

# Renato Vidoni

## List of Publications by Year in descending order

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99  
papers

2,007  
citations

279798

23  
h-index

276875

41  
g-index

105  
all docs

105  
docs citations

105  
times ranked

1394  
citing authors

#	ARTICLE	IF	CITATIONS
1	Human-robot activity allocation algorithm for the redesign of manual assembly systems into human-robot collaborative assembly. <i>International Journal of Computer Integrated Manufacturing</i> , 2023, 36, 308-333.	4.6	9
2	Development and validation of guidelines for safety in human-robot collaborative assembly systems. <i>Computers and Industrial Engineering</i> , 2022, 163, 107801.	6.3	35
3	Online Computation of Time-Optimization-Based, Smooth and Path-Consistent Stop Trajectories for Robots. <i>Robotics</i> , 2022, 11, 70.	3.5	2
4	Emerging research fields in safety and ergonomics in industrial collaborative robotics: A systematic literature review. <i>Robotics and Computer-Integrated Manufacturing</i> , 2021, 67, 101998.	9.9	201
5	An energy-efficient approach for 3D printing with a Linear Delta Robot equipped with optimal springs. <i>Robotics and Computer-Integrated Manufacturing</i> , 2021, 67, 102045.	9.9	29
6	Implementation of a Vision-Based Worker Assistance System in Assembly: a Case Study. <i>Procedia CIRP</i> , 2021, 96, 295-300.	1.9	6
7	Methodology for the definition of the optimal assembly cycle and calculation of the optimized assembly cycle time in human-robot collaborative assembly. <i>International Journal of Advanced Manufacturing Technology</i> , 2021, 113, 2369-2384.	3.0	25
8	Smart Mechanical Systems for Manufacturing in the Era of Industry 4.0: Condition-Based Predictive Maintenance and Dynamic System Modification for Small and Medium-Sized Enterprises. <i>Chiang Mai University Journal of Natural Sciences</i> , 2021, 20, .	0.1	1
9	Mechatronic Re-Design of a Manual Assembly Workstation into a Collaborative One for Wire Harness Assemblies. <i>Robotics</i> , 2021, 10, 43.	3.5	12
10	Designing Fast and Smooth Trajectories in Collaborative Workstations. <i>IEEE Robotics and Automation Letters</i> , 2021, 6, 1700-1706.	5.1	4
11	Energy-saving optimization method for point-to-point trajectories planned via standard primitives in 1-DoF mechatronic systems. <i>International Journal of Advanced Manufacturing Technology</i> , 2021, 116, 331-344.	3.0	8
12	A Multibody Dynamic Model for Evaluating the Vibrating Modes of Gear Train Systems. <i>International Journal of Transport Development and Integration</i> , 2021, 5, 264-277.	0.9	2
13	Modeling, Design and Optimization of Flexible Mechanical Systems. <i>Applied Sciences (Switzerland)</i> , 2021, 11, 7124.	2.5	1
14	AI and ML for Human-Robot Cooperation in Intelligent and Flexible Manufacturing. , 2021, , 95-127.		3
15	Optimal scaling of dynamic safety zones for collaborative robotics. , 2021, , .		14
16	Multiphysical Design Optimization of Multibody Systems: Application to a Tyrolean Weir Cleaning Mechanism. <i>Mechanisms and Machine Science</i> , 2021, , 459-467.	0.5	6
17	Optimal Task Placement for Energy Minimization in a Parallel Manipulator. <i>Mechanisms and Machine Science</i> , 2021, , 12-22.	0.5	1
18	Metrology-aware Path Planning for Agricultural Mobile Robots in Dynamic Environments. , 2021, , .		1

