Francesco Lacquaniti

List of Publications by Year
in descending order

133 papers	9,188 citations	50170 46 h-index	45213 90 g-index
133 all docs	133 docs citations	133 times ranked	5526 citing authors

#	Article	IF	Citations
1	Relation between Step-To-Step Transition Strategies and Walking Pattern in Older Adults. Applied Sciences (Switzerland), 2022, 12, 5055.	1.3	2
2	The Effects of Visual Parabolic Motion on the Subjective Vertical and on Interception. Neuroscience, 2021, 453, 124-137.	1.1	1
3	A Novel Device Decoupling Tactile Slip and Hand Motion in Reaching Tasks: The HaptiTrack Device. IEEE Transactions on Haptics, 2021, 14, 1-1.	1.8	4
4	Age-related changes in the neuromuscular control of forward and backward locomotion. PLoS ONE, 2021, 16, e0246372.	1.1	17
5	Perceptual-motor styles. Experimental Brain Research, 2021, 239, 1359-1380.	0.7	21
6	Brain Correlates of Persistent Postural-Perceptual Dizziness: A Review of Neuroimaging Studies. Journal of Clinical Medicine, 2021, 10, 4274.	1.0	21
7	Neuromuscular Age-Related Adjustment of Gait When Moving Upwards and Downwards. Frontiers in Human Neuroscience, 2021, 15, 749366.	1.0	8
8	Mental imagery of object motion in weightlessness. Npj Microgravity, 2021, 7, 50.	1.9	3
9	Structural connectome and connectivity lateralization of the multimodal vestibular cortical network. NeuroImage, 2020, 222, 117247.	2.1	31
10	Emergence of Different Gaits in Infancy: Relationship Between Developing Neural Circuitries and Changing Biomechanics. Frontiers in Bioengineering and Biotechnology, 2020, 8, 473.	2.0	25
11	Development of Locomotor-Related Movements in Early Infancy. Frontiers in Cellular Neuroscience, 2020, 14, 623759.	1.8	9
12	Nonâ€synergistic synergies of muscle activation: an apparent oxymoron. Journal of Physiology, 2019, 597, 5743-5744.	1.3	0
13	Modular motor control of the sound limb in gait of people with trans-femoral amputation. Journal of NeuroEngineering and Rehabilitation, 2019, 16, 132.	2.4	17
14	Ocular tracking of occluded ballistic trajectories: Effects of visual context and of target law of motion. Journal of Vision, 2019, 19, 13.	0.1	82
15	Motion direction, luminance contrast, and speed perception: An unexpected meeting. Journal of Vision, 2019, 19, 16.	0.1	10
16	Body orientation contributes to modelling the effects of gravity for target interception in humans. Journal of Physiology, 2019, 597, 2021-2043.	1.3	11
17	Asymmetries in initiation of aiming movements in schizophrenia. Neuropsychologia, 2018, 109, 200-207.	0.7	2
18	The speed-curvature power law of movements: a reappraisal. Experimental Brain Research, 2018, 236, 69-82.	0.7	28

