# Carlos Rossa

List of Publications by Year
in descending order

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| 72 | 950 | 489802 18 | 620720 26 |
|---|---|---|---|
| papers | citations | h-index | g-index |

| 72 | 72 | 72 | 732 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | A Discrete Non-Linear Series Elastic Actuator for Active Ankle-Foot Orthoses. IEEE Robotics and Automation Letters, 2022, 7, 6211-6217. | 3.3 | 9 |
| 2 | Preoperative Virtual Reality Surgical Rehearsal of Renal Access during Percutaneous Nephrolithotomy: A Pilot Study. Electronics (Switzerland), 2022, 11, 1562. | 1.8 | 5 |
| 3 | Pulse Compression Favourable Thermal Wave Imaging Approach for Estimation of Osteoporosis: A Numerical Study. , 2022, , . | | 0 |
| 4 | Robotic Rehabilitation and Assistance for Individuals With Movement Disorders Based on a Kinematic Model of the Upper Limb. IEEE Transactions on Medical Robotics and Bionics, 2021, 3, 190-203. | 2.1 | 8 |
| 5 | Sonographic Diagnosis of COVID-19: A Review of Image Processing for Lung Ultrasound. Frontiers in Big Data, 2021, 4, 612561. | 1.8 | 21 |
| 6 | Multi-objective gain optimizer for a multi-input active disturbance rejection controller: Application to series elastic actuators. Control Engineering Practice, 2021, 109, 104733. | 3.2 | 10 |
| 7 | Constrained haptic-guided shared control for collaborative humanâ€“robot percutaneous nephrolithotomy training. Mechatronics, 2021, 75, 102528. | 2.0 | 6 |
| 8 | Electrical Impedance Tomography for Robot-Aided Internal Radiation Therapy. Frontiers in Bioengineering and Biotechnology, 2021, 9, 698038. | 2.0 | 3 |
| 9 | Electric impedance spectroscopy feature extraction for tissue classification with electrode embedded surgical needles through a modified forward stepwise method. Computers in Biology and Medicine, 2021, 135, 104522. | 3.9 | 8 |
| 10 | Multiobjective Trajectory Tracking of a Flexible Tool During Robotic Percutaneous Nephrolithotomy. IEEE Robotics and Automation Letters, 2021, 6, 8110-8117. | 3.3 | 3 |
| 11 | Nine Degree-of-Freedom Kinematic Modeling of the Upper-Limb Complex for Constrained Workspace Evaluation. Journal of Biomechanical Engineering, 2021, 143, . | 0.6 | 3 |
| 12 | Development of a tissue discrimination electrode embedded surgical needle using vibro-tactile feedback derived from electric impedance spectroscopy. Medical and Biological Engineering and Computing, 2021, , 1. | 1.6 | 3 |
| 13 | Reference Point-Based Particle Sub-Swarm Optimization. , 2021, , . | | 0 |
| 14 | An Extended Parameter Estimation Disturbance Observer for an Active Ankle Foot Orthosis. , 2021, , . | | 1 |
| 15 | Multiobjective Path Planning for Autonomous Robotic Percutaneous Nephrolithotomy via Discrete B-spline Interpolation. , 2021, , . | | 0 |
| 16 | Backlash-Compensated Active Disturbance Rejection Control of Nonlinear Multi-Input Series Elastic Actuators. , 2020, , . | | 1 |
| 17 | Haptic Training Simulation. Frontiers in Virtual Reality, 2020, 1, . | 2.5 | 21 |
| 18 | Design and Control of a 3 Degree-of-Freedom Parallel Passive Haptic Device. IEEE Transactions on Haptics, 2020, 13, 720-732. | 1.8 | 7 |

