

Enrico Meli

List of Publications by Year in descending order

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Version: 2024-02-01

101
papers

2,037
citations

218677

26
h-index

289244

40
g-index

104
all docs

104
docs citations

104
times ranked

1419
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 1 | A new AUV navigation system exploiting unscented Kalman filter. <i>Ocean Engineering</i> , 2016, 113, 121-132. | 4.3 | 177 |
| 2 | Development of a wear model for the prediction of wheel and rail profile evolution in railway systems. <i>Wear</i> , 2012, 284-285, 1-17. | 3.1 | 85 |
| 3 | Determination of wheel-rail contact points with semi-analytic methods. <i>Multibody System Dynamics</i> , 2008, 20, 327-358. | 2.7 | 82 |
| 4 | An unscented Kalman filter based navigation algorithm for autonomous underwater vehicles. <i>Mechatronics</i> , 2016, 39, 185-195. | 3.3 | 70 |
| 5 | Multibody modeling of railway vehicles: Innovative algorithms for the detection of wheel-rail contact points. <i>Wear</i> , 2011, 271, 453-461. | 3.1 | 62 |
| 6 | Development of a model for the simultaneous analysis of wheel and rail wear in railway systems. <i>Multibody System Dynamics</i> , 2014, 31, 191-240. | 2.7 | 56 |
| 7 | Cooperative localization of a team of AUVs by a tetrahedral configuration. <i>Robotics and Autonomous Systems</i> , 2014, 62, 1228-1237. | 5.1 | 51 |
| 8 | Development of a wear model for the analysis of complex railway networks. <i>Wear</i> , 2014, 309, 174-191. | 3.1 | 49 |
| 9 | Energetic optimization of regenerative braking for high speed railway systems. <i>Energy Conversion and Management</i> , 2016, 129, 200-215. | 9.2 | 48 |
| 10 | Energy storage systems to exploit regenerative braking in DC railway systems: Different approaches to improve efficiency of modern high-speed trains. <i>Journal of Energy Storage</i> , 2018, 16, 269-279. | 8.1 | 48 |
| 11 | Development of an innovative wheel-rail contact model for the analysis of degraded adhesion in railway systems. <i>Tribology International</i> , 2014, 69, 128-140. | 5.9 | 47 |
| 12 | A novel kinematic architecture for portable hand exoskeletons. <i>Mechatronics</i> , 2016, 35, 192-207. | 3.3 | 44 |
| 13 | A railway vehicle multibody model for real-time applications. <i>Vehicle System Dynamics</i> , 2008, 46, 1083-1105. | 3.7 | 43 |
| 14 | Dynamic simulation of railway vehicles: wheel/rail contact analysis. <i>Vehicle System Dynamics</i> , 2009, 47, 867-899. | 3.7 | 42 |
| 15 | An innovative decentralized strategy for I-AUVs cooperative manipulation tasks. <i>Robotics and Autonomous Systems</i> , 2015, 72, 261-276. | 5.1 | 40 |
| 16 | Effect of spherical dents on microstructure evolution and rolling contact fatigue of wheel/rail materials. <i>Tribology International</i> , 2018, 127, 520-532. | 5.9 | 37 |
| 17 | UKF-Based Navigation System for AUVs: Online Experimental Validation. <i>IEEE Journal of Oceanic Engineering</i> , 2019, 44, 633-641. | 3.8 | 37 |
| 18 | An innovative wheel-rail contact model for multibody applications. <i>Wear</i> , 2011, 271, 462-471. | 3.1 | 35 |

