Antonie J Van Den Bogert

List of Publications by Citations

170 papers	11,546 citations	51 h-index	105 g-index
200 ext. papers	13,105 ext. citations	3 avg, IF	6.22 L-index

#	Paper	IF	Citations
170	Biomechanical measures of neuromuscular control and valgus loading of the knee predict anterior cruciate ligament injury risk in female athletes: a prospective study. *American Journal of Sports Medicine*, **2005**, 33, 492-501	6.8	2400
169	Model-based estimation of muscle forces exerted during movements. *Clinical Biomechanics*, **2007**, 22, 131-54	2.2	580
168	Effect of skin movement on the analysis of skeletal knee joint motion during running. *Journal of Biomechanics*, **1997**, 30, 729-32	2.9	342
167	Aggressive quadriceps loading can induce noncontact anterior cruciate ligament injury. *American Journal of Sports Medicine*, **2004**, 32, 477-83	6.8	320
166	Effect of gender and defensive opponent on the biomechanics of sidestep cutting. *Medicine and Science in Sports and Exercise*, **2004**, 36, 1008-16	1.2	309
165	Sagittal plane biomechanics cannot injure the ACL during sidestep cutting. *Clinical Biomechanics*, **2004**, 19, 828-38	2.2	293
164	Effect of low pass filtering on joint moments from inverse dynamics: implications for injury prevention. *Journal of Biomechanics*, **2012**, 45, 666-71	2.9	285
163	Association between lower extremity posture at contact and peak knee valgus moment during sidestepping: implications for ACL injury. *Clinical Biomechanics*, **2005**, 20, 863-70	2.2	272
162	Optimality principles for model-based prediction of human gait. *Journal of Biomechanics*, **2010**, 43, 1055-60	2.9	253
161	Direct dynamics simulation of the impact phase in heel-toe running. *Journal of Biomechanics*, **1995**, 28, 661-8	2.9	222
160	The influence of foot positioning on ankle sprains. *Journal of Biomechanics*, **2000**, 33, 513-9	2.9	213
159	Tibiofemoral and tibiocalcaneal motion during walking: external vs. skeletal markers. *Gait and Posture*, **1997**, 6, 98-109	2.6	188
158	A real-time system for biomechanical analysis of human movement and muscle function. *Medical and Biological Engineering and Computing*, **2013**, 51, 1069-77	3.1	186
157	Horses damp the spring in their step. *Nature*, **2001**, 414, 895-9	50.4	185
156	Longitudinal sex differences during landing in knee abduction in young athletes. *Medicine and Science in Sports and Exercise*, **2010**, 42, 1923-31	1.2	182
155	Evaluation of a two dimensional analysis method as a screening and evaluation tool for anterior cruciate ligament injury. *British Journal of Sports Medicine*, **2005**, 39, 355-62	10.3	174
154	Development and validation of a 3-D model to predict knee joint loading during dynamic movement. *Journal of Biomechanical Engineering*, **2003**, 125, 864-74	2.1	170

