Rajni V Patel

List of Publications by Citations

213 papers	**4,190** citations	**35** h-index	**55** g-index
245 ext. papers	**5,028** ext. citations	**3.5** avg, IF	**5.83** L-index

#	Paper	IF	Citations
213	Needle insertion into soft tissue: a survey. *Medical Engineering and Physics*, **2007**, 29, 413-31	2.4	490
212	A stable neural network-based observer with application to flexible-joint manipulators. *IEEE Transactions on Neural Networks*, **2006**, 17, 118-29		151
211	Curvature, Torsion, and Force Sensing in Continuum Robots Using Helically Wrapped FBG Sensors. *IEEE Robotics and Automation Letters*, **2016**, 1, 1052-1059	4.2	128
210	High-fidelity bilateral teleoperation systems and the effect of multimodal haptics. *IEEE Transactions on Systems, Man, and Cybernetics*, **2007**, 37, 1512-28		97
209	Modeling and Control of Shape Memory Alloy Actuators. *IEEE Transactions on Control Systems Technology*, **2008**, 16, 279-287	4.8	90
208	Minimization of needle deflection in robot-assisted percutaneous therapy. *International Journal of Medical Robotics and Computer Assisted Surgery*, **2007**, 3, 140-8	2.9	83
207	Robot-assisted Tactile Sensing for Minimally Invasive Tumor Localization. *International Journal of Robotics Research*, **2009**, 28, 1118-1133	5.7	78
206	Transparent Time-Delayed Bilateral Teleoperation Using Wave Variables. *IEEE Transactions on Control Systems Technology*, **2008**, 16, 548-555	4.8	75
205	Dynamic 3-D virtual fixtures for minimally invasive beating heart procedures. *IEEE Transactions on Medical Imaging*, **2008**, 27, 1061-70	11.7	67
204	A layered goal-oriented fuzzy motion planning strategy for mobile robot navigation. *IEEE Transactions on Systems, Man, and Cybernetics*, **2005**, 35, 1214-24		61
203	. *IEEE Transactions on Instrumentation and Measurement*, **2007**, 56, 2346-2353	5.2	60
202	A Novel Manipulator for Percutaneous Needle Insertion: Design and Experimentation. *IEEE/ASME Transactions on Mechatronics*, **2009**, 14, 746-761	5.5	59
201	A small gain framework for networked cooperative force-reflecting teleoperation. *Automatica*, **2013**, 49, 338-348	5.7	57
200	Autonomous Image-Guided Robot-Assisted Active Catheter Insertion **2008**, 24, 858-871		53
199	Robot-assisted Active Catheter Insertion: Algorithms and Experiments. *International Journal of Robotics Research*, **2009**, 28, 1101-1117	5.7	52
198	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
197	Optimal Remote Center-of-Motion Location for Robotics-Assisted Minimally-Invasive Surgery. *Proceedings - IEEE International Conference on Robotics and Automation*, **2007**,		47

196	A Robust Position and Force Control Strategy for 7-DOF Redundant Manipulators. *IEEE/ASME Transactions on Mechatronics*, **2009**, 14, 575-589	5.5	46
195	Modeling and estimation of tip contact force for steerable ablation catheters. *IEEE Transactions on Biomedical Engineering*, **2015**, 62, 1404-15	5	44
194	A Systematic Review of Multilateral Teleoperation Systems. *IEEE Transactions on Haptics*, **2018**,	2.7	44
193	Visual servoing in medical robotics: a survey. Part I: endoscopic and direct vision imaging - techniques and applications. *International Journal of Medical Robotics and Computer Assisted Surgery*, **2014**, 10, 263-74	2.9	44
192	Integration of force reflection with tactile sensing for minimally invasive robotics-assisted tumor localization. *IEEE Transactions on Haptics*, **2013**, 6, 217-28	2.7	42
191	Control of soft tissue deformation during robotic needle insertion. *Minimally Invasive Therapy and Allied Technologies*, **2006**, 15, 165-76	2.1	42
190	The mechanical design of a seven-axes manipulator with kinematic isotropy. *Journal of Intelligent and Robotic Systems: Theory and Applications*, **1995**, 14, 21-41	2.9	42
189	Stable identification of nonlinear systems using neural networks: theory and experiments. *IEEE/ASME Transactions on Mechatronics*, **2006**, 11, 488-495	5.5	41
188	. *IEEE/ASME Transactions on Mechatronics*, **2017**, 22, 127-137	5.5	39
187	A collision-avoidance scheme for redundant manipulators: Theory and experiments. *Journal of Field Robotics*, **2005**, 22, 737-757		39
186	Development of force-based metrics for skills assessment in minimally invasive surgery. *Surgical Endoscopy and Other Interventional Techniques*, **2014**, 28, 2106-19	5.2	38
185	An inverse dynamics control strategy for tip position tracking of flexible multi-link manipulators. *Journal of Field Robotics*, **1997**, 14, 649-658		38
184	A potential field model using generalized sigmoid functions. *IEEE Transactions on Systems, Man, and Cybernetics*, **2007**, 37, 477-84		38
183	The Role of Direct and Visual Force Feedback in Suturing Using a 7-DOF Dual-Arm Teleoperated System. *IEEE Transactions on Haptics*, **2017**, 10, 276-287	2.7	37
182	Position control of concentric-tube continuum robots using a modified Jacobian-based approach **2013**,		37
181	Deflection of a flexible needle during insertion into soft tissue. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2006**, 2006, 3858-61		37
180	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
179	Stability and performance in delayed bilateral teleoperation: Theory and experiments. *Control Engineering Practice*, **2008**, 16, 1329-1343	3.9	34

