello

List of Publications by Year
in descending order

97 papers	5,185 citations	136740 32 h-index	91712 69 g-index
100 all docs	100 docs citations	100 times ranked	3239 citing authors

#	Article	IF	Citations
1	Postural Hand Synergies for Tool Use. Journal of Neuroscience, 1998, 18, 10105-10115.	1.7	1,009
2	Hand function: peripheral and central constraints on performance. Journal of Applied Physiology, 2004, 96, 2293-2300.	1.2	340
3	Patterns of Hand Motion during Grasping and the Influence of Sensory Guidance. Journal of Neuroscience, 2002, 22, 1426-1435.	1.7	267
4	Force synergies for multifingered grasping. Experimental Brain Research, 2000, 133, 457-467.	0.7	229
5	Gradual Molding of the Hand to Object Contours. Journal of Neurophysiology, 1998, 79, 1307-1320.	0.9	194
6	Hand synergies: Integration of robotics and neuroscience for understanding the control of biological and artificial hands. Physics of Life Reviews, 2016, 17, 1-23.	1.5	191
7	Neural bases of hand synergies. Frontiers in Computational Neuroscience, 2013, 7, 23.	1.2	176
8	Review of motor control mechanisms underlying impact absorption from falls. Gait and Posture, 2005, 21, 85-94.	0.6	175
9	Effects of End-Goal on Hand Shaping. Journal of Neurophysiology, 2006, 95, 2456-2465.	0.9	154
10	Anticipatory Planning and Control of Grasp Positions and Forces for Dexterous Two-Digit Manipulation. Journal of Neuroscience, 2010, 30, 9117-9126.	1.7	145
11	Choice of Contact Points during Multidigit Grasping: Effect of Predictability of Object Center of Mass Location. Journal of Neuroscience, 2007, 27, 3894-3903.	1.7	142
12	Visual and nonâ€visual control of landing movements in humans. Journal of Physiology, 2001, 537, 313-327.	1.3	99
13	A synergy-based hand control is encoded in human motor cortical areas. ELife, 2016, 5, .	2.8	98
14	The role of vision on hand preshaping during reach to grasp. Experimental Brain Research, 2003, 152, 489-498.	0.7	94
15	Compensatory Motor Control After Stroke: An Alternative Joint Strategy for Object-Dependent Shaping of Hand Posture. Journal of Neurophysiology, 2010, 103, 3034-3043.	0.9	84
16	Influence of Fatigue on Hand Muscle Coordination and EMG-EMG Coherence During Three-Digit Grasping. Journal of Neurophysiology, 2010, 104, 3576-3587.	0.9	79
17	Force-Independent Distribution of Correlated Neural Inputs to Hand Muscles During Three-Digit Grasping. Journal of Neurophysiology, 2010, 104, 1141-1154.	0.9	75
18	Anticipatory Control of Grasping: Independence of Sensorimotor Memories for Kinematics and Kinetics. Journal of Neuroscience, 2008, 28, 12765-12774.	1.7	73