153	Kinematic adaptations during running: effects of footwear, surface, and duration. *Medicine and Science in Sports and Exercise*, **2004**, 36, 838-44	1.2	161
152	Effects of foot orthoses on skeletal motion during running. *Clinical Biomechanics*, **2000**, 15, 54-64	2.2	161
151	In vivo determination of the anatomical axes of the ankle joint complex: an optimization approach. *Journal of Biomechanics*, **1994**, 27, 1477-88	2.9	142
150	Muscle coordination and function during cutting movements. *Medicine and Science in Sports and Exercise*, **1999**, 31, 294-302	1.2	131
149	Structural basis for delivery of the intact [Fe2S2] cluster by monothiol glutaredoxin. *Biochemistry*, **2009**, 48, 6041-3	3.2	124
148	Tibiocalcaneal motion during running, measured with external and bone markers. *Clinical Biomechanics*, **1997**, 12, 8-16	2.2	124
147	Ground reaction force patterns of Dutch warmblood horses at normal trot. *Equine Veterinary Journal*, **1993**, 25, 134-7	2.4	115
146	Personal Navigation via High-Resolution Gait-Corrected Inertial Measurement Units. *IEEE Transactions on Instrumentation and Measurement*, **2010**, 59, 3018-3027	5.2	109
145	The influence of orthotic devices and vastus medialis strength and timing on patellofemoral loads during running. *Clinical Biomechanics*, **2000**, 15, 611-8	2.2	109
144	Response time is more important than walking speed for the ability of older adults to avoid a fall after a trip. *Journal of Biomechanics*, **2002**, 35, 199-205	2.9	103
143	Tibiocalcaneal kinematics of barefoot versus shod running. *Journal of Biomechanics*, **2000**, 33, 1387-95	2.9	102
142	A Method for Numerical Simulation of Single Limb Ground Contact Events: Application to Heel-Toe Running. *Computer Methods in Biomechanics and Biomedical Engineering*, **2000**, 3, 321-334	2.1	100
141	Implicit methods for efficient musculoskeletal simulation and optimal control. *Procedia IUTAM*, **2011**, 2, 297-316		99
140	Effect of gender on lower extremity kinematics during rapid direction changes: an integrated analysis of three sports movements. *Journal of Science and Medicine in Sport*, **2005**, 8, 411-22	4.4	97
139	An analysis of hip joint loading during walking, running, and skiing. *Medicine and Science in Sports and Exercise*, **1999**, 31, 131-42	1.2	90
138	Influence of shoeing on ground reaction forces and tendon strains in the forelimbs of ponies. *Equine Veterinary Journal*, **1996**, 28, 126-32	2.4	80
137	Estimation of musculotendon kinematics in large musculoskeletal models using multidimensional B-splines. *Journal of Biomechanics*, **2012**, 45, 595-601	2.9	78
136	Exotendons for assistance of human locomotion. *BioMedical Engineering OnLine*, **2003**, 2, 17	4.1	78

135	Contributions of proximal and distal moments to axial tibial rotation during walking and running. *Journal of Biomechanics*, **2000**, 33, 1397-403	2.9	74
134	Correction models for skin displacement in equine kinematics gait analysis. *Journal of Equine Veterinary Science*, **1992**, 12, 178-192	1.2	72
133	Effects of shoe sole construction on skeletal motion during running. *Medicine and Science in Sports and Exercise*, **2001**, 33, 311-9	1.2	71
132	Investigating isolated neuromuscular control contributions to non-contact anterior cruciate ligament injury risk via computer simulation methods. *Clinical Biomechanics*, **2008**, 23, 926-36	2.2	70
131	A real-time, 3-D musculoskeletal model for dynamic simulation of arm movements. *IEEE Transactions on Biomedical Engineering*, **2009**, 56, 941-8	5	67
130	The clinical biomechanics award paper 1995 Lower extremity joint loading during impact in running. *Clinical Biomechanics*, **1996**, 11, 181-193	2.2	67
129	A method for inverse dynamic analysis using accelerometry. *Journal of Biomechanics*, **1996**, 29, 949-54	2.9	67
128	Tendon strain in the forelimbs as a function of gait and ground characteristics and in vitro limb loading in ponies. *Equine Veterinary Journal*, **1996**, 28, 133-8	2.4	65
127	Passive regulation of impact forces in heel-toe running. *Clinical Biomechanics*, **1998**, 13, 521-531	2.2	64
126	Computer simulation of landing movement in downhill skiing: anterior cruciate ligament injuries. *Journal of Biomechanics*, **1996**, 29, 845-54	2.9	64
125	How the horse moves: 1. Significance of graphical representations of equine forelimb kinematics. *Equine Veterinary Journal*, **1995**, 27, 31-8	2.4	63
124	Human muscle modelling from a user's perspective. *Journal of Electromyography and Kinesiology*, **1998**, 8, 119-24	2.5	60
123	How the horse moves: 2. Significance of graphical representations of equine hind limb kinematics. *Equine Veterinary Journal*, **1995**, 27, 39-45	2.4	58
122	Concurrent musculoskeletal dynamics and finite element analysis predicts altered gait patterns to reduce foot tissue loading. *Journal of Biomechanics*, **2010**, 43, 2810-5	2.9	56
121	Modelling of force production in skeletal muscle undergoing stretch. *Journal of Biomechanics*, **1996**, 29, 1091-104	2.9	55
120	Helical axes of skeletal knee joint motion during running. *Journal of Biomechanics*, **2008**, 41, 1632-8	2.9	51
119	In vivo tendon forces in the forelimb of ponies at the walk, validated by ground reaction force measurements. *Cells Tissues Organs*, **1993**, 146, 162-7	2.1	51
118	An elaborate data set on human gait and the effect of mechanical perturbations. *PeerJ*, **2015**, 3, e918	3.1	50

