Mahdi Tavakoli

List of Publications by Year in Descending Order

234 papers	3,026 citations	27 h-index	43 g-index
263 ext. papers	3,850 ext. citations	3.4 avg, IF	6.03 L-index

#	Paper	IF	Citations
234	Dual-User Haptic Teleoperation of Complementary Motions of a Redundant Wheeled Mobile Manipulator Considering Task Priority. *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, **2022**, 1-13	7.3	2
233	Autonomous Locomotion Trajectory Shaping and Nonlinear Control for Lower Limb Exoskeletons. *IEEE/ASME Transactions on Mechatronics*, **2022**, 645-655	5.5	0
232	Preliminary testing of eye gaze interfaces for controlling a haptic system intended to support play in children with physical impairments: Attentive versus explicit interfaces.. *Journal of Rehabilitation and Assistive Technologies Engineering*, **2022**, 9, 20556683221079694	1.7	
231	Autonomous Prostate Segmentation in 2D B-Mode Ultrasound Images. *Applied Sciences (Switzerland)*, **2022**, 12, 2994	2.6	
230	Surgical Procedure Understanding, Evaluation, and Interpretation: A Dictionary Factorization Approach. *IEEE Transactions on Medical Robotics and Bionics*, **2022**, 1-1	3.1	0
229	VDC-based admittance control of multi-DOF manipulators considering joint flexibility via hierarchical control framework. *Control Engineering Practice*, **2022**, 124, 105186	3.9	0
228	Evaluating the impact of a novel telerehabilitation service to address neurological, musculoskeletal, or coronavirus disease 2019 rehabilitation concerns during the coronavirus disease 2019 pandemic. *Digital Health*, **2022**, 8, 205520762211016	4	1
227	Intelligent assistance for older adults via an admittance-controlled wheeled mobile manipulator with task-dependent end-effectors. *Mechatronics*, **2022**, 85, 102821	3	1
226	Accurate Tissue Deformation Modeling Using a Kalman Filter and ADMM-Based Projective Dynamics. *IEEE/ASME Transactions on Mechatronics*, **2022**, 1-10	5.5	1
225	Dual Mode pHRI-teleHRI Control System with a Hybrid Admittance-Force Controller for Ultrasound Imaging. *Sensors*, **2022**, 22, 4025	3.8	0
224	Effect of feedback and target size on eye gaze accuracy in an off-screen task. *Disability and Rehabilitation: Assistive Technology*, **2021**, 16, 769-779	1.8	
223	Deep Neural Skill Assessment and Transfer: Application to Robotic Surgery Training **2021**,		1
222	Human-Robot Collaboration for Heavy Object Manipulation: Kinesthetic Teaching of the Role of Wheeled Mobile Manipulator **2021**,		1
221	Enhancing Situational Awareness and Kinesthetic Assistance for Clinicians via Augmented-Reality and Haptic Shared-Control Technologies **2021**, 291-307		
220	Robotic Ultrasound Scanning With Real-Time Image-Based Force Adjustment: Quick Response for Enabling Physical Distancing During the COVID-19 Pandemic. *Frontiers in Robotics and AI*, **2021**, 8, 645424	2.8	11
219	Robotics and AI for Teleoperation, Tele-Assessment, and Tele-Training for Surgery in the Era of COVID-19: Existing Challenges, and Future Vision. *Frontiers in Robotics and AI*, **2021**, 8, 610677	2.8	18
218	Neural network-based physiological organ motion prediction and robot impedance control for teleoperated beating-heart surgery. *Biomedical Signal Processing and Control*, **2021**, 66, 102423	4.9	1