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19	Backward walking highlights gait asymmetries in children with cerebral palsy. Journal of Neurophysiology, 2018, 119, 1153-1165.	0.9	30
20	Rolling Motion Along an Incline: Visual Sensitivity to the Relation Between Acceleration and Slope. Frontiers in Neuroscience, 2018, 12, 406.	1.4	18
21	A kinematic synergy for terrestrial locomotion shared by mammals and birds. ELife, 2018, 7, .	2.8	29
22	Tickâ€tock, spinal motor neurons go with the cortical clock in young infants. Journal of Physiology, 2017, 595, 2405-2406.	1.3	2
23	Differential contributions to the interception of occluded ballistic trajectories by the temporoparietal junction, area hMT/V5+, and the intraparietal cortex. Journal of Neurophysiology, 2017, 118, 1809-1823.	0.9	18
24	Intercepting virtual balls approaching under different gravity conditions: evidence for spatial prediction. Journal of Neurophysiology, 2017, 118, 2421-2434.	0.9	26
25	Mental imagery of gravitational motion. Cortex, 2017, 95, 172-191.	1.1	11
26	Human Locomotion in Hypogravity: From Basic Research to Clinical Applications. Frontiers in Physiology, 2017, 8, 893.	1.3	31
27	Tonic and Rhythmic Spinal Activity Underlying Locomotion. Current Pharmaceutical Design, 2017, 23, 1753-1763.	0.9	20
28	Muscle Coordination and Locomotion in Humans. Current Pharmaceutical Design, 2017, 23, 1821-1833.	0.9	12
29	Grasping in One-Handed Catching in Relation to Performance. PLoS ONE, 2016, 11, e0158606.	1.1	8
30	Path integration in 3D from visual motion cues: A human fMRI study. NeuroImage, 2016, 142, 512-521.	2.1	22
31	The speedâ€“curvature power law in Drosophila larval locomotion. Biology Letters, 2016, 12, 20160597.	1.0	15
32	Are we ready to move beyond the reductionist approach of classical synergy control?. Physics of Life Reviews, 2016, 17, 38-39.	1.5	2
33	Drawing ellipses in water: evidence for dynamic constraints in the relation between velocity and path curvature. Experimental Brain Research, 2016, 234, 1649-1657.	0.7	14
34	Processing of visual gravitational motion in the peri-sylvian cortex: Evidence from brain-damaged patients. Cortex, 2016, 78, 55-69.	1.1	26
35	Mapping Muscles Activation to Force Perception during Unloading. PLoS ONE, 2016, 11, e0152552.	1.1	10
36	Gait Patterns in Patients with Hereditary Spastic Paraparesis. PLoS ONE, 2016, 11, e0164623.	1.1	38

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37	Hand interception of occluded motion in humans: a test of model-based vs. on-line control. Journal of Neurophysiology, 2015, 114, 1577-1592.	0.9	40
38	Role of the Insula and Vestibular System in Patients with Chronic Subjective Dizziness: An fMRI Study Using Sound-Evoked Vestibular Stimulation. Frontiers in Behavioral Neuroscience, 2015, 9, 334.	1.0	93
39	Filling gaps in visual motion for target capture. Frontiers in Integrative Neuroscience, 2015, 9, 13.	1.0	39
40	Tapping into rhythm generation circuitry in humans during simulated weightlessness conditions. Frontiers in Systems Neuroscience, 2015, 9, 14.	1.2	15
41	Gaze Behavior in One-Handed Catching and Its Relation with Interceptive Performance: What the Eyes Can't Tell. PLoS ONE, 2015, 10, e0119445.	1.1	39
42	Planar Covariation of Hindlimb and Forelimb Elevation Angles during Terrestrial and Aquatic Locomotion of Dogs. PLoS ONE, 2015, 10, e0133936.	1.1	32
43	Sound-evoked vestibular stimulation affects the anticipation of gravity effects during visual self-motion. Experimental Brain Research, 2015, 233, 2365-2371.	0.7	15
44	Gravity in the Brain as a Reference for Space and Time Perception. Multisensory Research, 2015, 28, 397-426.	0.6	54
45	Visual gravity cues in the interpretation of biological movements: neural correlates in humans. NeuroImage, 2015, 104, 221-230.	2.1	46
46	Eye movements and manual interception of ballistic trajectories: effects of law of motion perturbations and occlusions. Experimental Brain Research, 2015, 233, 359-374.	0.7	29
47	Grip forces during fast point-to-point and continuous hand movements. Experimental Brain Research, 2015, 233, 3201-3220.	0.7	6
48	Unfamiliar Walking Movements Are Detected Early in the Visual Stream: An fMRI Study. Cerebral Cortex, 2015, 25, 2022-2034.	1.6	19
49	Implied Dynamics Biases the Visual Perception of Velocity. PLoS ONE, 2014, 9, e93020.	1.1	14
50	Dimensionality of joint torques and muscle patterns for reaching. Frontiers in Computational Neuroscience, 2014, 8, 24.	1.2	57
51	Spinal motor outputs during step-to-step transitions of diverse human gaits. Frontiers in Human Neuroscience, 2014, 8, 305.	1.0	37
52	EMG patterns during assisted walking in the exoskeleton. Frontiers in Human Neuroscience, 2014, 8, 423.	1.0	106
53	Control of Leg Movements Driven by EMG Activity of Shoulder Muscles. Frontiers in Human Neuroscience, 2014, 8, 838.	1.0	15
54	Multisensory Integration and Internal Models for Sensing Gravity Effects in Primates. BioMed Research International, 2014, 2014, 1-10.	0.9	48

