Arend L Schwab

List of Publications by Year
in descending order

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64 papers	2,508 citations	304743 22 h-index	233421 45 g-index
67 all docs	67 docs citations	67 times ranked	1595 citing authors

#	Article	IF	Citations
1	Linearized dynamics equations for the balance and steer of a bicycle: a benchmark and review. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2007, 463, 1955-1982.	2.1	261
2	A comparison of revolute joint clearance models in the dynamic analysis of rigid and elastic mechanical systems. Mechanism and Machine Theory, 2002, 37, 895-913.	4.5	205
3	The influence of the biarticularity of the gastrocnemius muscle on vertical-jumping achievement. Journal of Biomechanics, 1993, 26, 1-8.	2.1	186
4	How to keep from falling forward: elementary swing leg action for passive dynamic walkers. , 2005, 21, 393-401.		182
5	The safety of electrically assisted bicycles compared to classic bicycles. Accident Analysis and Prevention, 2014, 73, 174-180.	5.7	157
6	A Bicycle Can Be Self-Stable Without Gyroscopic or Caster Effects. Science, 2011, 332, 339-342.	12.6	133
7	Passive dynamic walking model with upper body. Robotica, 2004, 22, 681-688.	1.9	131
8	Adding an Upper Body to Passive Dynamic Walking Robots by Means of a Bisecting Hip Mechanism. , 2007, 23, 112-123.		100
9	A 3D passive dynamic biped with yaw and roll compensation. Robotica, 2001, 19, 275-284.	1.9	87
10	Speed choice and mental workload of elderly cyclists on e-bikes in simple and complex traffic situations: A field experiment. Accident Analysis and Prevention, 2015, 74, 97-106.	5.7	73
11	Comparison of Three-Dimensional Flexible Beam Elements for Dynamic Analysis: Classical Finite Element Formulation and Absolute Nodal Coordinate Formulation. Journal of Computational and Nonlinear Dynamics, 2010, 5, .	1.2	70
12	Experimental validation of a model of an uncontrolled bicycle. Multibody System Dynamics, 2008, 19, 115-132.	2.7	68
13	A review on bicycle dynamics and rider control. Vehicle System Dynamics, 2013, 51, 1059-1090.	3.7	63
14	Rider motion identification during normal bicycling byÂmeans of principal component analysis. Multibody System Dynamics, 2011, 25, 225-244.	2.7	61
15	Toward a Unified Design Approach for Both Compliant Mechanisms and Rigid-Body Mechanisms: Module Optimization. Journal of Mechanical Design, Transactions of the ASME, 2015, 137, .	2.9	59
16	Benchmark results on the linearized equations of motion of an uncontrolled bicycle. Journal of Mechanical Science and Technology, 2005, 19, 292-304.	1.5	50
17	State-of-the-art and challenges of railway and road vehicle dynamics with multibody dynamics approaches. Multibody System Dynamics, 2020, 49, 1-32.	2.7	47
18	Lateral dynamics of a bicycle with a passive rider model: stability and controllability. Vehicle System Dynamics, 2012, 50, 1209-1224.	3.7	44

#	Article	IF	Citations
19	A review on bicycle and motorcycle rider control with a perspective on handling qualities. Vehicle System Dynamics, 2013, 51, 1722-1764.	3.7	41
20	Dynamics of Flexible Multibody Systems with Non-Holonomic Constraints: A Finite Element Approach. Multibody System Dynamics, 2003, 10, 107-123.	2.7	39
21	Comparison of Three-Dimensional Flexible Beam Elements for Dynamic Analysis: Finite Element Method and Absolute Nodal Coordinate Formulation. , 2005, , 1341.		38
22	A study of moderately thick quadrilateral plate elements based on the absolute nodal coordinate formulation. Multibody System Dynamics, 2014, 31, 309-338.	2.7	36
23	Riding performance on a conventional bicycle and a pedelec in low speed exercises: Objective and subjective evaluation of middle-aged and older persons. Transportation Research Part F: Traffic Psychology and Behaviour, 2016, 42, 28-43.	3.7	31
24	Small Vibrations Superimposed on a Prescribed Rigid Body Motion. Multibody System Dynamics, 2002, 8, 29-50.	2.7	30
25	Power in sports: A literature review on the application, assumptions, and terminology of mechanical power in sport research. Journal of Biomechanics, 2018, 79, 1-14.	2.1	22
26	Statical balancing of a robot mechanism with the aid of a genetic algorithm. Mechanism and Machine Theory, 1998, 33, 163-174.	4.5	21
27	Review of Joost Kalkerâ€™s Wheel-Rail Contact Theories and Their Implementation in Multibody Codes. , 2009, , .		15
28	Wireless instrumented klapskates for long-track speed skating. Sports Engineering, 2016, 19, 273-281.	1.1	15
29	Experimental estimation of energy absorption during heel strike in human barefoot walking. PLoS ONE, 2018, 13, e0197428.	2.5	14
30	Modelling cyclistsâ€™ comfort zones from obstacle avoidance manoeuvres. Accident Analysis and Prevention, 2020, 144, 105609.	5.7	14
31	Dynamics of Flexible Multibody Systems having Rolling Contact: Application of the Wheel Element to the Dynamics of Road Vehicles. Vehicle System Dynamics, 1999, 33, 338-349.	3.7	13
32	Comparison of Three-Dimensional Flexible Thin Plate Elements for Multibody Dynamic Analysis: Finite Element Formulation and Absolute Nodal Coordinate Formulation. , 2007, , .		13
33	Some Observations on Human Control of a Bicycle. , 2009, , .		13
34	Statistics of bicycle rider motion. Procedia Engineering, 2010, 2, 2937-2942.	1.2	13
35	SPACAR: A software subroutine package for simulation of the behavior of biomechanical systems. Journal of Biomechanics, 1992, 25, 1219-1226.	2.1	10
36	A Method for Estimating Physical Properties of a Combined Bicycle and Rider. , 2009, , .		10