217	Kinematic design of linkage-based haptic interfaces for medical applications: a review. *Progress in Biomedical Engineering*, **2021**, 3, 022005	7.2	0
216	An admittance-controlled wheeled mobile manipulator for mobility assistance: Human Robot interaction estimation and redundancy resolution for enhanced force exertion ability. *Mechatronics*, **2021**, 74, 102497	3	9
215	Review: How Can Intelligent Robots and Smart Mechatronic Modules Facilitate Remote Assessment, Assistance, and Rehabilitation for Isolated Adults With Neuro-Musculoskeletal Conditions?. *Frontiers in Robotics and AI*, **2021**, 8, 610529	2.8	11
214	Delay-Robust Nonlinear Control of Bounded-Input Telerobotic Systems With Synchronization Enhancement. *IEEE Robotics and Automation Letters*, **2021**, 6, 2493-2500	4.2	2
213	Evaluating Community-Facing Virtual Modalities to Support Complex Neurological Populations During the COVID-19 Pandemic: Protocol for a Mixed Methods Study. *JMIR Research Protocols*, **2021**, 10, e28267	2	1
212	Admittance-Controlled Robotic Assistant for Fibula Osteotomies in Mandible Reconstruction Surgery. *Advanced Intelligent Systems*, **2021**, 3, 2000158	6	1
211	Impedance Variation and Learning Strategies in Human-Robot Interaction. *IEEE Transactions on Cybernetics*, **2021**, PP,	10.2	12
210	Impedance Learning-Based Adaptive Control for Human-Robot Interaction. *IEEE Transactions on Control Systems Technology*, **2021**, 1-14	4.8	3
209	Case Report: Utilizing AI and NLP to Assist with Healthcare and Rehabilitation During the COVID-19 Pandemic. *Frontiers in Artificial Intelligence*, **2021**, 4, 613637	3	6
208	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	3.1	2
207	Intraoperative optimization of seed implantation plan in breast brachytherapy. *International Journal of Computer Assisted Radiology and Surgery*, **2021**, 16, 1027-1035	3.9	1
206	A finite-time adaptive order estimation approach for non-integer order nonlinear systems. *ISA Transactions*, **2021**,	5.5	4
205	Intelligent Locomotion Planning With Enhanced Postural Stability for Lower-Limb Exoskeletons. *IEEE Robotics and Automation Letters*, **2021**, 6, 7588-7595	4.2	5
204	Adaptive CPG-Based Gait Planning With Learning-Based Torque Estimation and Control for Exoskeletons. *IEEE Robotics and Automation Letters*, **2021**, 6, 8261-8268	4.2	3
203	Enhancing kinematic accuracy of redundant wheeled mobile manipulators via adaptive motion planning. *Mechatronics*, **2021**, 79, 102639	3	1
202	Surgical Skill Evaluation From Robot-Assisted Surgery Recordings **2021**,		1
201	Robotics, Smart Wearable Technologies, and Autonomous Intelligent Systems for Healthcare During the COVID-19 Pandemic: An Analysis of the State of the Art and Future Vision. *Advanced Intelligent Systems*, **2020**, 2, 2000071	6	113
200	Modeling and Emulating a Physiotherapist's Role in Robot-Assisted Rehabilitation. *Advanced Intelligent Systems*, **2020**, 2, 1900181	6	9

199	Assist-as-needed policy for movement therapy using telerobotics-mediated therapist supervision. *Control Engineering Practice*, **2020**, 101, 104481	3.9	8
198	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	5.5	5
197	State observation and feedback control in robotic systems for therapy and surgery **2020**, 33-73		0
196	A feasibility study of eye gaze with biofeedback in a human-robot interface. *Assistive Technology*, **2020**, 1-9	1.5	
195	Dynamic Reconfiguration of Redundant Haptic Interfaces for Rendering Soft and Hard Contacts. *IEEE Transactions on Haptics*, **2020**, 13, 668-678	2.7	5
194	Augmented Reality Guided Needle Biopsy of Soft Tissue: A Pilot Study. *Frontiers in Robotics and AI*, **2020**, 7, 72	2.8	3
193	Intelligent Robotics Incorporating Machine Learning Algorithms for Improving Functional Capacity Evaluation and Occupational Rehabilitation. *Journal of Occupational Rehabilitation*, **2020**, 30, 362-370	3.6	12
192	Multi-Lateral Teleoperation Based on Multi-Agent Framework: Application to Simultaneous Training and Therapy in Telerehabilitation. *Frontiers in Robotics and AI*, **2020**, 7, 538347	2.8	
191	Optimal Design of a Novel Spherical Scissor Linkage Remote Center of Motion Mechanism for Medical Robotics **2020**,		1
190	Intelligent Robotics and Immersive Displays for Enhancing Haptic Interaction in Physical Rehabilitation Environments **2020**, 265-297		1
189	Applications of Haptics in Medicine **2020**, 183-214		3
188	Using a Redundant User Interface in Teleoperated Surgical Systems for Task Performance Enhancement. *Robotica*, **2020**, 38, 1880-1894	2.1	4
187	Image-Guided Observer-Based Control for Needle Steering. *IEEE Transactions on Control Systems Technology*, **2020**, 28, 2673-2680	4.8	1
186	An Admittance-controlled Force-scaling Dexterous Assistive Robotic System. *Journal of Medical Robotics Research*, **2020**, 05, 2041002	1.1	2
185	COVID-19 Pandemic Spurs Medical Telerobotic Systems: A Survey of Applications Requiring Physiological Organ Motion Compensation. *Frontiers in Robotics and AI*, **2020**, 7, 594673	2.8	3
184	Enhancement of Force Exertion Capability of a Mobile Manipulator by Kinematic Reconfiguration. *IEEE Robotics and Automation Letters*, **2020**, 5, 5842-5849	4.2	8
183	Haptic Tele-Driving of Wheeled Mobile Robots Under Nonideal Wheel Rolling, Kinematic Control and Communication Time Delay. *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, **2020**, 50, 336-347	7.3	24
182	Learning and Reproduction of Therapist Semi-Periodic Motions during Robotic Rehabilitation. *Robotica*, **2020**, 38, 337-349	2.1	3

