

# Olivier BrÃ¼ls

## List of Publications by Year in descending order

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85  
papers

1,930  
citations

279701

23  
h-index

289141

40  
g-index

86  
all docs

86  
docs citations

86  
times ranked

1086  
citing authors

#	ARTICLE	IF	CITATIONS
1	Convergence of the generalized- $\hat{L}$ scheme for constrained mechanical systems. <i>Multibody System Dynamics</i> , 2007, 18, 185-202.	1.7	301
2	Geometrically exact beam finite element formulated on the special Euclidean group. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2014, 268, 451-474.	3.4	129
3	Lie group generalized- $\hat{L}$ time integration of constrained flexible multibody systems. <i>Mechanism and Machine Theory</i> , 2012, 48, 121-137.	2.7	124
4	The global modal parameterization for non-linear model-order reduction in flexible multibody dynamics. <i>International Journal for Numerical Methods in Engineering</i> , 2007, 69, 948-977.	1.5	81
5	On the Use of Lie Group Time Integrators in Multibody Dynamics. <i>Journal of Computational and Nonlinear Dynamics</i> , 2010, 5, .	0.7	76
6	Development and validation of an accelerometer-based method for quantifying gait events. <i>Medical Engineering and Physics</i> , 2015, 37, 226-232.	0.8	71
7	Multiphysics modeling and optimization of mechatronic multibody systems. <i>Multibody System Dynamics</i> , 2007, 18, 345-373.	1.7	69
8	Simultaneous enforcement of constraints at position and velocity levels in the nonsmooth generalized- $\hat{L}$ scheme. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2014, 281, 131-161.	3.4	61
9	A nonsmooth generalized- $\hat{L}$ scheme for flexible multibody systems with unilateral constraints. <i>International Journal for Numerical Methods in Engineering</i> , 2013, 96, 487-511.	1.5	45
10	Integrated structure and control design for mechatronic systems with configuration-dependent dynamics. <i>Mechatronics</i> , 2009, 19, 1016-1025.	2.0	37
11	Normalizing shoulder EMG: An optimal set of maximum isometric voluntary contraction tests considering reproducibility. <i>Journal of Electromyography and Kinesiology</i> , 2017, 37, 1-8.	0.7	34
12	Computer-aided integrated design for machines with varying dynamics. <i>Mechanism and Machine Theory</i> , 2009, 44, 1733-1745.	2.7	33
13	Dynamic analysis of the self-locking phenomenon in tape-spring hinges. <i>Acta Astronautica</i> , 2010, 66, 1125-1132.	1.7	33
14	Sensitivity analysis for dynamic mechanical systems with finite rotations. <i>International Journal for Numerical Methods in Engineering</i> , 2008, 74, 1897-1927.	1.5	32
15	Error analysis of generalized- $\alpha$ Lie group time integration methods for constrained mechanical systems. <i>Numerische Mathematik</i> , 2015, 129, 149-179.	0.9	30
16	Mechanical behaviour of tape springs used in the deployment of reflectors around a solar panel. <i>Acta Astronautica</i> , 2016, 123, 271-282.	1.7	30
17	Interpolation schemes for geometrically exact beams: A motion approach. <i>International Journal for Numerical Methods in Engineering</i> , 2017, 112, 1129-1153.	1.5	30
18	Analysis of stable model inversion methods for constrained underactuated mechanical systems. <i>Mechanism and Machine Theory</i> , 2017, 111, 99-117.	2.7	27