#	ARTICLE	IF	CITATIONS
19	An Approximation-Based Design Optimization Approach to Eigenfrequency Assignment for Flexible Multibody Systems. Applied Sciences (Switzerland), 2021, 11, 11558.	2.5	3
20	Collaborative Robotics Safety Control Application Using Dynamic Safety Zones Based on the ISO/TS 15066:2016. Advances in Intelligent Systems and Computing, 2020, , 430-437.	0.6	8
21	From Design for Assembly to Design for Collaborative Assembly - Product Design Principles for Enhancing Safety, Ergonomics and Efficiency in Human-Robot Collaboration. Procedia CIRP, 2020, 91, 546-552.	1.9	14
22	Safety, Ergonomics and Efficiency in Human-Robot Collaborative Assembly: Design Guidelines and Requirements. Procedia CIRP, 2020, 91, 367-372.	1.9	30
23	A Multicriteria Motion Planning Approach for Combining Smoothness and Speed in Collaborative Assembly Systems. Applied Sciences (Switzerland), 2020, 10, 5086.	2.5	21
24	Minimization of the Energy Consumption in Industrial Robots through Regenerative Drives and Optimally Designed Compliant Elements. Applied Sciences (Switzerland), 2020, 10, 7475.	2.5	19
25	Design of Human-Centered Collaborative Assembly Workstations for the Improvement of Operators' Physical Ergonomics and Production Efficiency: A Case Study. Sustainability, 2020, 12, 3606.	3.2	79
26	Optimal In-Operation Redesign of Mechanical Systems Considering Vibrations - A New Methodology Based on Frequency-Band Constraint Formulation and Efficient Sensitivity Analysis. Machines, 2020, 8, 11.	2.2	5
27	Enhancing Energy Efficiency of a 4-DOF Parallel Robot Through Task-Related Analysis. Machines, 2020, 8, 10.	2.2	27
28	Energy Expenditure Minimization for a Delta-2 Robot Through a Mixed Approach. Computational Methods in Applied Sciences (Springer), 2020, , 383-390.	0.3	10
29	Implementation of a Laboratory Case Study for Intuitive Collaboration Between Man and Machine in SME Assembly. , 2020, , 335-382.		12
30	The Opportunities and Challenges of SME Manufacturing Automation: Safety and Ergonomics in Human-Robot Collaboration. , 2020, , 105-144.		27
31	Minimum-Energy Trajectory Planning for Industrial Robotic Applications: Analytical Model and Experimental Results. Mechanisms and Machine Science, 2020, , 334-342.	0.5	3
32	Optimal Design for the Passive Control of Vibration Based on Limit Cycles. Shock and Vibration, 2019, 2019, 1-11.	0.6	5
33	Natural Motion for Energy Saving in Robotic and Mechatronic Systems. Applied Sciences (Switzerland), 2019, 9, 3516.	2.5	32
34	A Variational Approach to Minimum-Jerk Trajectories for Psychological Safety in Collaborative Assembly Stations. IEEE Robotics and Automation Letters, 2019, 4, 823-829.	5.1	29
35	Parametric eigenvalue analysis for flexible multibody systems. Mechanisms and Machine Science, 2019, , 4117-4126.	0.5	2
36	An evaluation methodology for the conversion of manual assembly systems into human-robot collaborative workcells. Procedia Manufacturing, 2019, 38, 358-366.	1.9	32