181	Task-space synchronisation of nonlinear teleoperation with time-varying delays and actuator saturation. *International Journal of Control*, **2020**, 93, 1328-1344	1.5	9
180	Application of DenTeach in Remote Dentistry Teaching and Learning During the COVID-19 Pandemic: A Case Study. *Frontiers in Robotics and AI*, **2020**, 7, 611424	2.8	8
179	An Admittance-Controlled Robotic Assistant for Semi-Autonomous Breast Ultrasound Scanning **2019**,		8
178	Ways to Learn a Therapist Patient-specific Intervention: Robotics-vs Telerobotics-mediated Hands-on Teaching **2019**,		4
177	Application of a Redundant Haptic Interface in Enhancing Soft-Tissue Stiffness Discrimination. *IEEE Robotics and Automation Letters*, **2019**, 4, 1037-1044	4.2	19
176	Controlled Synchronization of Nonlinear Teleoperation in Task-space with Time-varying Delays. *International Journal of Control, Automation and Systems*, **2019**, 17, 1875-1883	2.9	8
175	Visual-Haptic Colocation in Robotic Rehabilitation Exercises Using a 2D Augmented-Reality Display **2019**,		3
174	An Integrator-Backstepping Control Approach for Three-Dimensional Needle Steering. *IEEE/ASME Transactions on Mechatronics*, **2019**, 24, 2204-2214	5.5	2
173	A multilateral impedance-controlled system for haptics-enabled surgical training and cooperation in beating-heart surgery. *International Journal of Intelligent Robotics and Applications*, **2019**, 3, 314-325	1.7	6
172	A Robot with an Augmented-Reality Display for Functional Capacity Evaluation and Rehabilitation of Injured Workers. *IEEE International Conference on Rehabilitation Robotics*, **2019**, 2019, 181-186	1.3	3
171	A cooperative paradigm for task-space control of multilateral nonlinear teleoperation with bounded inputs and time-varying delays. *Mechatronics*, **2019**, 62, 102255	3	6
170	Comparison of Attentive and Explicit Eye Gaze Interfaces for Controlling Haptic Guidance of a Robotic Controller. *Journal of Medical Robotics Research*, **2019**, 04, 1950005	1.1	
169	Supporting Play by Applying Haptic Guidance Along a Surface Learnt from Single Motion Trajectories. *IEEE International Conference on Rehabilitation Robotics*, **2019**, 2019, 175-180	1.3	
168	Semi-autonomous Robot-assisted Cooperative Therapy Exercises for a Therapist Interaction with a Patient **2019**,		1
167	Semi-Autonomous Surgical Robot Control for Beating-Heart Surgery **2019**,		3
166	Geometric control of 3D needle steering in soft-tissue. *Automatica*, **2019**, 101, 36-43	5.7	6
165	Improving User Performance in Haptics-Based Rehabilitation Exercises by Colocation of User's Visual and Motor Axes via a Three-Dimensional Augmented-Reality Display. *IEEE Robotics and Automation Letters*, **2019**, 4, 438-444	4.2	9
164	A Therapist-Taught Robotic System for Assistance During Gait Therapy Targeting Foot Drop. *IEEE Robotics and Automation Letters*, **2019**, 4, 407-413	4.2	16