#	ARTICLE	IF	CITATIONS
19	Experimental and numerical investigation of the nonlinear dynamics of compliant mechanisms for deployable structures. <i>Mechanical Systems and Signal Processing</i> , 2018, 101, 1-25.	4.4	27
20	The Generalized- $\hat{\pm}$ Scheme as a Linear Multistep Integrator: Toward a General Mechatronic Simulator. <i>Journal of Computational and Nonlinear Dynamics</i> , 2008, 3, .	0.7	26
21	Discussion on the optimization problem formulation of flexible components in multibody systems. <i>Structural and Multidisciplinary Optimization</i> , 2013, 48, 1189-1206.	1.7	25
22	Dominance effect on scapula 3-dimensional posture and kinematics in healthy male and female populations. <i>Journal of Shoulder and Elbow Surgery</i> , 2014, 23, 873-881.	1.2	25
23	Inverse dynamics of serial and parallel underactuated multibody systems using a DAE optimal control approach. <i>Multibody System Dynamics</i> , 2013, 30, 359-376.	1.7	24
24	A Formulation on the Special Euclidean Group for Dynamic Analysis of Multibody Systems. <i>Journal of Computational and Nonlinear Dynamics</i> , 2014, 9, .	0.7	23
25	A Stable Inversion Method for Feedforward Control of Constrained Flexible Multibody Systems. <i>Journal of Computational and Nonlinear Dynamics</i> , 2014, 9, .	0.7	23
26	Optimization of Multibody Systems and Their Structural Components. <i>Computational Methods in Applied Sciences (Springer)</i> , 2011, , 49-68.	0.1	23
27	Structural optimization of multibody system components described using level set techniques. <i>Structural and Multidisciplinary Optimization</i> , 2015, 52, 959-971.	1.7	21
28	Geometrically exact thin-walled beam including warping formulated on the special Euclidean group $S^3$ . <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 369, 113062.	3.4	21
29	Importance of structural damping in the dynamic analysis of compliant deployable structures. <i>Acta Astronautica</i> , 2015, 111, 323-333.	1.7	20
30	System-Based Approaches for Structural Optimization of Flexible Mechanisms. <i>Archives of Computational Methods in Engineering</i> , 2018, 25, 817-844.	6.0	19
31	Sensitivity analysis for multibody systems formulated on a Lie group. <i>Multibody System Dynamics</i> , 2014, 31, 47-67.	1.7	18
32	The generalized- $\hat{\pm}$ method in mechatronic applications. <i>ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik</i> , 2006, 86, 748-758.	0.9	17
33	A nonsmooth frictional contact formulation for multibody system dynamics. <i>International Journal for Numerical Methods in Engineering</i> , 2020, 121, 3584-3609.	1.5	17
34	Nonlinear Interpolation on Manifold of Reduced-Order Models in Magnetodynamic Problems. <i>IEEE Transactions on Magnetics</i> , 2016, 52, 1-4.	1.2	16
35	A geometric optimization method for the trajectory planning of flexible manipulators. <i>Multibody System Dynamics</i> , 2019, 47, 347-362.	1.7	16
36	Integrating structural and input design of a 2-DOF high-speed parallel manipulator: A flexible model-based approach. <i>Mechanism and Machine Theory</i> , 2010, 45, 1509-1519.	2.7	15

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37	Gait symmetry in the dual task condition as a predictor of future falls among independent older adults: a 2-year longitudinal study. <i>Aging Clinical and Experimental Research</i> , 2019, 31, 1057-1067.	1.4	15
38	Weakly and fully coupled methods for structural optimization of flexible mechanisms. <i>Multibody System Dynamics</i> , 2016, 38, 391-417.	1.7	14
39	Data set of healthy old people assessed for three walking conditions using accelerometric and opto-electronic methods. <i>Aging Clinical and Experimental Research</i> , 2017, 29, 1201-1209.	1.4	14
40	Which tool for a tennis serve evaluation? A review. <i>International Journal of Performance Analysis in Sport</i> , 2017, 17, 1007-1033.	0.5	14
41	Merging multi-camera data to reduce motion analysis instrumental errors using Kalman filters. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2015, 18, 952-960.	0.9	13
42	A Lie Algebra Approach to Lie Group Time Integration of Constrained Systems. <i>CISM International Centre for Mechanical Sciences, Courses and Lectures</i> , 2016, , 91-158.	0.3	13
43	Geometric Interpretation of a Non-Linear Beam Finite Element on The Lie Group SE(3). <i>Archive of Mechanical Engineering</i> , 2014, 61, 305-329.	0.7	12
44	System-wise equivalent static loads for the design of flexible mechanisms. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2018, 329, 312-331.	3.4	11
45	Using supervised learning machine algorithm to identify future fallers based on gait patterns: A two-year longitudinal study. <i>Experimental Gerontology</i> , 2019, 127, 110730.	1.2	11
46	A robust nonsmooth generalized- $\alpha$ scheme for flexible systems with impacts. <i>Multibody System Dynamics</i> , 2020, 48, 127-149.	1.7	11
47	On the equivalent static load method for flexible multibody systems described with a nonlinear finite element formalism. <i>International Journal for Numerical Methods in Engineering</i> , 2016, 108, 646-664.	1.5	10
48	Kinesiotaping for scapular dyskinesia: The influence on scapular kinematics and on the activity of scapular stabilizing muscles. <i>Journal of Electromyography and Kinesiology</i> , 2020, 51, 102400.	0.7	10
49	A Model Reduction Method for the Control of Rigid Mechanisms. <i>Multibody System Dynamics</i> , 2006, 15, 213-227.	1.7	9
50	Modeling joints with clearance and friction in multibody dynamic simulation of automotive differentials. <i>Theoretical and Applied Mechanics Letters</i> , 2013, 3, 013003.	1.3	9
51	Validated extraction of gait events from 3D accelerometer recordings. , 2012, , .		8
52	Gender effect on the scapular 3D posture and kinematic in healthy subjects. <i>Clinical Physiology and Functional Imaging</i> , 2016, 36, 188-196.	0.5	8
53	Conceptual Design of a Variable Stiffness Mechanism in a Humanoid Ankle Using Parallel Redundant Actuation. , 2018, , .		8
54	A mortar formulation for frictionless line-to-line beam contact. <i>Multibody System Dynamics</i> , 2022, 54, 31-52.	1.7	8