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|----|---|-----|-----------|
| 19 | Development and validation of a wear model for the analysis of the wheel profile evolution in railway vehicles. <i>Vehicle System Dynamics</i> , 2012, 50, 1707-1734. | 3.7 | 35 |
| 20 | A comparison between EKF-based and UKF-based navigation algorithms for AUVs localization. , 2015, , . | | 34 |
| 21 | Design of a Series Elastic Transmission for hand exoskeletons. <i>Mechatronics</i> , 2018, 51, 8-18. | 3.3 | 34 |
| 22 | An innovative degraded adhesion model for multibody applications in the railway field. <i>Multibody System Dynamics</i> , 2014, 32, 133-157. | 2.7 | 33 |
| 23 | An innovative wheel-rail contact model for railway vehicles under degraded adhesion conditions. <i>Multibody System Dynamics</i> , 2015, 33, 285-313. | 2.7 | 32 |
| 24 | Preliminary development, simulation and validation of a weigh in motion system for railway vehicles. <i>Meccanica</i> , 2013, 48, 2541-2565. | 2.0 | 31 |
| 25 | Determination of wheel-rail contact points: comparison between classical and neural network based procedures. <i>Meccanica</i> , 2009, 44, 661-686. | 2.0 | 29 |
| 26 | Energy and wear optimisation of train longitudinal dynamics and of traction and braking systems. <i>Vehicle System Dynamics</i> , 2015, 53, 651-671. | 3.7 | 28 |
| 27 | Kinematic synthesis and testing of a new portable hand exoskeleton. <i>Meccanica</i> , 2017, 52, 2873-2897. | 2.0 | 28 |
| 28 | A low cost autonomous underwater vehicle for patrolling and monitoring. <i>Proceedings of the Institution of Mechanical Engineers Part M: Journal of Engineering for the Maritime Environment</i> , 2017, 231, 740-749. | 0.5 | 27 |
| 29 | Experimental study on wear properties of wheel and rail materials with different hardness values. <i>Wear</i> , 2021, 477, 203831. | 3.1 | 27 |
| 30 | Development of a wear model for the wheel profile optimisation on railway vehicles. <i>Vehicle System Dynamics</i> , 2013, 51, 1363-1402. | 3.7 | 25 |
| 31 | Wheel profile optimization on railway vehicles from the wear viewpoint. <i>International Journal of Non-Linear Mechanics</i> , 2013, 53, 41-54. | 2.6 | 24 |
| 32 | A novel application of a surface ElectroMyoGraphy-based control strategy for a hand exoskeleton system: A single-case study. <i>International Journal of Advanced Robotic Systems</i> , 2019, 16, 172988141982819. | 2.1 | 24 |
| 33 | On the microstructure evolution and nanocrystalline formation of pearlitic wheel material in a rolling-sliding contact. <i>Materials Characterization</i> , 2020, 164, 110333. | 4.4 | 24 |
| 34 | An innovative hardware in the loop architecture for the analysis of railway braking under degraded adhesion conditions through roller-rigs. <i>Mechatronics</i> , 2014, 24, 139-150. | 3.3 | 21 |
| 35 | Development and implementation of a differential elastic wheel-rail contact model for multibody applications. <i>Vehicle System Dynamics</i> , 2011, 49, 969-1001. | 3.7 | 20 |
| 36 | A New Strategy for Dynamic Weighing in Motion of Railway Vehicles. <i>IEEE Transactions on Intelligent Transportation Systems</i> , 2015, 16, 3520-3533. | 8.0 | 19 |

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|----|--|-----|-----------|
| 37 | Development, design and validation of an assistive device for hand disabilities based on an innovative mechanism. <i>Robotica</i> , 2017, 35, 892-906. | 1.9 | 19 |
| 38 | Development and experimental testing of a portable hand exoskeleton. , 2015, , . | | 16 |
| 39 | Modeling and Control of a Full-Scale Roller-Rig for the Analysis of Railway Braking Under Degraded Adhesion Conditions. <i>IEEE Transactions on Control Systems Technology</i> , 2015, 23, 186-196. | 5.2 | 16 |
| 40 | Optimization-based scaling procedure for the design of fully portable hand exoskeletons. <i>Meccanica</i> , 2018, 53, 3157-3175. | 2.0 | 16 |
| 41 | Development of a new time domain-based algorithm for train detection and axle counting. <i>Vehicle System Dynamics</i> , 2015, 53, 1850-1875. | 3.7 | 15 |
| 42 | Development of a model for the analysis of wheel wear in railway vehicles. <i>Meccanica</i> , 2013, 48, 681-697. | 2.0 | 14 |
| 43 | Development and Online Validation of an UKF-based Navigation Algorithm for AUVs. <i>IFAC-PapersOnLine</i> , 2016, 49, 69-74. | 0.9 | 14 |
| 44 | Toward the integration of lattice structure-based topology optimization and additive manufacturing for the design of turbomachinery components. <i>Advances in Mechanical Engineering</i> , 2019, 11, 168781401985978. | 1.6 | 14 |
| 45 | Model-based mechanical design of a passive lower-limb exoskeleton for assisting workers in shotcrete projection. <i>Meccanica</i> , 2021, 56, 195-210. | 2.0 | 14 |
| 46 | Efficient Models of Three-Dimensional Tilting Pad Journal Bearings for the Study of the Interactions Between Rotor and Lubricant Supply Plant. <i>Journal of Computational and Nonlinear Dynamics</i> , 2016, 11, . | 1.2 | 13 |
| 47 | An innovative model for the prediction of wheel - Rail wear and rolling contact fatigue. <i>Wear</i> , 2019, 436-437, 203025. | 3.1 | 13 |
| 48 | A Novel Point-in-Polygon-Based sEMG Classifier for Hand Exoskeleton Systems. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2020, 28, 3158-3166. | 4.9 | 13 |
| 49 | A numerical model of a HIL scaled roller rig for simulation of wheel-rail degraded adhesion condition. <i>Vehicle System Dynamics</i> , 2012, 50, 775-804. | 3.7 | 12 |
| 50 | Development of a HIL railway roller rig model for the traction and braking testing activities under degraded adhesion conditions. <i>International Journal of Non-Linear Mechanics</i> , 2013, 57, 50-64. | 2.6 | 12 |
| 51 | Development of a Navigation Algorithm for Autonomous Underwater Vehicles. <i>IFAC-PapersOnLine</i> , 2015, 48, 64-69. | 0.9 | 12 |
| 52 | Development of efficient models of Magnetic Braking Systems of railway vehicles. <i>International Journal of Rail Transportation</i> , 2015, 3, 97-118. | 2.7 | 12 |
| 53 | Generic Path Planning Algorithm for Mobile Robots Based on Bézier Curves. <i>IFAC-PapersOnLine</i> , 2016, 49, 145-150. | 0.9 | 12 |
| 54 | A free floating manipulation strategy for Autonomous Underwater Vehicles. <i>Robotics and Autonomous Systems</i> , 2017, 87, 133-146. | 5.1 | 12 |