163	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	1.1	3
162	. *IEEE/ASME Transactions on Mechatronics*, **2018**, 23, 563-574	5.5	19
161	Robotic-Assisted Needle Steering Around Anatomical Obstacles Using Notched Steerable Needles. *IEEE Journal of Biomedical and Health Informatics*, **2018**, 22, 1917-1928	7.2	12
160	Switched-Impedance Control of Surgical Robots in Teleoperated Beating-Heart Surgery. *Journal of Medical Robotics Research*, **2018**, 03, 1841003	1.1	11
159	Towards robot-assisted anchor deployment in beating-heart mitral valve surgery. *International Journal of Medical Robotics and Computer Assisted Surgery*, **2018**, 14, e1900	2.9	11
158	Kinesthetic teaching of a therapist's behavior to a rehabilitation robot **2018**,		11
157	Position-Force Domain Passivity of the Human Arm in Telerobotic Systems. *IEEE/ASME Transactions on Mechatronics*, **2018**, 23, 552-562	5.5	21
156	Surgeon-in-the-Loop 3-D Needle Steering Through Ultrasound-Guided Feedback Control. *IEEE Robotics and Automation Letters*, **2018**, 3, 469-476	4.2	3
155	Human Machine Collaboration Modalities for Semi-Automated Needle Insertion Into Soft Tissue. *IEEE Robotics and Automation Letters*, **2018**, 3, 477-483	4.2	4
154	Manipulability of teleoperated surgical robots with application in design of master/slave manipulators **2018**,		9
153	Intraoperative Tissue Young's Modulus Identification During Needle Insertion Using a Laterally Actuated Needle. *IEEE Transactions on Instrumentation and Measurement*, **2018**, 67, 371-381	5.2	7
152	Usability testing of a developed assistive robotic system with virtual assistance for individuals with cerebral palsy: a case study. *Disability and Rehabilitation: Assistive Technology*, **2018**, 13, 517-522	1.8	4
151	Preliminary testing by adults of a haptics-assisted robot platform designed for children with physical impairments to access play. *Assistive Technology*, **2018**, 30, 242-250	1.5	7
150	Bilateral Adaptive Control of Nonlinear Teleoperation Systems With Uncertain Dynamics and Dead-Zone. *Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME*, **2018**, 140,	1.6	2
149	Patient-Robot-Therapist Collaboration Using Resistive Impedance Controlled Tele-Robotic Systems Subjected to Time Delays. *Journal of Mechanisms and Robotics*, **2018**, 10,	2.2	5
148	Model-Based Needle Steering in Soft Tissue via Lateral Needle Actuation. *IEEE Robotics and Automation Letters*, **2018**, 3, 3930-3936	4.2	7
147	Impedance control of non-linear multi-DOF teleoperation systems with time delay: absolute stability. *IET Control Theory and Applications*, **2018**, 12, 1722-1729	2.5	17
146	Applications of observers in medical robotics. *Automatisierungstechnik*, **2018**, 66, 268-279	0.8	1

145	Beating-heart robotic surgery using bilateral impedance control: Theory and experiments. *Biomedical Signal Processing and Control*, **2018**, 45, 256-266	4.9	16
144	Brachytherapy Needle Steering Guidance Using Image Overlay. *Advances in Computational Intelligence and Robotics Book Series*, **2018**, 191-204	0.4	3
143	Development of an Assistive Robotic System with Virtual Assistance to Enhance Play for Children with Disabilities: A Preliminary Study. *Journal of Medical and Biological Engineering*, **2018**, 38, 33-45	2.2	2
142	Model Averaging and Input Transformation for 3D Needle Steering. *Journal of Medical Robotics Research*, **2018**, 03, 1841004	1.1	1
141	Preliminary Testing of a Telerobotic Haptic System and Analysis of Visual Attention During a Playful Activity **2018**,		1
140	Ultrasound image guidance and robot impedance control for beating-heart surgery. *Control Engineering Practice*, **2018**, 81, 9-17	3.9	13
139	Section focused on new horizons in telerobotics for real-life applications. *Advanced Robotics*, **2018**, 32, 681-682	1.7	2
138	A Hand-Held Assistant for Semiautomated Percutaneous Needle Steering. *IEEE Transactions on Biomedical Engineering*, **2017**, 64, 637-648	5	22
137	Quantifying I placement accuracy in prostate brachytherapy using postimplant transrectal ultrasound images. *Brachytherapy*, **2017**, 16, 306-312	2.4	5
136	Robotic assistance for children with cerebral palsy based on learning from tele-cooperative demonstration. *International Journal of Intelligent Robotics and Applications*, **2017**, 1, 43-54	1.7	22
135	A grasp-based passivity signature for haptics-enabled human-robot interaction: Application to design of a new safety mechanism for robotic rehabilitation. *International Journal of Robotics Research*, **2017**, 36, 778-799	5.7	20
134	Sliding-based image-guided 3D needle steering in soft tissue. *Control Engineering Practice*, **2017**, 63, 34-43	3.9	15
133	A novel adaptive order/parameter identification method for variable order systems application in viscoelastic soft tissue modeling. *Chaos, Solitons and Fractals*, **2017**, 102, 447-455	9.3	10
132	Tele-echography of moving organs using an Impedance-controlled telerobotic system. *Mechatronics*, **2017**, 45, 60-70	3	13
131	Intraoperative factors associated with stranded source placement accuracy in low-dose-rate prostate brachytherapy. *Brachytherapy*, **2017**, 16, 497-502	2.4	5
130	Issues in closed-loop needle steering. *Control Engineering Practice*, **2017**, 62, 55-69	3.9	59
129	A Descriptor Approach to Robust Leader-Following Output Consensus of Uncertain Multi-Agent Systems With Delay. *IEEE Transactions on Automatic Control*, **2017**, 62, 5310-5317	5.9	31
128	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	3.1	15

