Edwin van Asseldonk

List of Publications by Citations

107 papers	3,721 citations	29 h-index	60 g-index
114 ext. papers	4,507 ext. citations	3.1 avg, IF	5.38 L-index

#	Paper	IF	Citations
107	Design and evaluation of the LOPES exoskeleton robot for interactive gait rehabilitation. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2007**, 15, 379-86	4.8	865
106	Compliant actuation of rehabilitation robots. *IEEE Robotics and Automation Magazine*, **2008**, 15, 60-69	3.4	300
105	Design and control of the MINDWALKER exoskeleton. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2015**, 23, 277-86	4.8	196
104	Comparison of different methods to identify and quantify balance control. *Journal of Neuroscience Methods*, **2005**, 145, 175-203	3	150
103	Reference trajectory generation for rehabilitation robots: complementary limb motion estimation. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2009**, 17, 23-30	4.8	141
102	Oscillator-based assistance of cyclical movements: model-based and model-free approaches. *Medical and Biological Engineering and Computing*, **2011**, 49, 1173-85	3.1	125
101	Ambulatory estimation of center of mass displacement during walking. *IEEE Transactions on Biomedical Engineering*, **2009**, 56, 1189-95	5	96
100	The Effects on Kinematics and Muscle Activity of Walking in a Robotic Gait Trainer During Zero-Force Control. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2008**, 16, 360-370	4.8	92
99	LIMPACT:A Hydraulically Powered Self-Aligning Upper Limb Exoskeleton. *IEEE/ASME Transactions on Mechatronics*, **2015**, 20, 2285-2298	5.5	83
98	LOPES II--Design and Evaluation of an Admittance Controlled Gait Training Robot With Shadow-Leg Approach. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2016**, 24, 352-63	4.8	83
97	EMG patterns during assisted walking in the exoskeleton. *Frontiers in Human Neuroscience*, **2014**, 8, 423	3.3	74
96	Disentangling the contribution of the paretic and non-paretic ankle to balance control in stroke patients. *Experimental Neurology*, **2006**, 201, 441-51	5.7	73
95	Nature, timing, frequency and type of augmented feedback; does it influence motor relearning of the hemiparetic arm after stroke? A systematic review. *Disability and Rehabilitation*, **2010**, 32, 1799-809	2.4	71
94	Center of mass velocity-based predictions in balance recovery following pelvis perturbations during human walking. *Journal of Experimental Biology*, **2016**, 219, 1514-23	3	70
93	Ambulatory estimation of foot placement during walking using inertial sensors. *Journal of Biomechanics*, **2010**, 43, 3138-43	2.9	67
92	Use of inertial sensors for ambulatory assessment of center-of-mass displacements during walking. *IEEE Transactions on Biomedical Engineering*, **2012**, 59, 2080-4	5	60
91	Ankle-foot orthoses in stroke: effects on functional balance, weight-bearing asymmetry and the contribution of each lower limb to balance control. *Clinical Biomechanics*, **2009**, 24, 769-75	2.2	60

90	The effect of impedance-controlled robotic gait training on walking ability and quality in individuals with chronic incomplete spinal cord injury: an explorative study. *Journal of NeuroEngineering and Rehabilitation*, **2014**, 11, 26	5.3	58
89	Fixating the pelvis in the horizontal plane affects gait characteristics. *Gait and Posture*, **2008**, 28, 157-63	2.6	55
88	Robot-aided assessment of lower extremity functions: a review. *Journal of NeuroEngineering and Rehabilitation*, **2016**, 13, 72	5.3	52
87	Dynamic Balance Control (DBC) in lower leg amputee subjects; contribution of the regulatory activity of the prosthesis side. *Clinical Biomechanics*, **2012**, 27, 40-5	2.2	50
86	Speed-dependent reference joint trajectory generation for robotic gait support. *Journal of Biomechanics*, **2014**, 47, 1447-58	2.9	46
85	Influence of haptic guidance in learning a novel visuomotor task. *Journal of Physiology (Paris)*, **2009**, 103, 276-85		46
84	Subcortical structures in humans can be facilitated by transcranial direct current stimulation. *PLoS ONE*, **2014**, 9, e107731	3.7	36
83	Selective control of gait subtasks in robotic gait training: foot clearance support in stroke survivors with a powered exoskeleton. *Journal of NeuroEngineering and Rehabilitation*, **2013**, 10, 3	5.3	34
82	An Adaptive Neuromuscular Controller for Assistive Lower-Limb Exoskeletons: A Preliminary Study on Subjects with Spinal Cord Injury. *Frontiers in Neurorobotics*, **2017**, 11, 30	3.4	34
81	Transcranial Direct Current Stimulation of the Leg Motor Cortex Enhances Coordinated Motor Output During Walking With a Large Inter-Individual Variability. *Brain Stimulation*, **2016**, 9, 182-90	5.1	31
80	Oscillator-based walking assistance: a model-free approach. *IEEE International Conference on Rehabilitation Robotics*, **2011**, 2011, 5975352	1.3	30
79	Detecting asymmetries in balance control with system identification: first experimental results from Parkinson patients. *Journal of Neural Transmission*, **2007**, 114, 1333-7	4.3	29
78	Effects of a powered ankle-foot orthosis on perturbed standing balance. *Journal of NeuroEngineering and Rehabilitation*, **2018**, 15, 50	5.3	25
77	The effect of directional inertias added to pelvis and ankle on gait. *Journal of NeuroEngineering and Rehabilitation*, **2013**, 10, 40	5.3	25
76	Reliability and agreement of intramuscular coherence in tibialis anterior muscle. *PLoS ONE*, **2014**, 9, e88428	3.7	25
75	Robot-supported assessment of balance in standing and walking. *Journal of NeuroEngineering and Rehabilitation*, **2017**, 14, 80	5.3	24
74	Modeling trans-spinal direct current stimulation for the modulation of the lumbar spinal motor pathways. *Journal of Neural Engineering*, **2017**, 14, 056014	5	23
73	Analysis of Balance during Functional Walking in Stroke Survivors. *PLoS ONE*, **2016**, 11, e0166789	3.7	23