117	Kinematics of the standardbred trotter measured at 6, 7, 8 and 9 m/s on a treadmill, before and after 5 months of prerace training. *Cells Tissues Organs*, **1993**, 146, 154-61	2.1	47
116	Kinematic gait analysis in equine carpal lameness. *Cells Tissues Organs*, **1993**, 146, 86-9	2.1	47
115	On the Number and Placement of Accelerometers for Angular Velocity and Acceleration Determination. *Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME*, **2001**, 123, 552-554	1.6	46
114	Adaptive surrogate modeling for efficient coupling of musculoskeletal control and tissue deformation models. *Journal of Biomechanical Engineering*, **2009**, 131, 011014	2.1	42
113	Standard mechanical energy analyses do not correlate with muscle work in cycling. *Journal of Biomechanics*, **1998**, 31, 239-45	2.9	42
112	Standardization proposal of soft tissue artefact description for data sharing in human motion measurements. *Journal of Biomechanics*, **2017**, 62, 5-13	2.9	41
111	Simulation of quadrupedal locomotion using a rigid body model. *Journal of Biomechanics*, **1989**, 22, 33-41	2.9	40
110	Real-time simulation of three-dimensional shoulder girdle and arm dynamics. *IEEE Transactions on Biomedical Engineering*, **2014**, 61, 1947-56	5	39
109	Predictive simulation of gait at low gravity reveals skipping as the preferred locomotion strategy. *Journal of Biomechanics*, **2012**, 45, 1293-8	2.9	38
108	The effects of age and skill level on knee musculature co-contraction during functional activities: a systematic review. *British Journal of Sports Medicine*, **2008**, 42, 561-6	10.3	38
107	The biomechanical role of scaffolds in augmented rotator cuff tendon repairs. *Journal of Shoulder and Elbow Surgery*, **2012**, 21, 1064-71	4.3	37
106	Correction for skin displacement errors in movement analysis of the horse. *Journal of Biomechanics*, **1990**, 23, 97-101	2.9	37
105	Kinetics and kinematics of the equine hind limb: in vivo tendon strain and joint kinematics. *American Journal of Veterinary Research*, **1988**, 49, 1353-9	1.1	37
104	ISB recommendations on the reporting of intersegmental forces and moments during human motion analysis. *Journal of Biomechanics*, **2020**, 99, 109533	2.9	37
103	Model formulation and determination of in vitro parameters of a noninvasive method to calculate flexor tendon forces in the equine forelimb. *American Journal of Veterinary Research*, **2001**, 62, 1585-93	1.1	36
102	Relationship between jump landing kinematics and peak ACL force during a jump in downhill skiing: a simulation study. *Scandinavian Journal of Medicine and Science in Sports*, **2014**, 24, e180-7	4.6	35
101	Movement coupling at the ankle during the stance phase of running. *Foot and Ankle International*, **2000**, 21, 232-9	3.3	34
100	Quantification of skin displacement near the carpal, tarsal and fetlock joints of the walking horse. *Equine Veterinary Journal*, **1988**, 20, 203-8	2.4	34