127	**2017**,		1
126	Telerobotics-Assisted Platform for Enhancing Interaction with Physical Environments for People Living with Cerebral Palsy. *Journal of Medical Robotics Research*, **2017**, 02, 1740001	1.1	8
125	. *IEEE Control Systems*, **2017**, 37, 50-72	2.9	36
124	Cooperative modalities in robotic tele-rehabilitation using nonlinear bilateral impedance control. *Control Engineering Practice*, **2017**, 67, 52-63	3.9	27
123	**2017**,		2
122	Deflection modeling for a needle actuated by lateral force and axial rotation during insertion in soft phantom tissue. *Mechatronics*, **2017**, 48, 42-53	3	7
121	Stable Nonlinear Trilateral Impedance Control for Dual-User Haptic Teleoperation Systems With Communication Delays. *Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME*, **2017**, 139,	1.6	8
120	Feedback-linearization-based 3D needle steering in a Frenet-Serret frame using a reduced order bicycle model **2017**,		4
119	An adaptive order/state estimator for linear systems with non-integer time-varying order. *Automatica*, **2017**, 84, 1-9	5.7	8
118	Non-integer variable order dynamic modeling and identification of soft tissue deformation **2017**,		2
117	Kinematic Bilateral Teledriving of Wheeled Mobile Robots Coupled With Slippage. *IEEE Transactions on Industrial Electronics*, **2017**, 64, 2147-2157	8.9	29
116	Semi-Automated Needle Steering in Biological Tissue Using an Ultrasound-Based Deflection Predictor. *Annals of Biomedical Engineering*, **2017**, 45, 924-938	4.7	5
115	A Passivity-Based Approach for Stable Patient-Robot Interaction in Haptics-Enabled Rehabilitation Systems: Modulated Time-Domain Passivity Control. *IEEE Transactions on Control Systems Technology*, **2017**, 25, 991-1006	4.8	36
114	FPAA-Based Control of Bilateral Teleoperation Systems for Enhanced User Task Performance. *Presence: Teleoperators and Virtual Environments*, **2017**, 26, 210-227	2.9	1
113	Robotic learning from demonstration of therapist's time-varying assistance to a patient in trajectory-following tasks. *IEEE International Conference on Rehabilitation Robotics*, **2017**, 2017, 888-894	1.3	11
112	Learning and robotic imitation of therapist's motion and force for post-disability rehabilitation **2017**,		7
111	Position and velocity synchronization in bilateral teleoperation in presence of stochastic disturbances in control inputs **2017**,		1
110	Nonlinear workspace mapping for telerobotic assistance of upper limb in patients with severe movement disorders **2017**,		4

109	Physiological Organ Motion Prediction and Compensation Based on Multirate, Delayed, and Unregistered Measurements in Robot-Assisted Surgery and Therapy. *IEEE/ASME Transactions on Mechatronics*, **2016**, 21, 900-911	5.5	13
108	A Real-Time Estimator for Needle Deflection During Insertion Into Soft Tissue Based on Adaptive Modeling of NeedleTissue Interactions. *IEEE/ASME Transactions on Mechatronics*, **2016**, 21, 2601-2612	5.5	13
107	Haptics to improve task performance in people with disabilities: A review of previous studies and a guide to future research with children with disabilities. *Journal of Rehabilitation and Assistive Technologies Engineering*, **2016**, 3, 2055668316668147	1.7	15
106	Needle Tracking and Deflection Prediction for Robot-Assisted Needle Insertion Using 2D Ultrasound Images. *Journal of Medical Robotics Research*, **2016**, 01, 1640001	1.1	14
105	Stable kinematic teleoperation of wheeled mobile robots with slippage using time-domain passivity control. *Mechatronics*, **2016**, 39, 196-203	3	14
104	**2016**,		1
103	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, 1347-59	3.9	12
102	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	7.2	16
101	Trilateral Predictor-Mediated Teleoperation of a Wheeled Mobile Robot With Slippage. *IEEE Robotics and Automation Letters*, **2016**, 1, 738-745	4.2	11
100	Adaptive Quasi-Static Modelling of Needle Deflection During Steering in Soft Tissue. *IEEE Robotics and Automation Letters*, **2016**, 1, 916-923	4.2	19
99	Sliding-Based Switching Control for Image-Guided Needle Steering in Soft Tissue. *IEEE Robotics and Automation Letters*, **2016**, 1, 860-867	4.2	15
98	Mechanics of Tissue Cutting During Needle Insertion in Biological Tissue. *IEEE Robotics and Automation Letters*, **2016**, 1, 800-807	4.2	32
97	Multiactuator Haptic Feedback on the Wrist for Needle Steering Guidance in Brachytherapy. *IEEE Robotics and Automation Letters*, **2016**, 1, 852-859	4.2	22
96	Generalized Predictive Control of a Surgical Robot for Beating-Heart Surgery Under Delayed and Slowly-Sampled Ultrasound Image Data. *IEEE Robotics and Automation Letters*, **2016**, 1, 892-899	4.2	21
95	A Gaussian Mixture Framework for Co-Operative Rehabilitation Therapy in Assistive Impedance-Based Tasks. *IEEE Journal on Selected Topics in Signal Processing*, **2016**, 10, 904-913	7.5	13
94	Kinematic bilateral teleoperation of wheeled mobile robots subject to longitudinal slippage. *IET Control Theory and Applications*, **2016**, 10, 111-118	2.5	12
93	Ultrasound-Based Image Guidance and Motion Compensating Control for Robot-Assisted Beating-Heart Surgery. *Journal of Medical Robotics Research*, **2016**, 01, 1640002	1.1	6
92	Ultrasound-Guided Model Predictive Control of Needle Steering in Biological Tissue. *Journal of Medical Robotics Research*, **2016**, 01, 1640007	1.1	26