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19	Manipulation After Object Rotation Reveals Independent Sensorimotor Memory Representations of Digit Positions and Forces. Journal of Neurophysiology, 2010, 103, 2953-2964.	0.9	67
20	The SoftHand Pro: Functional evaluation of a novel, flexible, and robust myoelectric prosthesis. PLoS ONE, 2018, 13, e0205653.	1.1	62
21	Postural Hand Synergies during Environmental Constraint Exploitation. Frontiers in Neurorobotics, 2017, 11, 41.	1.6	56
22	Force synergies for multifingered grasping: effect of predictability in object center of mass and handedness. Experimental Brain Research, 2002, 144, 38-49.	0.7	53
23	Are Movement Disorders and Sensorimotor Injuries Pathologic Synergies? When Normal Multi-Joint Movement Synergies Become Pathologic. Frontiers in Human Neuroscience, 2014, 8, 1050.	1.0	49
24	Proof of Concept of an Online EMG-Based Decoding of Hand Postures and Individual Digit Forces for Prosthetic Hand Control. Frontiers in Neurology, 2017, 8, 7.	1.1	49
25	Common Input to Motor Units of Digit Flexors During Multi-Digit Grasping. Journal of Neurophysiology, 2004, 92, 3210-3220.	0.9	48
26	Task-Dependent Modulation of Multi-Digit Force Coordination Patterns. Journal of Neurophysiology, 2003, 89, 1317-1326.	0.9	47
27	Transfer of Learned Manipulation following Changes in Degrees of Freedom. Journal of Neuroscience, 2011, 31, 13576-13584.	1.7	46
28	Role of across-muscle motor unit synchrony for the coordination of forces. Experimental Brain Research, 2004, 159, 501-508.	0.7	43
29	Common Input to Motor Units of Intrinsic and Extrinsic Hand Muscles During Two-Digit Object Hold. Journal of Neurophysiology, 2008, 99, 1119-1126.	0.9	42
30	The effects of task and content on digit placement on a bottle. Experimental Brain Research, 2011, 212, 119-124.	0.7	39
31	Grasping uncertainty: effects of sensorimotor memories on high-level planning of dexterous manipulation. Journal of Neurophysiology, 2013, 109, 2937-2946.	0.9	35
32	Are the yips a taskâ€specific dystonia or â€œgolfer's crampâ€?. Movement Disorders, 2011, 26, 1993-1996.	2.2	34
33	Effects of Carpal Tunnel Syndrome on Adaptation of Multi-Digit Forces to Object Weight for Whole-Hand Manipulation. PLoS ONE, 2011, 6, e27715.	1.1	34
34	Impaired anticipatory control of force sharing patterns during whole-hand grasping in Parkinsonâ€™s disease. Experimental Brain Research, 2008, 185, 41-52.	0.7	33
35	Coordination of intrinsic and extrinsic hand muscle activity as a function of wrist joint angle during two-digit grasping. Neuroscience Letters, 2010, 474, 104-108.	1.0	32
36	Communication and Inference of Intended Movement Direction during Humanâ€“Human Physical Interaction. Frontiers in Neurorobotics, 2017, 11, 21.	1.6	29

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37	Context-Dependent Learning Interferes with Visuomotor Transformations for Manipulation Planning. Journal of Neuroscience, 2012, 32, 15086-15092.	1.7	28
38	Synergistic Organization of Neural Inputs from Spinal Motor Neurons to Extrinsic and Intrinsic Hand Muscles. Journal of Neuroscience, 2021, 41, 6878-6891.	1.7	28
39	Sensorimotor control of gait: a novel approach for the study of the interplay of visual and proprioceptive feedback. Frontiers in Human Neuroscience, 2015, 9, 14.	1.0	27
40	Extraction of Time and Frequency Features From Grip Force Rates During Dexterous Manipulation. IEEE Transactions on Biomedical Engineering, 2015, 62, 1363-1375.	2.5	27
41	Improving Fine Control of Grasping Force during Handâ€“Object Interactions for a Soft Synergy-Inspired Myoelectric Prosthetic Hand. Frontiers in Neurorobotics, 2017, 11, 71.	1.6	26
42	Periodic Modulation of Motor-Unit Activity in Extrinsic Hand Muscles During Multidigit Grasping. Journal of Neurophysiology, 2005, 94, 206-218.	0.9	25
43	Corticospinal excitability underlying digit force planning for grasping in humans. Journal of Neurophysiology, 2014, 111, 2560-2569.	0.9	23
44	Coordination between digit forces and positions: interactions between anticipatory and feedback control. Journal of Neurophysiology, 2014, 111, 1519-1528.	0.9	23
45	Muscle-Pair Specific Distribution and Grip-Type Modulation of Neural Common Input to Extrinsic Digit Flexors. Journal of Neurophysiology, 2006, 96, 1258-1266.	0.9	22
46	Sensorimotor uncertainty modulates corticospinal excitability during skilled object manipulation. Journal of Neurophysiology, 2019, 121, 1162-1170.	0.9	22
47	Fuel oxidation at the walk-to-run-transition in humans. Metabolism: Clinical and Experimental, 2011, 60, 609-616.	1.5	21
48	Characterization of right wrist posture during simulated colonoscopy: an application of kinematic analysis to the study of endoscopic maneuvers. Gastrointestinal Endoscopy, 2014, 79, 480-489.	0.5	21
49	Retention and interference of learned dexterous manipulation: interaction between multiple sensorimotor processes. Journal of Neurophysiology, 2015, 113, 144-155.	0.9	21
50	Control of hand shaping in response to object shape perturbation. Experimental Brain Research, 2007, 180, 85-96.	0.7	20
51	Anticipatory postural adjustments in reach-to-grasp: Effect of object mass predictability. Neuroscience Letters, 2011, 502, 84-88.	1.0	20
52	Assessment of Myoelectric Controller Performance and Kinematic Behavior of a Novel Soft Synergy-Inspired Robotic Hand for Prosthetic Applications. Frontiers in Neurorobotics, 2016, 10, 11.	1.6	20
53	Multidigit force control during unconstrained grasping in response to object perturbations. Journal of Neurophysiology, 2017, 117, 2025-2036.	0.9	20
54	Electrotactile stimuli delivered across fingertips inducing the Cutaneous Rabbit Effect. Experimental Brain Research, 2010, 206, 419-426.	0.7	19