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|----|---|-----|-----------|
| 55 | Design and Production of Innovative Turbomachinery Components via Topology Optimization and Additive Manufacturing. <i>International Journal of Rotating Machinery</i> , 2019, 2019, 1-12. | 0.8 | 12 |
| 56 | A General Framework for Designing 3D Impellers Using Topology Optimization and Additive Manufacturing. <i>IEEE Access</i> , 2020, 8, 60259-60269. | 4.2 | 12 |
| 57 | Development of a Model for the Prediction of Wheel and Rail Wear in the Railway Field. <i>Journal of Computational and Nonlinear Dynamics</i> , 2012, 7, . | 1.2 | 10 |
| 58 | An innovative degraded adhesion model for railway vehicles: development and experimental validation. <i>Meccanica</i> , 2014, 49, 919-937. | 2.0 | 10 |
| 59 | A numerical procedure for the wheel profile optimisation on railway vehicles. <i>Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology</i> , 2014, 228, 206-222. | 1.8 | 10 |
| 60 | Optimization of potential field method parameters through networks for swarm cooperative manipulation tasks. <i>International Journal of Advanced Robotic Systems</i> , 2016, 13, 172988141665793. | 2.1 | 10 |
| 61 | Static and Modal Topology Optimization of Turbomachinery Components. <i>Journal of Engineering for Gas Turbines and Power</i> , 2016, 138, . | 1.1 | 10 |
| 62 | An efficient quasi-3D rotordynamic and fluid dynamic model of Tilting Pad Journal Bearing. <i>Tribology International</i> , 2016, 103, 449-464. | 5.9 | 10 |
| 63 | Development of a dynamical weigh in motion system for railway applications. <i>Meccanica</i> , 2016, 51, 2509-2533. | 2.0 | 10 |
| 64 | New Instrumented Trolleys and A Procedure for Automatic 3D Optical Inspection of Railways. <i>Sensors</i> , 2020, 20, 2927. | 3.8 | 10 |
| 65 | Prediction of wheel and rail profile wear on complex railway networks. <i>International Journal of Rail Transportation</i> , 2014, 2, 111-145. | 2.7 | 9 |
| 66 | An Efficient Quasi-Three-Dimensional Model of Tilting Pad Journal Bearing for Turbomachinery Applications. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2015, 137, . | 1.6 | 8 |
| 67 | Railway Vehicle Dynamics under Degraded Adhesion Conditions: An Innovative HIL Architecture for Braking Tests on Full-Scale Roller-Rigs. <i>International Journal of Railway Technology</i> , 2013, 2, 21-53. | 0.3 | 8 |
| 68 | An integrated approach for the optimization of wheel-rail contact force measurement systems. <i>Journal of Modern Transportation</i> , 2013, 21, 95-102. | 2.5 | 7 |
| 69 | A full-scale roller-rig for railway vehicles: multibody modelling and Hardware In the Loop architecture. <i>Multibody System Dynamics</i> , 2016, 37, 69-93. | 2.7 | 7 |
| 70 | A local degraded adhesion model for creep forces evaluation: An approximate approach to the tangential contact problem. <i>Wear</i> , 2019, 440-441, 203084. | 3.1 | 7 |
| 71 | Effect of spherical and ballast dents on rolling contact fatigue of rail materials. <i>Wear</i> , 2020, 450-451, 203254. | 3.1 | 7 |
| 72 | A railway local degraded adhesion model including variable friction, energy dissipation and adhesion recovery. <i>Vehicle System Dynamics</i> , 2021, 59, 1697-1718. | 3.7 | 7 |