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|---|---|---|---|
| 19 | Using Potential Field Function With a Velocity Field Controller to Learn and Reproduce the Therapist's Assistance in Robot-Assisted Rehabilitation. IEEE/ASME Transactions on Mechatronics, 2020, 25, 1622-1633. | 3.7 | 6 |
| 20 | Impact of Kinematic Structure on the Force Displayability of Planar Passive Haptic Devices. IEEE Transactions on Haptics, 2020, 13, 219-225. | 1.8 | 2 |
| 21 | Tissue Discrimination Through Force-Feedback from Impedance Spectroscopy in Robot-Assisted Surgery. Lecture Notes in Computer Science, 2020, , 274-285. | 1.0 | 3 |
| 22 | Tissue Discrimination from Impedance Spectroscopy as a Multi-objective Optimisation Problem with Weighted NaÃ¯ve Bayes Classification. , 2020, , . | | 1 |
| 23 | Electrical Impedance Tomography using Differential Evolution integrated with a Modified Newton Raphson Algorithm. , 2020, , . | | 2 |
| 24 | An Integrator-Backstepping Control Approach for Three-Dimensional Needle Steering. IEEE/ASME Transactions on Mechatronics, 2019, 24, 2204-2214. | 3.7 | 5 |
| 25 | Differentially-Clutched Series Elastic Actuator for Robot-Aided Musculoskeletal Rehabilitation. , 2019, , . | | 12 |
| 26 | Multi-Objective Gain Optimizer for an Active Disturbance Rejection Controller. , 2019, , . | | 1 |
| 27 | On the Feasibility of Multi-Degree-of-Freedom Haptic Devices Using Passive Actuators. , 2019, , . | | 3 |
| 28 | Geometric control of 3D needle steering in soft-tissue. Automatica, 2019, 101, 36-43. | 3.0 | 8 |
| 29 | Event-Triggered 3D Needle Control Using a Reduced-Order Computationally Efficient Bicycle Model in a Constrained Optimization Framework. Journal of Medical Robotics Research, 2019, 04, 1842004. | 1.0 | 4 |
| 30 | Evaluation of a Virtual Reality Percutaneous Nephrolithotomy (PCNL) Surgical Simulator. Frontiers in Robotics and AI, 2019, 6, 145. | 2.0 | 21 |
| 31 | Robotic-Assisted Needle Steering Around Anatomical Obstacles Using Notched Steerable Needles. IEEE Journal of Biomedical and Health Informatics, 2018, 22, 1917-1928. | 3.9 | 21 |
| 32 | Surgeon-in-the-Loop 3-D Needle Steering Through Ultrasound-Guided Feedback Control. IEEE Robotics and Automation Letters, 2018, 3, 469-476. | 3.3 | 6 |
| 33 | Intraoperative Tissue Youngâ€™s Modulus Identification During Needle Insertion Using a Laterally Actuated Needle. IEEE Transactions on Instrumentation and Measurement, 2018, 67, 371-381. | 2.4 | 9 |
| 34 | Brachytherapy Needle Steering Guidance Using Image Overlay. Advances in Computational Intelligence and Robotics Book Series, 2018, , 191-204. | 0.4 | 3 |
| 35 | A Hand-Held Assistant for Semiautomated Percutaneous Needle Steering. IEEE Transactions on Biomedical Engineering, 2017, 64, 637-648. | 2.5 | 26 |
| 36 | Sliding-based image-guided 3D needle steering in soft tissue. Control Engineering Practice, 2017, 63, 34-43. | 3.2 | 24 |

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| 37 | Issues in closed-loop needle steering. Control Engineering Practice, 2017, 62, 55-69. | 3.2 | 78 |
| 38 | A data-driven soft sensor for needle deflection in heterogeneous tissue using just-in-time modelling. Medical and Biological Engineering and Computing, 2017, 55, 1401-1414. | 1.6 | 17 |
| 39 | Deflection modeling for a needle actuated by lateral force and axial rotation during insertion in soft phantom tissue. Mechatronics, 2017, 48, 42-53. | 2.0 | 13 |
| 40 | Feedback-linearization-based 3D needle steering in a Frenet-Serret frame using a reduced order bicycle model. , 2017, , . | | 7 |
| 41 | Semi-Automated Needle Steering in Biological Tissue Using an Ultrasound-Based Deflection Predictor. Annals of Biomedical Engineering, 2017, 45, 924-938. | 1.3 | 9 |
| 42 | Nonlinear workspace mapping for telerobotic assistance of upper limb in patients with severe movement disorders. , 2017, , . | | 6 |
| 43 | Ultrasound-Guided Model Predictive Control of Needle Steering in Biological Tissue. Journal of Medical Robotics Research, 2016, 01, 1640007. | 1.0 | 30 |
| 44 | A Two-Body Rigid/Flexible Model of Needle Steering Dynamics in Soft Tissue. IEEE/ASME Transactions on Mechatronics, 2016, 21, 2352-2364. | 3.7 | 52 |
| 45 | Constrained optimal control of needle deflection for semi-manual steering. , 2016, , . | | 6 |
| 46 | Needle path control during insertion in soft tissue using a force-sensor-based deflection estimator. , 2016, , . | | 4 |
| 47 | Introducing notched flexible needles with increased deflection curvature in soft tissue. , 2016, , . | | 7 |
| 48 | Real-time needle shape prediction in soft-tissue based on image segmentation and particle filtering. , 2016, , . | | 12 |
| 49 | An integrator-backstepping control approach for out-of-plane needle deflection minimization. , 2016, , . | | 4 |
| 50 | Partial estimation of needle tip orientation in generalized coordinates in ultrasound image-guided needle insertion. , 2016, , . | | 8 |
| 51 | A Real-Time Estimator for Needle Deflection During Insertion Into Soft Tissue Based on Adaptive Modeling of Needleâ€“Tissue Interactions. IEEE/ASME Transactions on Mechatronics, 2016, 21, 2601-2612. | 3.7 | 20 |
| 52 | Needle Tracking and Deflection Prediction for Robot-Assisted Needle Insertion Using 2D Ultrasound Images. Journal of Medical Robotics Research, 2016, 01, 1640001. | 1.0 | 18 |
| 53 | Estimating needle tip deflection in biological tissue from a single transverse ultrasound image: application to brachytherapy. International Journal of Computer Assisted Radiology and Surgery, 2016, 11, 1347-1359. | 1.7 | 14 |
| 54 | Three-Dimensional Needle Shape Estimation in TRUS-Guided Prostate Brachytherapy Using 2-D Ultrasound Images. IEEE Journal of Biomedical and Health Informatics, 2016, 20, 1621-1631. | 3.9 | 18 |