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55	Dexterous Object Manipulation Requires Context-Dependent Sensorimotor Cortical Interactions in Humans. Cerebral Cortex, 2020, 30, 3087-3101.	1.6	19
56	Effects of Carpal Tunnel Syndrome on Dexterous Manipulation Are Grip Type-Dependent. PLoS ONE, 2013, 8, e53751.	1.1	18
57	Visual Cues of Object Properties Differentially Affect Anticipatory Planning of Digit Forces and Placement. PLoS ONE, 2016, 11, e0154033.	1.1	17
58	Effects of carpal tunnel syndrome on adaptation of multi-digit forces to object texture. Clinical Neurophysiology, 2012, 123, 2281-2290.	0.7	16
59	Role of human premotor dorsal region in learning a conditional visuomotor task. Journal of Neurophysiology, 2017, 117, 445-456.	0.9	15
60	Neural Representations of Sensorimotor Memory- and Digit Position-Based Load Force Adjustments Before the Onset of Dexterous Object Manipulation. Journal of Neuroscience, 2018, 38, 4724-4737.	1.7	15
61	Effects of Visual Cues of Object Density on Perception and Anticipatory Control of Dexterous Manipulation. PLoS ONE, 2013, 8, e76855.	1.1	15
62	Generalization of Dexterous Manipulation Is Sensitive to the Frame of Reference in Which It Is Learned. PLoS ONE, 2015, 10, e0138258.	1.1	13
63	Digit Position and Forces Covary during Anticipatory Control of Whole-Hand Manipulation. Frontiers in Human Neuroscience, 2016, 10, 461.	1.0	13
64	Towards a synergy framework across neuroscience and robotics: Lessons learned and open questions. Reply to comments on: â€œHand synergies: Integration of robotics and neuroscience for understanding the control of biological and artificial handsâ€• Physics of Life Reviews, 2016, 17, 54-60.	1.5	13
65	Learned Manipulation at Unconstrained Contacts Does Not Transfer across Hands. PLoS ONE, 2014, 9, e108222.	1.1	13
66	Assessment of across-muscle coherence using multi-unit vs. single-unit recordings. Experimental Brain Research, 2010, 207, 269-282.	0.7	12
67	Effects of Fusion between Tactile and Proprioceptive Inputs on Tactile Perception. PLoS ONE, 2011, 6, e18073.	1.1	12
68	Within-trial modulation of multi-digit forces to friction. Experimental Brain Research, 2011, 211, 17-26.	0.7	11
69	Neural oscillations reflect latent learning states underlying dual-context sensorimotor adaptation. NeuroImage, 2017, 163, 93-105.	2.1	10
70	On the Role of Physical Interaction on Performance of Object Manipulation by Dyads. Frontiers in Human Neuroscience, 2017, 11, 533.	1.0	10
71	Sensorimotor memory of object weight distribution during multidigit grasp. Neuroscience Letters, 2009, 463, 188-193.	1.0	9
72	Digit forces bias sensorimotor transformations underlying control of fingertip position. Frontiers in Human Neuroscience, 2014, 8, 564.	1.0	9