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37	Flexible-Link Multibody System Eigenvalue Analysis Parameterized with Respect to Rigid-Body Motion. Applied Sciences (Switzerland), 2019, 9, 5156.	2.5	7
38	Energy Saving in Mechatronic Systems Through Optimal Point-to-Point Trajectory Generation via Standard Primitives. Mechanisms and Machine Science, 2019, , 20-28.	0.5	11
39	Application of a Parametric Modal Analysis Approach to Flexible-Multibody Systems. Mechanisms and Machine Science, 2019, , 386-394.	0.5	3
40	Stability Measures and Criteria for Autonomous Mobile Robotic Platforms: Analysis, Comparison and Numerical Evaluation. , 2019, , .		0
41	Vibrational Behavior of Epicyclic Gear Trains With Lumped-Parameter Models: Analysis and Design Optimization Under Uncertainty. , 2018, , .		2
42	Application of Axiomatic Design for the Design of a Safe Collaborative Human-Robot Assembly Workplace. MATEC Web of Conferences, 2018, 223, 01003.	0.2	13
43	Advanced Automation for SMEs in the I4.0 Revolution: Engineering Education and Employees Training in the Smart Mini Factory Laboratory. , 2018, , .		11
44	A mixed FEM and lumped-parameter dynamic model for evaluating the modal properties of planetary gearboxes. Journal of Mechanical Science and Technology, 2018, 32, 3047-3056.	1.5	36
45	Solutions for the automation of operational monitoring activities for agricultural and forestry tasks. Bodenkultur, 2018, 69, 131-140.	0.2	6
46	Experimental Evaluation and Comparison of Low-Cost Adaptive Mechatronic Grippers. Mechanisms and Machine Science, 2018, , 630-637.	0.5	0
47	An Embedded Mechatronic Device for Real-Time Monitoring and Prediction of Occupants's™ Thermal Comfort. , 2018, , .		0
48	Modeling the vibration of spatial flexible mechanisms through an equivalent rigid-link system/component mode synthesis approach. JVC/Journal of Vibration and Control, 2017, 23, 1890-1907.	2.6	15
49	Efficient Closed-Form Solution of the Kinematics of a Tunnel Digging Machine. Journal of Mechanisms and Robotics, 2017, 9, .	2.2	3
50	Enabling Connectivity of Cyber-physical Production Systems: A Conceptual Framework. Procedia Manufacturing, 2017, 11, 822-829.	1.9	39
51	Evolution of a Dynamic Model for Flexible Multibody Systems. Mechanisms and Machine Science, 2017, , 533-541.	0.5	5
52	ByeLab: An Agricultural Mobile Robot Prototype for Proximal Sensing and Precision Farming. , 2017, , .		16
53	A Review on Energy-Saving Optimization Methods for Robotic and Automatic Systems. Robotics, 2017, 6, 39.	3.5	116
54	Real-Time Monitoring of Occupants's™ Thermal Comfort through Infrared Imaging: A Preliminary Study. Buildings, 2017, 7, 10.	3.1	46

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55	A FEM-Experimental Approach for the Development of a Conceptual Linear Actuator Based on Tendrilâ€™s Free Coiling. Applied Bionics and Biomechanics, 2017, 2017, 1-12.	1.1	2
56	Robust Control of Three-Dimensional Compliant Mechanisms. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2016, 138, .	1.6	12
57	A tracked mobile robotic lab for monitoring the plants volume and health. , 2016, , .		15
58	Design, implementation and validation of a stability model for articulated autonomous robotic systems. Robotics and Autonomous Systems, 2016, 83, 158-168.	5.1	12
59	Evaluation of a LiDAR-based 3D-stereoscopic vision system for crop-monitoring applications. Computers and Electronics in Agriculture, 2016, 124, 1-13.	7.7	58
60	Requirements for the Design of Flexible and Changeable Manufacturing and Assembly Systems: A SME-survey. Procedia CIRP, 2016, 41, 207-212.	1.9	57
61	Stability Analysis of an Articulated Agri-Robot Under Different Central Joint Conditions. Advances in Intelligent Systems and Computing, 2016, , 335-346.	0.6	1
62	Development and Preliminary Tests of a Crop Monitoring Mobile Lab Based on a Combined use of Optical Sensors. International Journal of Computer & Software Engineering, 2016, 1, .	0.4	3
63	Tendril-Based Climbing Plants to Model, Simulate and Create Bio-Inspired Robotic Systems. Journal of Bionic Engineering, 2015, 12, 250-262.	5.0	24
64	Path Planning and Trajectory Planning Algorithms: A General Overview. Mechanisms and Machine Science, 2015, , 3-27.	0.5	184
65	A delayed force-reflecting haptic controller for masterâ€™slave neurosurgical robots. Advanced Robotics, 2015, 29, 127-138.	1.8	4
66	Design and implementation of a diagnostic device for fuel cell systems based on an application web server. , 2015, , .		1
67	Evaluation and stability comparison of different vehicle configurations for robotic agricultural operations on side-slopes. Biosystems Engineering, 2015, 129, 197-211.	4.3	58
68	Design and First Tests of a Vision System on a Tele-operated Vehicle for Monitoring the Canopy Vigour Status in Orchards. , 2015, , .		2
69	Synchronisierung von ETO-Fertigung und Baustellenmontage. ZWF Zeitschrift Fuer Wirtschaftlichen Fabrikbetrieb, 2015, 110, 9-13.	0.3	1
70	A method for modeling three-dimensional flexible mechanisms based on an equivalent rigid-link system. JVC/Journal of Vibration and Control, 2014, 20, 483-500.	2.6	16
71	A mechatronic system mounted on insole for analyzing human gait. , 2014, , .		0
72	Control Design for 3D Flexible Link Mechanisms Using Linearized Models. Mechanisms and Machine Science, 2014, , 181-188.	0.5	4