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55	Human Locomotion under Reduced Gravity Conditions: Biomechanical and Neurophysiological Considerations. BioMed Research International, 2014, 2014, 1-12.	0.9	34
56	How long did it last? You would better ask a human. Frontiers in Neurorobotics, 2014, 8, 2.	1.6	23
57	Function dictates the phase dependence of vision during human locomotion. Journal of Neurophysiology, 2014, 112, 165-180.	0.9	55
58	Personality traits modulate subcortical and cortical vestibular and anxiety responses to sound-evoked otolithic receptor stimulation. Journal of Psychosomatic Research, 2014, 77, 391-400.	1.2	47
59	Can modular strategies simplify neural control of multidirectional human locomotion?. Journal of Neurophysiology, 2014, 111, 1686-1702.	0.9	97
60	Correction and suppression of reaching movements in the cerebral cortex: Physiological and neuropsychological aspects. Neuroscience and Biobehavioral Reviews, 2014, 42, 232-251.	2.9	43
61	Locomotor-Like Leg Movements Evoked by Rhythmic Arm Movements in Humans. PLoS ONE, 2014, 9, e90775.	1.1	45
62	Neural Extrapolation of Motion for a Ball Rolling Down an Inclined Plane. PLoS ONE, 2014, 9, e99837.	1.1	20
63	Anticipating the effects of visual gravity during simulated self-motion: estimates of time-to-passage along vertical and horizontal paths. Experimental Brain Research, 2013, 229, 579-586.	0.7	22
64	Simulated self-motion in a visual gravity field: Sensitivity to vertical and horizontal heading in the human brain. NeuroImage, 2013, 71, 114-124.	2.1	95
65	Evolutionary and Developmental Modules. Frontiers in Computational Neuroscience, 2013, 7, 61.	1.2	50
66	Changes of Gait Kinematics in Different Simulators of Reduced Gravity. Journal of Motor Behavior, 2013, 45, 495-505.	0.5	21
67	Control of reaching movements by muscle synergy combinations. Frontiers in Computational Neuroscience, 2013, 7, 42.	1.2	146
68	Visual gravitational motion and the vestibular system in humans. Frontiers in Integrative Neuroscience, 2013, 7, 101.	1.0	61
69	A novel method for measuring gaze orientation in space in unrestrained head conditions. Journal of Vision, 2013, 13, 28-28.	0.1	17
70	When Up Is Down in 0g: How Gravity Sensing Affects the Timing of Interceptive Actions. Journal of Neuroscience, 2012, 32, 1969-1973.	1.7	53
71	Development of human locomotion. Current Opinion in Neurobiology, 2012, 22, 822-828.	2.0	89
72	Catching a Ball at the Right Time and Place: Individual Factors Matter. PLoS ONE, 2012, 7, e31770.	1.1	47