72	Lower extremity joint-level responses to pelvis perturbation during human walking. *Scientific Reports*, **2018**, 8, 14621	4.9	23
71	Assessing the Involvement of Users During Development of Lower Limb Wearable Robotic Exoskeletons: A Survey Study. *Human Factors*, **2020**, 62, 351-364	3.8	22
70	Improving the transparency of a rehabilitation robot by exploiting the cyclic behaviour of walking. *IEEE International Conference on Rehabilitation Robotics*, **2013**, 2013, 6650393	1.3	19
69	Actively controlled lateral gait assistance in a lower limb exoskeleton **2013**,		19
68	Mechanics of very slow human walking. *Scientific Reports*, **2019**, 9, 18079	4.9	19
67	. *IEEE Transactions on Robotics*, **2016**, 32, 920-932	6.5	18
66	Template model inspired leg force feedback based control can assist human walking. *IEEE International Conference on Rehabilitation Robotics*, **2017**, 2017, 473-478	1.3	17
65	Neuromuscular Controller Embedded in a Powered Ankle Exoskeleton: Effects on Gait, Clinical Features and Subjective Perspective of Incomplete Spinal Cord Injured Subjects. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2020**, 28, 1157-1167	4.8	16
64	Reduced center of pressure modulation elicits foot placement adjustments, but no additional trunk motion during anteroposterior-perturbed walking. *Journal of Biomechanics*, **2018**, 68, 93-98	2.9	15
63	Effects of a neuromuscular controller on a powered ankle exoskeleton during human walking **2016**,		15
62	Symbitron Exoskeleton: Design, Control, and Evaluation of a Modular Exoskeleton for Incomplete and Complete Spinal Cord Injured Individuals. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2021**, 29, 330-339	4.8	13
61	Similar Representations of Sequence Knowledge in Young and Older Adults: A Study of Effector Independent Transfer. *Frontiers in Psychology*, **2016**, 7, 1125	3.4	12
60	. *IEEE Robotics and Automation Letters*, **2019**, 4, 414-421	4.2	12
59	Foot Placement Modulation Diminishes for Perturbations Near Foot Contact. *Frontiers in Bioengineering and Biotechnology*, **2018**, 6, 48	5.8	11
58	Slow motor performance in girls with Turner Syndrome is not related to increased neuromotor noise. *Motor Control*, **2003**, 7, 111-33	1.3	11
57	Use of induced acceleration to quantify the (de)stabilization effect of external and internal forces on postural responses. *IEEE Transactions on Biomedical Engineering*, **2007**, 54, 2284-95	5	10
56	Decreased movement speed in girls with turner syndrome: a problem in motor planning or muscle initiation?. *Journal of Clinical and Experimental Neuropsychology*, **2004**, 26, 795-816	2.1	10
55	Improving the Standing Balance of Paraplegics through the Use of a Wearable Exoskeleton **2018**,		10