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37	Rider control identification in bicycling using lateral force perturbation tests. Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics, 2013, 227, 390-406.	0.8	10
38	Getting in shape: Reconstructing three-dimensional long-track speed skating kinematics by comparing several body pose reconstruction techniques. Journal of Biomechanics, 2018, 69, 103-112.	2.1	9
39	The individual time trial as an optimal control problem. Proceedings of the Institution of Mechanical Engineers, Part P: Journal of Sports Engineering and Technology, 2017, 231, 200-206.	0.7	8
40	Editorial for Special Issue â€“ Improving cycling safety through scientific research. Traffic Injury Prevention, 2019, 20, 1-2.	1.4	8
41	Design and hardware selection for a bicycle simulator. Mechanical Sciences, 2019, 10, 1-10.	1.0	8
42	Studying the role of vision in cycling: Critique on restricting research to fixation behaviour. Accident Analysis and Prevention, 2013, 59, 466-468.	5.7	7
43	Design and verification of a simple 3D dynamic model of speed skating which mimics observed forces and motions. Journal of Biomechanics, 2017, 64, 93-102.	2.1	7
44	Roll angle estimator based on angular rate measurements for bicycles. Vehicle System Dynamics, 2019, 57, 1705-1719.	3.7	7
45	A Review on Handling Aspects in Bicycle and Motorcycle Control. , 2011, , .		4
46	Getting the Angles Straight in Speed Skating: A Validation Study on an IMU Filter Design to Measure the Lean Angle of the Skate on the Straights. Procedia Engineering, 2016, 147, 590-595.	1.2	4
47	A simple mechanical model for simulating cross-country skiing, skating technique. Sports Engineering, 2016, 19, 91-104.	1.1	4
48	Some Effects of Crosswind on the Lateral Dynamics of a Bicycle. Proceedings (mdpi), 2018, 2, .	0.2	4
49	Experimental Validation of the Lateral Dynamics of a Bicycle on a Treadmill. , 2009, , .		3
50	On the Design of a Recumbent Bicycle With a Perspective on Handling Qualities. , 2012, , .		3
51	Rider Optimal Control Identification in Bicycling. , 2012, , .		3
52	The dynamic response of the bicycle riderâ€™s body to vertical, fore-and-aft, and lateral perturbations. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2020, 234, 1944-1957.	1.9	3
53	Editorial: Cycling Safety. Journal of Transportation Safety and Security, 2020, 12, 1-2.	1.6	3
54	The use of computers in the design of discrete component systems. Computer Methods in Applied Mechanics and Engineering, 1993, 103, 231-246.	6.6	2

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55	A Variational Approach to Determine the Optimal Power Distribution for Cycling in a Time Trial. Procedia Engineering, 2016, 147, 907-911.	1.2	2
56	Cycling safety. Journal of Safety Research, 2018, 67, 125.	3.6	2
57	Rider control identification in cycling taking into account steering torque feedback and sensory delays. Vehicle System Dynamics, 0, , 1-25.	3.7	2
58	Bicycle and Motorcycle Dynamics. Vehicle System Dynamics, 2012, 50, 1191-1191.	3.7	1
59	Measuring and Comparing Descend in Elite Race Cycling with a Perspective on Real-Time Feedback for Improving Individual Performance. Proceedings (mdpi), 2018, 2, 262.	0.2	1
60	A Simple Multibody Dynamic Model of Cross-Country Ski-Skating. , 2013, , .		1
61	58786 Controllability of a bicycle(Vehicle Dynamics & Control including Tire Dynamics). The Proceedings of the Asian Conference on Multibody Dynamics, 2010, 2010.5, _58786-1_-_58786-7_.	0.0	0
62	Balance and Control of a Rear-wheel Steered Speed-record Recumbent Bicycle. Procedia Engineering, 2014, 72, 459-464.	1.2	0
63	A Simple Mechanical Model for Simulating Cross-Country Skiing Propulsive Force. , 2015, , .		0
64	On the Influence of Contact Geometry on Grasp Stability. , 2008, , .		0