99	Training an Actor-Critic Reinforcement Learning Controller for Arm Movement Using Human-Generated Rewards. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2017**, 25, 1892-1905	4.8	33
98	Design and validation of a general purpose robotic testing system for musculoskeletal applications. *Journal of Biomechanical Engineering*, **2010**, 132, 025001	2.1	32
97	Estimation of gait kinematics and kinetics from inertial sensor data using optimal control of musculoskeletal models. *Journal of Biomechanics*, **2019**, 95, 109278	2.9	31
96	Optimization and evaluation of a proportional derivative controller for planar arm movement. *Journal of Biomechanics*, **2010**, 43, 1086-91	2.9	31
95	Quantification of the locomotion of Dutch Warmblood foals. *Cells Tissues Organs*, **1993**, 146, 141-7	2.1	31
94	Joint contact forces can be reduced by improving joint moment symmetry in below-knee amputee gait simulations. *Gait and Posture*, **2016**, 49, 219-225	2.6	31
93	Modeling and optimal control of an energy-storing prosthetic knee. *Journal of Biomechanical Engineering*, **2012**, 134, 051007	2.1	29
92	Gender dimorphic ACL strain in response to combined dynamic 3D knee joint loading: implications for ACL injury risk. *Knee*, **2009**, 16, 432-40	2.6	28
91	The effect of tibiofemoral loading on proximal tibiofibular joint motion. *Journal of Anatomy*, **2007**, 211, 647-53	2.9	28
90	Real-time simulation of hand motion for prosthesis control. *Computer Methods in Biomechanics and Biomedical Engineering*, **2017**, 20, 540-549	2.1	27
89	The effects of ankle compliance and flexibility on ankle sprains. *Medicine and Science in Sports and Exercise*, **2000**, 32, 260-5	1.2	27
88	Strain of the musculus interosseus medius and its rami extensorii in the horse, deduced from in vivo kinematics. *Cells Tissues Organs*, **1993**, 147, 118-24	2.1	27
87	Quantitative analysis of computer-averaged electromyographic profiles of intrinsic limb muscles in ponies at the walk. *American Journal of Veterinary Research*, **1992**, 53, 2343-9	1.1	27
86	Skating technique for the straights, based on the optimization of a simulation model. *Medicine and Science in Sports and Exercise*, **1997**, 29, 279-86	1.2	26
85	A weighted least squares method for inverse dynamic analysis. *Computer Methods in Biomechanics and Biomedical Engineering*, **2008**, 11, 3-9	2.1	25
84	Measurement techniques in animal locomotion analysis. *Cells Tissues Organs*, **1993**, 146, 123-9	2.1	24
83	A metabolic energy expenditure model with a continuous first derivative and its application to predictive simulations of gait. *Computer Methods in Biomechanics and Biomedical Engineering*, **2018**, 21, 521-531	2.1	22
82	Expressing the joint moments of drop jumps and sidestep cutting in different reference frames--does it matter?. *Journal of Biomechanics*, **2014**, 47, 193-9	2.9	22