91	. *IEEE Journal on Selected Topics in Signal Processing*, **2016**, 10, 888-903	7.5	22
90	A Two-Body Rigid/Flexible Model of Needle Steering Dynamics in Soft Tissue. *IEEE/ASME Transactions on Mechatronics*, **2016**, 21, 2352-2364	5.5	35
89	Robotics-Assisted Mirror Rehabilitation Therapy: A Therapist-in-the-Loop Assist-as-Needed Architecture. *IEEE/ASME Transactions on Mechatronics*, **2016**, 21, 1954-1965	5.5	34
88	Quantifying Iodine-125 Placement Accuracy in Prostate Brachytherapy Using Post-Implant Transrectal Ultrasound Images. *Brachytherapy*, **2016**, 15, S180	2.4	2
87	Nonlinear trilateral teleoperation stability analysis subjected to time-varying delays. *Control Engineering Practice*, **2016**, 56, 123-135	3.9	24
86	An efficient metaheuristic optimization approach to the problem of PID tuning for automatic voltage regulator systems **2016**,		3
85	Constrained optimal control of needle deflection for semi-manual steering **2016**,		4
84	Needle path control during insertion in soft tissue using a force-sensor-based deflection estimator **2016**,		2
83	Introducing notched flexible needles with increased deflection curvature in soft tissue **2016**,		5
82	Real-time needle shape prediction in soft-tissue based on image segmentation and particle filtering **2016**,		9
81	An integrator-backstepping control approach for out-of-plane needle deflection minimization **2016** ,		3
80	Partial estimation of needle tip orientation in generalized coordinates in ultrasound image-guided needle insertion **2016**,		8
79	Digital versus analog control of bilateral teleoperation systems: A task performance comparison. *Control Engineering Practice*, **2015**, 38, 46-56	3.9	8
78	Bilateral teleoperation system stability with non-passive and strictly passive operator or environment. *Control Engineering Practice*, **2015**, 40, 45-60	3.9	12
77	Therapist-in-the-Loop robotics-assisted mirror rehabilitation therapy: An Assist-as-Needed framework **2015**,		3
76	A mechanics-based model for simulation and control of flexible needle insertion in soft tissue **2015**,		29
75	Nonlinear Discontinuous Dynamics Averaging and PWM-Based Sliding Control of Solenoid-Valve Pneumatic Actuators. *IEEE/ASME Transactions on Mechatronics*, **2015**, 20, 876-888	5.5	33
74	Passivity and Absolute Stability Analysesof Trilateral Haptic Collaborative Systems. *Journal of Intelligent and Robotic Systems: Theory and Applications*, **2015**, 78, 3-20	2.9	13