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73	On the modeling of flexible-link robots: First experimental validation of an ERLS-FEM dynamic model. , 2013, , .		2
74	SMA bio-robotic mimesis of tendril-based climbing plants: First results. , 2013, , .		2
75	A model-based trajectory planning approach for flexible-link mechanisms. , 2013, , .		5
76	Design and implementation of an ERLS-based 3-D dynamic formulation for flexible-link robots. Robotics and Computer-Integrated Manufacturing, 2013, 29, 273-282.	9.9	23
77	Adhesion to Flat Surfaces: From Spiders to Stickers. , 2013, , 463-473.		8
78	DEVELOPMENT AND CHARACTERIZATION TESTS OF A SMALL HYDRAULIC-POWERED TRACTOR PROTOTYPE FOR USE IN EXTREME SLOPED VINEYARDS. Acta Horticulturae, 2013, , 369-375.	0.2	2
79	Climbing Plants, a New Concept for Robotic Grasping. Lecture Notes in Computer Science, 2013, , 418-420.	1.3	0
80	Kinematic and Dynamic Analysis of Flexible-Link Parallel Robots by Means of an ERLS Approach. , 2012, , .		3
81	Jerk-Continuous Trajectories for Cyclic Tasks. , 2012, , .		9
82	Planning Continuous-Jerk Trajectories for Industrial Manipulators. , 2012, , .		14
83	Design and Implementation of a Simulator for 3D Flexible-Link Serial Robots. , 2012, , .		3
84	Trajectory Planning in Robotics. Mathematics in Computer Science, 2012, 6, 269-279.	0.4	104
85	Experimental validation and comparative analysis of optimal time-jerk algorithms for trajectory planning. Robotics and Computer-Integrated Manufacturing, 2012, 28, 164-181.	9.9	96
86	A Master-Slave Haptic System for Neurosurgery. Applied Bionics and Biomechanics, 2011, 8, 209-220.	1.1	1
87	Validation of Minimum Time-Jerk Algorithms for Trajectory Planning of Industrial Robots. Journal of Mechanisms and Robotics, 2011, 3, .	2.2	24
88	Experimental Validation of Minimum Time-jerk Algorithms for Industrial Robots. Journal of Intelligent and Robotic Systems: Theory and Applications, 2011, 64, 197-219.	3.4	74
89	An intelligent framework to manage robotic autonomous agents. Expert Systems With Applications, 2011, 38, 7430-7439.	7.6	17
90	Efficient force distribution and leg posture for a bio-inspired spider robot. Robotics and Autonomous Systems, 2011, 59, 142-150.	5.1	31

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91	Passive control of attachment in legged space robots. Applied Bionics and Biomechanics, 2010, 7, 69-81.	1.1	4
92	Passive Control of Attachment in Legged Space Robots. Applied Bionics and Biomechanics, 2010, 7, 69-81.	1.1	6
93	Trajectory Planning for Manufacturing Robots: Algorithm Definition and Experimental Results. , 2010, , .		5
94	Optimal Path Planning for Painting Robots. , 2010, , .		4
95	A Mechanical Model for the Adhesion of Spiders to Nominally Flat Surfaces. Journal of Bionic Engineering, 2009, 6, 135-142.	5.0	19
96	DFORCE: Delayed FOrce ReferenCE control for masterâ€‘slave robotic systems. Mechatronics, 2009, 19, 639-646.	3.3	11
97	Bridging the Gap between the Logical and the Physical Worlds. Advances in Intelligent and Soft Computing, 2009, , 411-420.	0.2	0
98	Development of a Dynamic Stability Simulator for Articulated and Conventional tractors Useful for Real-Time Safety Devices. Applied Mechanics and Materials, 0, 394, 546-553.	0.2	9
99	A parametric approach for evaluating the stability of agricultural tractors using implements during side-slope activities. Contemporary Engineering Sciences, 0, 8, 1289-1309.	0.2	15