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55	On the numerical damping of time integrators for coupled mechatronic systems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2008, 197, 577-588.	3.4	7
56	Aeroservoelastic simulations for horizontal axis wind turbines. <i>Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy</i> , 2017, 231, 103-117.	0.8	7
57	Trajectory planning of soft link robots with improved intrinsic safety <sup>***</sup> The publication is funded by the European Regional Development Fund (ERDF) within European Union's INTERREG V A-program Greater Region, project Robotix Academy. In addition, the first author would like to acknowledge the Belgian Fund for Research training in Industry and Agriculture for its financial support (FRIA grant).. <i>IFAC PapersOnLine</i> , 2017, 50, 6016-6021.	0.5	7
58	On the Constraints Formulation in the Nonsmooth Generalized- $\alpha$ Method. , 2018, , 335-374.		7
59	A foot/ground contact model for biomechanical inverse dynamics analysis. <i>Journal of Biomechanics</i> , 2020, 100, 109412.	0.9	7
60	Modelling and simulation of coupled multibody systems and granular media using the non-smooth contact dynamics approach. <i>Multibody System Dynamics</i> , 2020, 49, 181-202.	1.7	7
61	On the adaptation of local impact laws for multiple impact problems. <i>Nonlinear Dynamics</i> , 2020, 102, 1997-2016.	2.7	7
62	Analysis of open-loop control design and parallel computation for underactuated manipulators. <i>Acta Mechanica</i> , 2020, 231, 2439-2456.	1.1	6
63	Inter-Session Reliability of the Tennis Serve and Influence of the Laboratory Context. <i>Journal of Human Kinetics</i> , 2019, 66, 57-67.	0.7	6
64	Segmentation of gait cycles using foot-mounted 3D accelerometers. , 2015, , .		5
65	Evolution of the trophy position along the tennis serve player's development. <i>Sports Biomechanics</i> , 2021, 20, 431-443.	0.8	5
66	A General Purpose Formulation for Nonsmooth Dynamics With Finite Rotations: Application to the Woodpecker Toy. <i>Journal of Computational and Nonlinear Dynamics</i> , 2021, 16, .	0.7	5
67	Biomechanical analysis of abdominal injury in tennis serves. A case report. <i>Journal of Sports Science and Medicine</i> , 2015, 14, 402-12.	0.7	5
68	Modelling, simulation and control of flexible multibody systems. <i>CISM International Centre for Mechanical Sciences, Courses and Lectures</i> , 2008, , 21-74.	0.3	4
69	Contact Model Between Superelements in Dynamic Multibody Systems. , 2013, , .		4
70	Order reduction in time integration caused by velocity projection. <i>Journal of Mechanical Science and Technology</i> , 2015, 29, 2579-2585.	0.7	4
71	Normalizing gastrocnemius muscle EMG signal: An optimal set of maximum voluntary isometric contraction tests for young adults considering reproducibility. <i>Gait and Posture</i> , 2020, 82, 196-202.	0.6	4
72	An inertial human upper limb motion tracking method for robot programming by demonstration. <i>Robotics and Autonomous Systems</i> , 2022, 156, 104201.	3.0	3

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73	An integrated control-structure design for manipulators with flexible links. IFAC-PapersOnLine, 2015, 48, 156-161.	0.5	2
74	Comparison and Analysis of Multibody Dynamics Formalisms for Solving Optimal Control Problem. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2019, , 55-77.	0.1	2
75	Tight shoulders: A clinical, kinematic and strength comparison of symptomatic and asymptomatic male overhead athletes before and after stretching. European Journal of Sport Science, 2021, 21, 781-791.	1.4	2
76	Computer-Aided Integrated Design for Mechatronic Systems with Varying Dynamics. , 2009, , 53-62.		2
77	Computation of bounded feed-forward control for underactuated multibody systems using nonlinear optimization. Proceedings in Applied Mathematics and Mechanics, 2011, 11, 69-70.	0.2	1
78	Modelling of Contact Between Stiff Bodies in Automotive Transmission Systems. Computational Methods in Applied Sciences (Springer), 2013, , 193-214.	0.1	1
79	Development and validation of a 3D kinematic-based method for determining gait events during overground walking. , 2014, , .		1
80	Solving the inverse dynamics of a flexible 3D robot for a trajectory tracking task. , 2016, , .		1
81	Adaptive Method for Detecting Zero-Velocity Regions to Quantify Stride-to-Stride Spatial Gait Parameters using Inertial Sensors. , 2019, , .		1
82	Unilateral contact condition enhanced with squeeze film modelling in automotive differentials. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2016, 230, 1243-1257.	1.1	0
83	Coupling multibody system and granular dynamics application to a 2D benchmark. EPJ Web of Conferences, 2017, 140, 16007.	0.1	0
84	P 054 - Evaluation of ground reaction forces by inverse dynamics analysis. Gait and Posture, 2018, 65, 72-73.	0.6	0
85	Algorithm for Extracting Initial and Terminal Contact Timings during Treadmill Running using Inertial Sensors. , 2020, , .		0