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73	Modeling psychophysical data at the population-level: The generalized linear mixed model. Journal of Vision, 2012, 12, 26-26.	0.1	159
74	Patterned control of human locomotion. Journal of Physiology, 2012, 590, 2189-2199.	1.3	258
75	Humans Running in Place on Water at Simulated Reduced Gravity. PLoS ONE, 2012, 7, e37300.	1.1	10
76	Catching What We Can't See: Manual Interception of Occluded Fly-Ball Trajectories. PLoS ONE, 2012, 7, e49381.	1.1	51
77	Locomotor Primitives in Newborn Babies and Their Development. Science, 2011, 334, 997-999.	6.0	552
78	Dealing with individual variability: When telling what is real depends on telling who is acting. Neuroscience Letters, 2011, 498, 6-9.	1.0	1
79	Superposition and modulation of muscle synergies for reaching in response to a change in target location. Journal of Neurophysiology, 2011, 106, 2796-2812.	0.9	91
80	Smooth changes in the EMG patterns during gait transitions under body weight unloading. Journal of Neurophysiology, 2011, 106, 1525-1536.	0.9	32
81	Gait transitions in simulated reduced gravity. Journal of Applied Physiology, 2011, 110, 781-788.	1.2	38
82	Time perception of action photographs is more precise than that of still photographs. Experimental Brain Research, 2011, 210, 25-32.	0.7	18
83	Detecting temporal reversals in human locomotion. Experimental Brain Research, 2011, 214, 93-103.	0.7	23
84	Observing human movements helps decoding environmental forces. Experimental Brain Research, 2011, 215, 53-63.	0.7	8
85	The perception of visible speech: estimation of speech rate and detection of time reversals. Experimental Brain Research, 2011, 215, 141-161.	0.7	7
86	Optimal walking speed following changes in limb geometry. Journal of Experimental Biology, 2011, 214, 2276-2282.	0.8	38
87	Motor Patterns During Walking on a Slippery Walkway. Journal of Neurophysiology, 2010, 103, 746-760.	0.9	102
88	Extrapolation of vertical target motion through a brief visual occlusion. Experimental Brain Research, 2010, 201, 365-384.	0.7	35
89	Editorial. Experimental Brain Research, 2010, 200, 1-2.	0.7	0
90	The many roles of vision during walking. Experimental Brain Research, 2010, 206, 337-350.	0.7	79

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91	Tempo Rubatoâ€Š: Animacy Speeds Up Time in the Brain. PLoS ONE, 2010, 5, e15638.	1.1	29
92	Kinematic Strategies in Newly Walking Toddlers Stepping Over Different Support Surfaces. Journal of Neurophysiology, 2010, 103, 1673-1684.	0.9	42
93	Processing of Targets in Smooth or Apparent Motion Along the Vertical in the Human Brain: An fMRI Study. Journal of Neurophysiology, 2010, 103, 360-370.	0.9	39
94	Migration of Motor Pool Activity in the Spinal Cord Reflects Body Mechanics in Human Locomotion. Journal of Neurophysiology, 2010, 104, 3064-3073.	0.9	49
95	Different motor imagery modes following brain damage. Cortex, 2010, 46, 1016-1030.	1.1	49
96	Changes in the Limb Kinematics and Walking-Distance Estimation After Shank Elongation: Evidence for a Locomotor Body Schema?. Journal of Neurophysiology, 2009, 101, 1419-1429.	0.9	32
97	Visuo-motor coordination and internal models for object interception. Experimental Brain Research, 2009, 192, 571-604.	0.7	217
98	Internal models and prediction of visual gravitational motion. Vision Research, 2008, 48, 1532-1538.	0.7	93
99	Compensation for time delays is better achieved in time than in space. Behavioral and Brain Sciences, 2008, 31, 221-222.	0.4	1
100	Contributions of the Human Temporoparietal Junction and MT/V5+ to the Timing of Interception Revealed by Transcranial Magnetic Stimulation. Journal of Neuroscience, 2008, 28, 12071-12084.	1.7	88
101	Modulation of Phasic and Tonic Muscle Synergies With Reaching Direction and Speed. Journal of Neurophysiology, 2008, 100, 1433-1454.	0.9	226
102	Vestibular Nuclei and Cerebellum Put Visual Gravitational Motion in Context. Journal of Neurophysiology, 2008, 99, 1969-1982.	0.9	76
103	Modular Control of Limb Movements during Human Locomotion. Journal of Neuroscience, 2007, 27, 11149-11161.	1.7	206
104	Review Article: Plasticity of Spinal Centers in Spinal Cord Injury Patients: New Concepts for Gait Evaluation and Training. Neurorehabilitation and Neural Repair, 2007, 21, 358-365.	1.4	48
105	Control of Foot Trajectory in Walking Toddlers: Adaptation to Load Changes. Journal of Neurophysiology, 2007, 97, 2790-2801.	0.9	43
106	Development of Independent Walking in Toddlers. Exercise and Sport Sciences Reviews, 2007, 35, 67-73.	1.6	98
107	Kinematic cues and recognition of self-generated actions. Experimental Brain Research, 2007, 177, 31-44.	0.7	48
108	Knowledge of oneâ€™s kinematics improves perceptual discrimination. Consciousness and Cognition, 2007, 16, 178-188.	0.8	14