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73	Regression-based reconstruction of human grip force trajectories with noninvasive scalp electroencephalography. Journal of Neural Engineering, 2019, 16, 066030.	1.8	9
74	Hand forces and placement are modulated and covary during anticipatory control of bimanual manipulation. Journal of Neurophysiology, 2019, 121, 2276-2290.	0.9	9
75	Role of digit placement control in sensorimotor transformations for dexterous manipulation. Journal of Neurophysiology, 2017, 118, 2935-2943.	0.9	9
76	Anticipatory Modulation of Digit Placement for Grasp Control Is Affected by Parkinson's Disease. PLoS ONE, 2010, 5, e9184.	1.1	9
77	Task-specific modulation of multi-digit forces to object texture. Experimental Brain Research, 2009, 194, 79-90.	0.7	8
78	Haptic-Motor Transformations for the Control of Finger Position. PLoS ONE, 2013, 8, e66140.	1.1	8
79	Linear Integration of Tactile and Non-tactile Inputs Mediates Estimation of Fingertip Relative Position. Frontiers in Neuroscience, 2019, 13, 68.	1.4	8
80	From Single Motor Unit Activity to Multiple Grip Forces: Mini-review of Multi-digit Grasping. Integrative and Comparative Biology, 2005, 45, 679-682.	0.9	7
81	Across-muscle coherence is modulated as a function of wrist posture during two-digit grasping. Neuroscience Letters, 2013, 553, 68-71.	1.0	7
82	Visual Feedback of Object Motion Direction Influences the Timing of Grip Force Modulation During Object Manipulation. Frontiers in Human Neuroscience, 2020, 14, 198.	1.0	7
83	Kinematic analysis of wrist motion during simulated colonoscopy in first-year gastroenterology fellows. Endoscopy International Open, 2015, 03, E621-E626.	0.9	6
84	A Subject-Independent Method for Automatically Grading Electromyographic Features During a Fatiguing Contraction. IEEE Transactions on Biomedical Engineering, 2012, 59, 1749-1757.	2.5	4
85	Getting a Grasp of Theories of Sensorimotor Control of the Hand: Identification of Underlying Neural Mechanisms. Motor Control, 2015, 19, 149-153.	0.3	4
86	Cyber Physical Systems and Body Area Sensor Networks in Smart Cities. , 2016, , .		3
87	Motor modules account for active perception of force. Scientific Reports, 2019, 9, 8983.	1.6	3
88	A low-dimensional representation of arm movements and hand grip forces in post-stroke individuals. Scientific Reports, 2022, 12, 7601.	1.6	3
89	Inference and representations of hand actions through grasping synergies. Physics of Life Reviews, 2015, 12, 118-119.	1.5	1
90	Modeling Previous Trial Effect in Human Manipulation through Iterative Learning Control. Advanced Intelligent Systems, 2020, 2, 1900074.	3.3	1

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91	Pushing the boundaries of a physical approach for the study of sensorimotor control. Physics of Life Reviews, 2021, 37, 7-9.	1.5	1
92	Editorial: Foreword for special issue on rehabilitation robotics and humanâ€“robot interaction â€“ ROBOTICA. Robotica, 2014, 32, 1189-1190.	1.3	0
93	Ereptiospiration. Bioengineering, 2017, 4, 33.	1.6	0
94	Transfer and generalization of learned manipulation between unimanual and bimanual tasks. Scientific Reports, 2021, 11, 8688.	1.6	0
95	Inter-personal motor interaction is facilitated by hand pairing. Scientific Reports, 2022, 12, 545.	1.6	0
96	Editorial: Reaching and Grasping the Multisensory Side of Dexterous Manipulation. Frontiers in Psychology, 2022, 13, 866608.	1.1	0
97	Getting a Grasp of Theories of Sensorimotor Control of the Hand: Identification of Underlying Neural Mechanisms. Motor Control, 2015, 19, 149-153.	0.3	0