73	Extended bicycle model for needle steering in soft tissue **2015**,		7
72	3D shape visualization of curved needles in tissue from 2D ultrasound images using RANSAC **2015**,		15
71	A comparison of US- versus MR-based 3-D Prostate Shapes Using Radial Basis Function Interpolation and Statistical Shape Models. *IEEE Journal of Biomedical and Health Informatics*, **2015**, 19, 623-34	7.2	3
70	A virtual sensor for needle deflection estimation during soft-tissue needle insertion **2015**,		9
69	Needle shape estimation in soft tissue based on partial ultrasound image observation **2015**,		4
68	A new passivity-based control technique for safe patient-robot interaction in haptics-enabled rehabilitation systems **2015**,		8
67	Position and force tracking in nonlinear teleoperation systems under varying delays. *Robotica*, **2015** , 33, 1003-1016	2.1	35
66	High-fidelity sliding mode control of a pneumatic haptic teleoperation system. *Advanced Robotics*, **2014**, 28, 659-671	1.7	5
65	Stability of sampled-data, delayed haptic interaction and teleoperation **2014**,		2
64	A method for passivity analysis of multilateral haptic systems. *Advanced Robotics*, **2014**, 28, 1205-1219	1.7	5
63	Absolute stability of a class of trilateral haptic systems. *IEEE Transactions on Haptics*, **2014**, 7, 301-10	2.7	7
62	Stability of cooperative teleoperation using haptic devices with complementary degrees of freedom. *IET Control Theory and Applications*, **2014**, 8, 1062-1070	2.5	9
61	. *IEEE Transactions on Control Systems Technology*, **2014**, 22, 2319-2328	4.8	16
60	Adaptive control of uncertain nonlinear teleoperation systems. *Mechatronics*, **2014**, 24, 66-78	3	47
59	Development of a Robotic System to Enable Beating-heart Surgery. *Journal of the Robotics Society of Japan*, **2014**, 32, 339-346	0.1	8
58	Dynamical modeling and controllability analysis of a flexible needle in soft tissue. *International Journal of Modeling, Simulation, and Scientific Computing*, **2014**, 05, 1350031	0.8	2
57	GPC-based teleoperation for delay compensation and disturbance rejection in image-guided beating-heart surgery **2014**,		3
56	Dynamical model averaging and PWM based control for pneumatic actuators **2014**,		1

55	Stability of sampled-data, delayed haptic interaction under passive or active operator. *IET Control Theory and Applications*, **2014**, 8, 1769-1780	2.5	6
54	Smith predictor-based robot control for ultrasound-guided teleoperated beating-heart surgery. *IEEE Journal of Biomedical and Health Informatics*, **2014**, 18, 157-66	7.2	41
53	Hand Haptic Perception. *Springer Tracts in Advanced Robotics*, **2014**, 189-200	0.5	3
52	Nonlinear disturbance observer design for robotic manipulators. *Control Engineering Practice*, **2013**, 21, 253-267	3.9	241
51	A passivity criterion for sampled-data bilateral teleoperation systems. *IEEE Transactions on Haptics*, **2013**, 6, 363-9	2.7	12
50	Bilateral Control of Nonlinear Pneumatic Teleoperation System With Solenoid Valves. *IEEE Transactions on Control Systems Technology*, **2013**, 21, 1463-1470	4.8	19
49	Teleoperation in the presence of varying time delays and sandwich linearity in actuators. *Automatica*, **2013**, 49, 2813-2821	5.7	55
48	Measuring the dynamic impedance of the human arm without a force sensor. *IEEE International Conference on Rehabilitation Robotics*, **2013**, 2013, 6650349	1.3	19
47	Absolute stability analysis of sampled-data scaled bilateral teleoperation systems. *Control Engineering Practice*, **2013**, 21, 1053-1064	3.9	28
46	Stability analysis of teleoperation systems under strictly passive and non-passive operator **2013**,		11
45	Is the human operator in a teleoperation system passive? **2013**,		28
44	Smith predictor based control in teleoperated image-guided beating-heart surgery **2013**,		3
43	Introduction to haptics for neurosurgeons. *Neurosurgery*, **2013**, 72 Suppl 1, 139-53	3.2	25
42	Absolute Stability of 3-DOF Bilateral Haptic Systems. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2013**, 46, 437-442		2
41	3-DOF Trilateral Teleoperation Using A Pair of 1-DOF and 2-DOF Haptic Devices: Stability Analysis. *IFAC Postprint Volumes IPPV / International Federation of Automatic Control*, **2013**, 46, 443-448		
40	Force-Sensor-Based Estimation of Needle Tip Deflection in Brachytherapy. *Journal of Sensors*, **2013**, 2013, 1-10	2	18
39	Sliding-mode bilateral teleoperation control design for master–slave pneumatic servo systems. *Control Engineering Practice*, **2012**, 20, 584-597	3.9	42
38	Improved tracking and switching performance of an electro-pneumatic positioning system. *Mechatronics*, **2012**, 22, 1-12	3	41