81	Aggressive quadriceps loading can induce noncontact anterior cruciate ligament injury. *American Journal of Sports Medicine*, **2005**, 33, 1106; author reply 1106-7	6.8	22
80	Influence of ankle ligaments on tibial rotation: an in vitro study. *Foot and Ankle International*, **1996**, 17, 79-84	3.3	21
79	Foot and ankle forces during an automobile collision: the influence of muscles. *Journal of Biomechanics*, **2004**, 37, 637-44	2.9	21
78	Metabolic cost calculations of gait using musculoskeletal energy models, a comparison study. *PLoS ONE*, **2019**, 14, e0222037	3.7	20
77	A quantitative analysis of skin displacement in the trotting horse. *Equine Veterinary Journal*, **1990**, 22, 101-9	2.4	20
76	A method to determine bone movement in the ankle joint complex in vitro. *Journal of Biomechanics*, **1997**, 30, 513-6	2.9	20
75	A three-dimensional inverse finite element analysis of the heel pad. *Journal of Biomechanical Engineering*, **2012**, 134, 031002	2.1	19
74	A kinematic and strain gauge study of the reciprocal apparatus in the equine hind limb. *Journal of Biomechanics*, **1992**, 25, 1291-301	2.9	18
73	Comparison of two methods of determining patellofemoral joint stress during dynamic activities. *Gait and Posture*, **2015**, 42, 218-22	2.6	17
72	An elaborate data set characterizing the mechanical response of the foot. *Journal of Biomechanical Engineering*, **2009**, 131, 094502	2.1	17
71	CNN-Based Estimation of Sagittal Plane Walking and Running Biomechanics From Measured and Simulated Inertial Sensor Data. *Frontiers in Bioengineering and Biotechnology*, **2020**, 8, 604	5.8	16
70	Personal navigation via shoe mounted inertial measurement units **2010**,		16
69	OpenSim Versus Human Body Model: A Comparison Study for the Lower Limbs During Gait. *Journal of Applied Biomechanics*, **2018**, 1-7	1.2	16
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67	Mechanical properties of the tendinous equine interosseus muscle are affected by in vivo transducer implantation. *Journal of Biomechanics*, **1998**, 31, 485-90	2.9	14
66	Robotic testing of proximal tibio-fibular joint kinematics for measuring instability following total knee arthroplasty. *Journal of Orthopaedic Research*, **2011**, 29, 47-52	3.8	13
65	Optimal design of a transfemoral prosthesis with energy storage and regeneration **2014**,		12
64	Semiactive Virtual Control Method for Robots with Regenerative Energy-Storing Joints. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2014**, 47, 10244-10250		12

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62	Optimal design and control of an electromechanical transfemoral prosthesis with energy regeneration. *PLoS ONE*, **2017**, 12, e0188266	3.7	11
61	. *IEEE Transactions on Human-Machine Systems*, **2016**, 46, 723-733	4.1	11
60	Impingement and stability of total hip arthroplasty versus femoral head resurfacing using a cadaveric robotics model. *Journal of Orthopaedic Research*, **2013**, 31, 1108-15	3.8	11
59	Comment: effect of fatigue on knee kinetics and kinematics in stop-jump tasks. *American Journal of Sports Medicine*, **2006**, 34, 312-5; author reply 313-5	6.8	11
58	Multi-body modelling and simulation of animal locomotion. *Cells Tissues Organs*, **1993**, 146, 95-102	2.1	11
57	Model-Based Control of Individual Finger Movements for Prosthetic Hand Function. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2020**, 28, 612-620	4.8	10
56	Development of dynamic models of the Mauch prosthetic knee for prospective gait simulation. *Journal of Biomechanics*, **2014**, 47, 3178-84	2.9	10
55	Assessing vaginal surgical skills using video motion analysis. *Obstetrics and Gynecology*, **2009**, 114, 244-251	4.9	10
54	Achilles tendon loads at walk measured using a novel ultrasonic technique. *Computer Methods in Biomechanics and Biomedical Engineering*, **2005**, 8, 221-222	2.1	10
53	Simulation of lower limb axial arterial length change during locomotion. *Journal of Biomechanics*, **2012**, 45, 1485-90	2.9	9
52	Review of musculoskeletal modelling in a clinical setting: Current use in rehabilitation design, surgical decision making and healthcare interventions. *Clinical Biomechanics*, **2021**, 83, 105292	2.2	9
51	A High-Fidelity Wearable System for Measuring Lower-Limb Kinetics and Kinematics. *IEEE Sensors Journal*, **2019**, 19, 12482-12493	4	8
50	Inertial compensation for belt acceleration in an instrumented treadmill. *Journal of Biomechanics*, **2014**, 47, 3758-61	2.9	8
49	Simulation Analysis of Linear Quadratic Regulator Control of Sagittal-Plane Human Walking-Implications for Exoskeletons. *Journal of Biomechanical Engineering*, **2017**, 139,	2.1	8
48	An analytical model for rotator cuff repairs. *Clinical Biomechanics*, **2010**, 25, 751-8	2.2	8
47	Kinematic analysis of world championship three-day event horses jumping a cross-country drop fence. *Journal of Equine Veterinary Science*, **1995**, 15, 527-531	1.2	8
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45	Effect of Drop Height on Lower Extremity Biomechanical Measures in Female Athletes. *Medicine and Science in Sports and Exercise*, **2008**, 40, S80	1.2	7
44	Optimal control simulation predicts effects of midsole materials on energy cost of running. *Computer Methods in Biomechanics and Biomedical Engineering*, **2019**, 22, 869-879	2.1	6
43	Peak ACL force during jump landing in downhill skiing is less sensitive to landing height than landing position. *British Journal of Sports Medicine*, **2018**, 52, 1086-1090	10.3	6
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41	The contribution of the acetabular labrum to hip joint stability: a quantitative analysis using a dynamic three-dimensional robot model. *Journal of Biomechanical Engineering*, **2015**, 137, 061012	2.1	6
40	Evaluating the Physical Realism of Character Animations Using Musculoskeletal Models. *Lecture Notes in Computer Science*, **2010**, 11-22	0.9	6
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38	Pre-impact lower extremity posture and brake pedal force predict foot and ankle forces during an automobile collision. *Journal of Biomechanical Engineering*, **2004**, 126, 770-8	2.1	6
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34	A solution method for predictive simulations in a stochastic environment. *Journal of Biomechanics*, **2020**, 104, 109759	2.9	5
33	Semiactive virtual control of a hydraulic prosthetic knee **2016**,		5
32	Computer-assisted gait analysis in equine orthopaedic practice: the case for inverse dynamic analysis. *Equine Veterinary Journal*, **1998**, 30, 362-3	2.4	5
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30	An Anthropometrically Parameterized Assistive Lower Limb Exoskeleton. *Journal of Biomechanical Engineering*, **2021**, 143,	2.1	4
29	An approach to generate noncontact ACL-injury prone situations on a computer using kinematic data of non-injury situations and Monte Carlo simulation. *Computer Methods in Biomechanics and Biomedical Engineering*, **2019**, 22, 3-10	2.1	4
28	Compensation for inertial and gravity effects in a moving force platform. *Journal of Biomechanics*, **2018**, 75, 96-101	2.9	4