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109	Control of Fast-Reaching Movements by Muscle Synergy Combinations. Journal of Neuroscience, 2006, 26, 7791-7810.	1.7	591
110	Motor Control Programs and Walking. Neuroscientist, 2006, 12, 339-348.	2.6	229
111	Internal Model of Gravity for Hand Interception: Parametric Adaptation to Zero-Gravity Visual Targets on Earth. Journal of Neurophysiology, 2005, 94, 1346-1357.	0.9	49
112	Fast Adaptation of the Internal Model of Gravity for Manual Interceptions: Evidence for Event-Dependent Learning. Journal of Neurophysiology, 2005, 93, 1055-1068.	0.9	61
113	Kinematics in Newly Walking Toddlers Does Not Depend Upon Postural Stability. Journal of Neurophysiology, 2005, 94, 754-763.	0.9	48
114	Cognitive, perceptual and action-oriented representations of falling objects. Neuropsychologia, 2005, 43, 178-188.	0.7	101
115	Anticipating the Effects of Gravity When Intercepting Moving Objects: Differentiating Up and Down Based on Nonvisual Cues. Journal of Neurophysiology, 2005, 94, 4471-4480.	0.9	117
116	Representation of Visual Gravitational Motion in the Human Vestibular Cortex. Science, 2005, 308, 416-419.	6.0	278
117	Coordination of Locomotion with Voluntary Movements in Humans. Journal of Neuroscience, 2005, 25, 7238-7253.	1.7	359
118	Visual perception and interception of falling objects: a review of evidence for an internal model of gravity. Journal of Neural Engineering, 2005, 2, S198-S208.	1.8	75
119	Distributed plasticity of locomotor pattern generators in spinal cord injured patients. Brain, 2004, 127, 1019-1034.	3.7	158
120	Internal Models of Target Motion: Expected Dynamics Overrides Measured Kinematics in Timing Manual Interceptions. Journal of Neurophysiology, 2004, 91, 1620-1634.	0.9	200
121	Development of pendulum mechanism and kinematic coordination from the first unsupported steps in toddlers. Journal of Experimental Biology, 2004, 207, 3797-3810.	0.8	134
122	Multiple Levels of Representation of Reaching in the Parieto-frontal Network. Cerebral Cortex, 2003, 13, 1009-1022.	1.6	210
123	Temporal Components of the Motor Patterns Expressed by the Human Spinal Cord Reflect Foot Kinematics. Journal of Neurophysiology, 2003, 90, 3555-3565.	0.9	157
124	Early emergence of temporal co-ordination of lower limb segments elevation angles in human locomotion. Neuroscience Letters, 2001, 308, 123-127.	1.0	39
125	Internalization of physical laws as revealed by the study of action instead of perception. Behavioral and Brain Sciences, 2001, 24, 684-685.	0.4	0
126	Development of a kinematic coordination pattern in toddler locomotion: planar covariation. Experimental Brain Research, 2001, 137, 455-466.	0.7	93

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127	Effect of gaze on postural responses to neck proprioceptive and vestibular stimulation in humans. Journal of Physiology, 1999, 519, 301-314.	1.3	88
128	Early motor influences on visuomotor transformations for reaching: a positive image of optic ataxia. Experimental Brain Research, 1998, 123, 172-189.	0.7	57
129	Virtual reality: a tutorial. Electroencephalography and Clinical Neurophysiology - Electromyography and Motor Control, 1998, 109, 1-9.	1.4	14
130	Automatic control of limb movement and posture. Current Opinion in Neurobiology, 1992, 2, 807-814.	2.0	92
131	Central representations of human limb movement as revealed by studies of drawing and handwriting. Trends in Neurosciences, 1989, 12, 287-291.	4.2	157
132	Anticipatory and reflex coactivation of antagonist muscles in catching. Brain Research, 1987, 406, 373-378.	1.1	68
133	The law relating the kinematic and figural aspects of drawing movements. Acta Psychologica, 1983, 54, 115-130.	0.7	620