37	Adaptive Control for State Synchronization of Nonlinear Haptic Telerobotic Systems with Asymmetric Varying Time Delays. *Journal of Intelligent and Robotic Systems: Theory and Applications* , **2012**, 68, 245-259	2.9	18
36	Adaptive control of nonlinear teleoperation systems with varying asymmetric time delays **2012**,		2
35	Control of nonlinear teleoperation systems subject to disturbances and variable time delays **2012**,		6
34	A New Method for Bilateral Teleoperation Passivity under Varying Time Delays. *Mathematical Problems in Engineering*, **2012**, 2012, 1-19	1.1	4
33	**2012**,		9
32	Adaptive Control of Teleoperation Systems With Linearly and Nonlinearly Parameterized Dynamic Uncertainties. *Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME*, **2012**, 134,	1.6	10
31	Disturbance observer-based control of non-linear haptic teleoperation systems. *IET Control Theory and Applications*, **2011**, 5, 2063-2074	2.5	78
30	Adaptive control for linearly and nonlinearly parameterized dynamic uncertainties in bilateral teleoperation systems **2011**,		1
29	Performance Analysis of a Haptic Telemanipulation Task under Time Delay. *Advanced Robotics*, **2011**, 25, 651-673	1.7	22
28	Sliding mode control of a pneumatic haptic teleoperation system with on/off solenoid valves **2011**,		9
27	A passivity criterion for sampled-data bilateral teleoperation systems **2011**,		8
26	Sliding-mode control of nonlinear discrete-input pneumatic actuators **2011**,		7
25	Adaptive Inverse Dynamics Four-Channel Control of Uncertain Nonlinear Teleoperation Systems. *Advanced Robotics*, **2011**, 25, 1729-1750	1.7	21
24	Inverse dynamics-based adaptive control of nonlinear bilateral teleoperation systems **2011**,		3
23	Stability analysis of sampled-data teleoperation systems **2010**,		3
22	Performance analysis of a manipulation task in time-delayed teleoperation **2010**,		4
21	Development of a hybrid control for a pneumatic teleoperation system using on/off solenoid valves **2010**,		6
20	A passivity criterion for N-port multilateral haptic systems **2010**,		16

19	Nonlinear adaptive bilateral control of teleoperation systems with uncertain dynamics and kinematics **2010**,		15
18	Haptic Effects of Surgical Teleoperator Flexibility. *International Journal of Robotics Research*, **2009**, 28, 1289-1302	5.7	42
17	Discrete-time bilateral teleoperation: modelling and stability analysis. *IET Control Theory and Applications*, **2008**, 2, 496-512	2.5	25
16	Transparent Time-Delayed Bilateral Teleoperation Using Wave Variables. *IEEE Transactions on Control Systems Technology*, **2008**, 16, 548-555	4.8	75
15	Stability and performance in delayed bilateral teleoperation: Theory and experiments. *Control Engineering Practice*, **2008**, 16, 1329-1343	3.9	34
14	Haptics in Telerobotic Systems for Minimally Invasive Surgery **2008**, 113-124		3
13	Enhanced Transparency in Haptics-Based Master-Slave Systems. *Proceedings of the American Control Conference*, **2007**,	1.2	15
12	Stability of discrete-time bilateral teleoperation control **2007**,		1
11	Bilateral Delayed Teleoperation: The Effects of a Passivated Channel Model and Force Sensing. *Proceedings - IEEE International Conference on Robotics and Automation*, **2007**,		1
10	Wave-Based Time Delay Compensation in Bilateral Teleoperation: Two-Channel versus Four-Channel Architectures. *Proceedings of the American Control Conference*, **2007**,	1.2	7
9	High-fidelity bilateral teleoperation systems and the effect of multimodal haptics. *IEEE Transactions on Systems, Man, and Cybernetics*, **2007**, 37, 1512-28		97
8	Tool/tissue interaction feedback modalities in robot-assisted lump localization. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2006**, 2006, 3854-7		6
7	Multi-sensory force/deformation cues for stiffness characterization in soft-tissue palpation. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2006**, 2006, 837-40		17
6	Methods and mechanisms for contact feedback in a robot-assisted minimally invasive environment. *Surgical Endoscopy and Other Interventional Techniques*, **2006**, 20, 1570-9	5.2	51
5	A haptic interface for computer-integrated endoscopic surgery and training. *Virtual Reality*, **2006**, 9, 160-176		40
4	Effects of latency on telesurgery: an experimental study. *Lecture Notes in Computer Science*, **2005**, 8, 57-64	0.9	12
3	Haptic feedback and sensory substitution during telemanipulated suturing		10
2	Bilateral control of a teleoperator for soft tissue palpation: design and experiments		13

1	Large-scale metal additive manufacturing: a holistic review of the state of the art and challenges. *International Materials Reviews*,1-50	16.1	1