27	Comment on "A stochastic biomechanical model for risk and risk factors of non-contact anterior cruciate ligament injuries". *Journal of Biomechanics*, **2009**, 42, 1778-9; author reply 1780-2	2.9	3
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17	Antagonistic Co-contraction Can Minimize Muscular Effort in Systems with Uncertainty		2
16	Creating a Reinforcement Learning Controller for Functional Electrical Stimulation of a Human Arm **2008**, 49326, 1-6		2
15	Metabolic cost calculations of gait using musculoskeletal energy models, a comparison study		2
14	Identification of the human postural control system through stochastic trajectory optimization. *Journal of Neuroscience Methods*, **2020**, 334, 108580	3	2
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12	Nonlinear Tracking Control of an Antagonistic Muscle Pair Actuated System **2017**,		1
11	Authors' reply regarding Effect of low pass filtering on joint moments from inverse dynamics: Implications for injury prevention *Journal of Biomechanics*, **2012**, 45, 2059-2060	2.9	1
10	Concurrent Simulations of Musculoskeletal Movements and Tissue Deformations **2007**, 5		1

LIST OF PUBLICATIONS

9	Backstepping Control of Open-Chain Linkages Actuated by Antagonistic Hill Muscles. *Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME*, **2020**, 142,	1.6	1
8	Identification of Postural Controllers in Human Standing Balance. *Journal of Biomechanical Engineering*, **2021**, 143,	2.1	1
7	Early evaluation of a powered transfemoral prosthesis with force-modulated impedance control and energy regeneration.. *Medical Engineering and Physics*, **2022**, 100, 103744	2.4	1
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1	A progressive-individualized midstance gait perturbation protocol for reactive balance assessment in stroke survivors. *Journal of Biomechanics*, **2021**, 123, 110477	2.9	