54	Bio-Inspired Balance Control Assistance Can Reduce Metabolic Energy Consumption in Human Walking. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2019**, 27, 1760-1769	4.8	9
53	Automatic versus manual tuning of robot-assisted gait training in people with neurological disorders. *Journal of NeuroEngineering and Rehabilitation*, **2020**, 17, 9	5.3	9
52	Changes in H-Reflex Recruitment After Trans-Spinal Direct Current Stimulation With Multiple Electrode Configurations. *Frontiers in Neuroscience*, **2018**, 12, 151	5.1	9
51	Model Predictive Control-based gait pattern generation for wearable exoskeletons. *IEEE International Conference on Rehabilitation Robotics*, **2011**, 2011, 5975442	1.3	9
50	Evaluation of the effect on walking of balance-related degrees of freedom in a robotic gait training device **2007**,		9
49	Robot-Aided Gait Training with LOPES **2012**, 379-396		9
48	Interfacing With Alpha Motor Neurons in Spinal Cord Injury Patients Receiving Trans-spinal Electrical Stimulation. *Frontiers in Neurology*, **2020**, 11, 493	4.1	8
47	Paretic versus non-paretic stepping responses following pelvis perturbations in walking chronic-stage stroke survivors. *Journal of NeuroEngineering and Rehabilitation*, **2017**, 14, 106	5.3	8
46	Selective and adaptive robotic support of foot clearance for training stroke survivors with stiff knee gait **2009**,		8
45	Novel actuation design of a gait trainer with shadow leg approach. *IEEE International Conference on Rehabilitation Robotics*, **2013**, 2013, 6650369	1.3	7
44	In vivo measurement of human knee and hip dynamics using MIMO system identification. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2010**, 2010, 3426-9	0.9	7
43	Effect of added inertia on the pelvis on gait. *IEEE International Conference on Rehabilitation Robotics*, **2011**, 2011, 5975493	1.3	7
42	Locomotor adaptation and retention to gradual and sudden dynamic perturbations. *IEEE International Conference on Rehabilitation Robotics*, **2011**, 2011, 5975379	1.3	7
41	Haptic Human-Human Interaction Through a Compliant Connection Does Not Improve Motor Learning in a Force Field. *Lecture Notes in Computer Science*, **2018**, 333-344	0.9	7
40	Questionnaire results of user experiences with wearable exoskeletons and their preferences for sensory feedback. *Journal of NeuroEngineering and Rehabilitation*, **2018**, 15, 112	5.3	7
39	Spinal plasticity in robot-mediated therapy for the lower limbs. *Journal of NeuroEngineering and Rehabilitation*, **2015**, 12, 81	5.3	6
38	Velocity-dependent reference trajectory generation for the LOPES gait training robot. *IEEE International Conference on Rehabilitation Robotics*, **2011**, 2011, 5975414	1.3	6
37	A Clustering-Based Approach to Identify Joint Impedance During Walking. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2020**, 28, 1808-1816	4.8	5

36	Lateral balance control for robotic gait training. *IEEE International Conference on Rehabilitation Robotics*, **2013**, 2013, 6650363	1.3	5
35	Effectiveness of rehabilitation interventions to improve paretic propulsion in individuals with stroke - A systematic review. *Clinical Biomechanics*, **2020**, 71, 176-188	2.2	5
34	Effect of assist-as-needed robotic gait training on the gait pattern post stroke: a randomized controlled trial. *Journal of NeuroEngineering and Rehabilitation*, **2021**, 18, 26	5.3	5
33	Ankle muscle responses during perturbed walking with blocked ankle joints. *Journal of Neurophysiology*, **2019**, 121, 1711-1717	3.2	4
32	Differences in chunking behavior between young and older adults diminish with extended practice. *Psychological Research*, **2019**, 83, 275-285	2.5	4
31	Rendering potential wearable robot designs with the LOPES gait trainer. *IEEE International Conference on Rehabilitation Robotics*, **2011**, 2011, 5975448	1.3	4
30	Can Momentum-Based Control Predict Human Balance Recovery Strategies?. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2020**, 28, 2015-2024	4.8	3
29	Robot-Aided Gait Training with LOPES **2016**, 461-481		3
28	Effectiveness of the LOwer Extremity Powered ExoSkeleton (LOPES) Robotic Gait Trainer on Ability and Quality of Walking in SCI Patients. *Biosystems and Biorobotics*, **2013**, 161-165	0.2	3
27	Haptic human-human interaction does not improve individual visuomotor adaptation. *Scientific Reports*, **2020**, 10, 19902	4.9	3
26	Immediate after-effects of robot-assisted gait with pelvic support or pelvic constraint on overground walking in healthy subjects. *Journal of NeuroEngineering and Rehabilitation*, **2019**, 16, 40	5.3	2
25	A Versatile Neuromuscular Exoskeleton Controller for Gait Assistance: A Preliminary Study on Spinal Cord Injury Patients. *Biosystems and Biorobotics*, **2017**, 163-167	0.2	2
24	Vibrotactile feedback to control the amount of weight shift during walking - A first step towards better control of an exoskeleton for spinal cord injury subjects. *IEEE International Conference on Rehabilitation Robotics*, **2017**, 2017, 1482-1487	1.3	2
23	Position and torque tracking: series elastic actuation versus model-based-controlled hydraulic actuation. *IEEE International Conference on Rehabilitation Robotics*, **2011**, 2011, 5975456	1.3	2
22	Gait training with Achilles ankle exoskeleton in chronic incomplete spinal cord injury subjects. *Journal of Biological Regulators and Homeostatic Agents*, **2020**, 34, 147-164. Technology in Medicine	0.7	2
21	Cooperative ankle-exoskeleton control can reduce effort to recover balance after unexpected disturbances during walking.. *Journal of NeuroEngineering and Rehabilitation*, **2022**, 19, 21	5.3	2
20	Improving the Standing Balance of People with Spinal Cord Injury Through the Use of a Powered Ankle-Foot Orthosis. *Biosystems and Biorobotics*, **2017**, 415-419	0.2	1
19	Towards Exoskeletons with Balance Capacities. *Biosystems and Biorobotics*, **2017**, 175-179	0.2	1