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|---|---|---|---|
| 55 | Adaptive Quasi-Static Modelling of Needle Deflection During Steering in Soft Tissue. IEEE Robotics and Automation Letters, 2016, 1, 916-923. | 3.3 | 23 |
| 56 | Sliding-Based Switching Control for Image-Guided Needle Steering in Soft Tissue. IEEE Robotics and Automation Letters, 2016, 1, 860-867. | 3.3 | 23 |
| 57 | Mechanics of Tissue Cutting During Needle Insertion in Biological Tissue. IEEE Robotics and Automation Letters, 2016, 1, 800-807. | 3.3 | 52 |
| 58 | Multiactuator Haptic Feedback on the Wrist for Needle Steering Guidance in Brachytherapy. IEEE Robotics and Automation Letters, 2016, 1, 852-859. | 3.3 | 34 |
| 59 | Extended bicycle model for needle steering in soft tissue. , 2015, , . | | 10 |
| 60 | 3D shape visualization of curved needles in tissue from 2D ultrasound images using RANSAC. , 2015, , . | | 18 |
| 61 | A virtual sensor for needle deflection estimation during soft-tissue needle insertion. , 2015, , . | | 11 |
| 62 | Needle shape estimation in soft tissue based on partial ultrasound image observation. , 2015, , . | | 5 |
| 63 | A mechanics-based model for simulation and control of flexible needle insertion in soft tissue. , 2015, , . | | 35 |
| 64 | Design and Control of a Dual Unidirectional Brake Hybrid Actuation System for Haptic Devices. IEEE Transactions on Haptics, 2014, 7, 442-453. | 1.8 | 20 |
| 65 | Development of a multilayered wide-ranged torque magnetorheological brake. Smart Materials and Structures, 2014, 23, 025028. | 1.8 | 30 |
| 66 | Design Considerations for Magnetorheological Brakes. IEEE/ASME Transactions on Mechatronics, 2014, 19, 1669-1680. | 3.7 | 65 |
| 67 | On a Novel Torque Detection Technique for Magnetorheological Actuators. IEEE Sensors Journal, 2014, 14, 1223-1231. | 2.4 | 6 |
| 68 | Perceptual Evaluation of the Passive/Active Torque and Stiffness Asymmetry of a Hybrid Haptic Device. Lecture Notes in Computer Science, 2014, , 55-60. | 1.0 | 0 |
| 69 | Stable haptic interaction using passive and active actuators. , 2013, , . | | 8 |
| 70 | Magnetic flux analysis on magnetorheological actuators can detect external force variation. , 2012, , . | | 2 |
| 71 | A new hybrid actuator approach for force-feedback devices. , 2012, , . | | 11 |
| 72 | Interaction Power Flow Based Control of a 1-DOF Hybrid Haptic Interface. Lecture Notes in Computer Science, 2012, , 151-156. | 1.0 | 8 |