178	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
177	On constrained manipulation in robotics-assisted minimally invasive surgery **2010**,		33
176	Dynamics of translational friction in needle-tissue interaction during needle insertion. *Annals of Biomedical Engineering*, **2014**, 42, 73-85	4.7	32
175	**2012**,		32
174	Parameter selection and control design for vibration suppression using piezoelectric transducers. *Control Engineering Practice*, **2004**, 12, 1005-1015	3.9	31
173	Real-time parametric curved needle segmentation in 3D ultrasound images **2008**,		30
172	Pre-clinical remote telesurgery trial of a da Vinci telesurgery prototype. *International Journal of Medical Robotics and Computer Assisted Surgery*, **2008**, 4, 304-9	2.9	29
171	Development of a 2-DOF Sensorized Surgical Grasper for Grasping and Axial Force Measurements. *IEEE Sensors Journal*, **2018**, 18, 2816-2826	4	28
170	. *IEEE/ASME Transactions on Mechatronics*, **2015**, 20, 1668-1679	5.5	27
169	A Novel Force Modeling Scheme for Needle Insertion Using Multiple Kalman Filters. *IEEE Transactions on Instrumentation and Measurement*, **2012**, 61, 429-438	5.2	26
168	Modeling of a steerable catheter based on beam theory **2012**,		26
167	A FuzzyBraitenberg Navigation Strategy for Differential Drive Mobile Robots. *Journal of Intelligent and Robotic Systems: Theory and Applications*, **2006**, 47, 101-124	2.9	26
166	Design and Performance Evaluation of a Prototype MRF-Based Haptic Interface for Medical Applications. *IEEE/ASME Transactions on Mechatronics*, **2015**, 1-1	5.5	23
165	. *IEEE Journal on Selected Topics in Signal Processing*, **2016**, 10, 888-903	7.5	22
164	. *IEEE Transactions on Control Systems Technology*, **2015**, 23, 1411-1426	4.8	21
163	Position-Force Domain Passivity of the Human Arm in Telerobotic Systems. *IEEE/ASME Transactions on Mechatronics*, **2018**, 23, 552-562	5.5	21
162	A dual-user teleoperated system with Virtual Fixtures for robotic surgical training **2013**,		21
161	A pseudo-rigid-body 3R model for a steerable ablation catheter **2013**,		21