18	Whole Body Center of Mass Feedback in a Reflex-Based Neuromuscular Model Predicts Ankle Strategy During Perturbed Walking. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2021**, PP,	4.8	1
17	Pilot Study on Following and Resisting Forces on the Pelvis. *Biosystems and Biorobotics*, **2013**, 147-152	0.2	1
16	Benefits and Potential of a Neuromuscular Controller for Exoskeleton-Assisted Walking. *Biosystems and Biorobotics*, **2022**, 281-285	0.2	1
15	Modeling Trans-Spinal Direct Current Stimulation in the Presence of Spinal Implants. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2019**, 27, 790-797	4.8	1
14	Validation of Online Intrinsic and Reflexive Joint Impedance Estimates Using Correlation with EMG Measurements **2018**,		1
13	Ankle-Exoskeleton Control for Assisting in Balance Recovery After Unexpected Disturbances During Walking. *Biosystems and Biorobotics*, **2022**, 47-51	0.2	1
12	Influence of reaching direction on visuomotor adaptation: an explorative study. *IEEE International Conference on Rehabilitation Robotics*, **2011**, 2011, 5975374	1.3	0
11	Effects of selectively assisting impaired subtasks of walking in chronic stroke survivors. *Journal of NeuroEngineering and Rehabilitation*, **2020**, 17, 143	5.3	0
10	Neurophysiological validation of simultaneous intrinsic and reflexive joint impedance estimates. *Journal of NeuroEngineering and Rehabilitation*, **2021**, 18, 36	5.3	0
9	Centre of pressure modulations in double support effectively counteract anteroposterior perturbations during gait. *Journal of Biomechanics*, **2021**, 126, 110637	2.9	0
8	Disentangling acceleration-, velocity-, and duration-dependency of the short- and medium-latency stretch reflexes in the ankle plantarflexors. *Journal of Neurophysiology*, **2021**, 126, 1015-1029	3.2	0
7	The Existence of Shared Muscle Synergies Underlying Perturbed and Unperturbed Gait Depends on Walking Speed. *Applied Sciences (Switzerland)*, **2022**, 12, 2135	2.6	0
6	Predicting reactive stepping in response to perturbations by using a classification approach. *Journal of NeuroEngineering and Rehabilitation*, **2020**, 17, 84	5.3	
5	Advances in Robotic Gait Training. *Biosystems and Biorobotics*, **2014**, 187-190	0.2	
4	Joint-Level Responses to Counteract Perturbations Scale with Perturbation Magnitude and Direction. *Biosystems and Biorobotics*, **2017**, 139-142	0.2	
3	PS21 - 101. One week of treatment with an IL-1 receptor antagonist improves insulin sensitivity in patients with type 1 diabetes mellitus: results from a clinical trial. *Nederlands Tijdschrift Voor Diabetologie*, **2012**, 10, 170-171	0	
2	Are Ankle Muscle Responses in Balance Recovery Hard-Wired?. *Biosystems and Biorobotics*, **2019**, 287-290	0.2	
1	A Transparent Lower Limb Perturbator to Investigate Joint Impedance During Gait. *Biosystems and Biorobotics*, **2022**, 525-529	0.2	