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|----|---|-----|-----------|
| 73 | A novel measuring system for high-speed railway vehicles hunting monitoring able to predict wheelset motion and wheel/rail contact characteristics. <i>Vehicle System Dynamics</i> , 2023, 61, 1621-1643. | 3.7 | 7 |
| 74 | Solving Nonlinear Systems of Equations Via Spectral Residual Methods: Step-size Selection and Applications. <i>Journal of Scientific Computing</i> , 2022, 90, 1. | 2.3 | 6 |
| 75 | An innovative algorithm for train detection. , 2015, , . | | 5 |
| 76 | Development and validation of wear models by using innovative three-dimensional laser scanners. <i>Advances in Mechanical Engineering</i> , 2019, 11, 168781401987040. | 1.6 | 5 |
| 77 | Development and Experimental Validation of Auxiliary Rolling Bearing Models for Active Magnetic Bearings (AMBs) Applications. <i>International Journal of Rotating Machinery</i> , 2019, 2019, 1-19. | 0.8 | 5 |
| 78 | Experimental evaluation of tramway track wear by means of 3D metrological optical scanners. <i>Tribology - Materials, Surfaces and Interfaces</i> , 2021, 15, 150-158. | 1.4 | 5 |
| 79 | Innovative Design, Structural Optimization, and Additive Manufacturing of New-Generation Turbine Blades. <i>Journal of Turbomachinery</i> , 2022, 144, . | 1.7 | 5 |
| 80 | Study on the Influence of Sand Erosion Process on the Wear and Damage of Heat-Treated U75V Rail Steel. <i>Journal of Tribology</i> , 2021, 143, . | 1.9 | 5 |
| 81 | Performance and robustness analysis of a Hardware In the Loop full-scale roller-rig for railway braking and traction testing. <i>Meccanica</i> , 2014, 49, 615-644. | 2.0 | 4 |
| 82 | Determination of wheel/rail contact points in the simulation of railway vehicle dynamics. <i>WIT Transactions on Engineering Sciences</i> , 2009, , . | 0.0 | 4 |
| 83 | Development of a full-scale roller-rig to test high speed trains under degraded adhesion conditions. , 2014, , . | | 3 |
| 84 | Modeling and experimental study of power losses in a rolling bearing. <i>Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology</i> , 2020, 234, 1332-1351. | 1.8 | 3 |
| 85 | Development and validation of a wear prediction model for railway applications including track flexibility. <i>Wear</i> , 2021, 486-487, 204092. | 3.1 | 3 |
| 86 | Validation of a Finite Element Multibody System Model for Vehicle-Slab Track Application. <i>Lecture Notes in Mechanical Engineering</i> , 2020, , 407-414. | 0.4 | 3 |
| 87 | An Efficient Iterative Approach for the Analysis of Thermal Instabilities in Rotating Machines. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2017, 139, . | 1.6 | 2 |
| 88 | An innovative high speed Weigh in Motion system for railway vehicles. , 2014, , . | | 1 |
| 89 | An Innovative Navigation Strategy for Autonomous Underwater Vehicles: An Unscented Kalman Filter Based Approach. , 2015, , . | | 1 |
| 90 | Development of new HIL architecture to study high speed trains dynamics on full-scale test-rigs. , 2015, , . | | 1 |

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|-----|--|-----|-----------|
| 91 | An extended library of models of railway vehicles for fast simulation and optimization of regenerative braking and energy management. , 2016, , . | | 1 |
| 92 | A New Wear Model Considering Wheel-Rail Conformal Contact. , 2018, , . | | 1 |
| 93 | Development and Preliminary Validation of a New Strategy to Model the Interaction Between Rotating Machines and Elastic Supporting Structure. Mechanisms and Machine Science, 2015, , 2137-2148. | 0.5 | 1 |
| 94 | An Innovative Rotordynamical Model for Coupled Flexural-Torsional Vibrations in Rotating Machines. Mechanisms and Machine Science, 2015, , 1581-1591. | 0.5 | 1 |
| 95 | Efficient Flexible Multibody Models for Tilting Pad Journal Bearings. Machines, 2022, 10, 223. | 2.2 | 1 |
| 96 | An Innovative Procedure for High Speed Weighing in Motion of Railway Vehicles. , 2015, , . | | 0 |
| 97 | Weigh in Motion systems for railway vehicles: Performance and robustness analysis. , 2015, , . | | 0 |
| 98 | TTH library: A new tool for diagnostic assessment of Oil&Gas applications. , 2015, , . | | 0 |
| 99 | Intervention-Autonomous Underwater Vehicle Multibody Models for Dynamic Manipulation Tasks. Computational Methods in Applied Sciences (Springer), 2016, , 193-211. | 0.3 | 0 |
| 100 | Efficient Wheel-Rail Contact Model for the On-Line Estimation of Contact Forces. , 2018, , . | | 0 |
| 101 | Development and Validation of a Model to Describe the Bearings Interaction in Rotating Machines Due to Elastic Supporting Structures. Mechanisms and Machine Science, 2015, , 2111-2122. | 0.5 | 0 |