160	An analytical model for deflection of flexible needles during needle insertion **2011**,		21
159	Haptics-enabled Interactive NeuroRehabilitation Mechatronics: Classification, Functionality, Challenges and Ongoing Research. *Mechatronics*, **2019**, 57, 1-19	3	21
158	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
157	. *IEEE/ASME Transactions on Mechatronics*, **2015**, 20, 143-154	5.5	20
156	. *IEEE/ASME Transactions on Mechatronics*, **2018**, 23, 563-574	5.5	19
155	Suitability of Small-Scale Magnetorheological Fluid-Based Clutches in Haptic Interfaces for Improved Performance. *IEEE/ASME Transactions on Mechatronics*, **2015**, 20, 1863-1874	5.5	19
154	Measurement of lung hyperelastic properties using inverse finite element approach. *IEEE Transactions on Biomedical Engineering*, **2011**, 58, 2852-9	5	19
153	A distributed model for needle-tissue friction in percutaneous interventions **2011**,		19
152	Effects of different insertion methods on reducing needle deflection. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2007**, 2007, 491-4		19
151	Impact reduction for redundant manipulators using augmented impedance control. *Journal of Field Robotics*, **1995**, 12, 301-313		19
150	Design of a sensorized instrument for skills assessment and training in minimally invasive surgery **2008**,		18
149	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
148	. *IEEE/ASME Transactions on Mechatronics*, **2017**, 22, 1473-1484	5.5	17
147	Kinematic instability in concentric-tube robots: Modeling and analysis **2014**,		17
146	Visual servoing in medical robotics: a survey. Part II: tomographic imaging modalities--techniques and applications. *International Journal of Medical Robotics and Computer Assisted Surgery*, **2015**, 11, 67-79	2.9	16
145	Force sensing in natural orifice transluminal endoscopic surgery. *Surgical Endoscopy and Other Interventional Techniques*, **2011**, 25, 186-92	5.2	16
144	A compact dynamic force model for needle-tissue interaction. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2010**, 2010, 2292-5	0.9	16
143	Effect of force feedback on performance of robotics-assisted suturing **2012**,		16

142	Modified Newton❾ method applied to potential field-based navigation for nonholonomic robots in dynamic environments. *Robotica*, **2008**, 26, 117-127	2.1	16
141	A Breakthrough in Tumor Localization: Combining Tactile Sensing and Ultrasound to Improve Tumor Localization in Robotics-Assisted Minimally Invasive Surgery. *IEEE Robotics and Automation Magazine*, **2017**, 24, 54-62	3.4	15
140	**2017**,		15
139	Robot-Assisted Needle Steering Using a Control Theoretic Approach. *Journal of Intelligent and Robotic Systems: Theory and Applications*, **2011**, 62, 397-418	2.9	15
138	Initial Evaluation of a Tactile/Kinesthetic Force Feedback System for Minimally Invasive Tumor Localization. *IEEE/ASME Transactions on Mechatronics*, **2010**,	5.5	15
137	Multimodal Sensorimotor Integration for Expert-in-the-Loop Telerobotic Surgical Training. *IEEE Transactions on Robotics*, **2018**, 34, 1549-1564	6.5	14
136	Estimating contact force for steerable ablation catheters based on shape analysis **2014**,		14
135	Quasi-static modeling of the da Vinci instrument **2014**,		14
134	An active handheld device for compensation of physiological tremor using an ionic polymer metallic composite actuator **2013**,		14
133	CT-enhanced ultrasound image of a totally deflated lung for image-guided minimally invasive tumor ablative procedures. *IEEE Transactions on Biomedical Engineering*, **2010**, 57, 2627-30	5	14
132	Analysis of Energy-Based Metrics for Laparoscopic Skills Assessment. *IEEE Transactions on Biomedical Engineering*, **2018**, 65, 1532-1542	5	13
131	A navigation platform for guidance of beating heart transapical mitral valve repair. *IEEE Transactions on Biomedical Engineering*, **2013**, 60, 1034-40	5	13
130	Analysis of needle-tissue friction during vibration-assisted needle insertion **2013**,		13
129	Novel hands-free pointer improves instruction efficiency in laparoscopic surgery. *Surgical Innovation*, **2009**, 16, 73-7	2	13
128	Augmented Reality System for Ultrasound Guidance of Transcatheter Aortic Valve Implantation. *Innovations: Technology and Techniques in Cardiothoracic and Vascular Surgery*, **2016**, 11, 31-9; discussion 39	1.5	13
127	WAKE: Wavelet decomposition coupled with adaptive Kalman filtering for pathological tremor extraction. *Biomedical Signal Processing and Control*, **2019**, 48, 179-188	4.9	13
126	Design and Evaluation of a Sterilizable Force Sensing Instrument for Minimally Invasive Surgery. *IEEE Sensors Journal*, **2017**, 17, 3983-3993	4	12
125	CT image construction of a totally deflated lung using deformable model extrapolation. *Medical Physics*, **2011**, 38, 872-83	4.4	12

124	Preoperative evaluation of patient anatomy to increase success of robotics-assisted bypass surgery. *Innovations: Technology and Techniques in Cardiothoracic and Vascular Surgery*, **2010**, 5, 335-40	1.5	12
123	Experimental evaluation of robot-assisted tactile sensing for minimally invasive surgery **2008**,		12
122	A Dual-Arm 7-Degrees-of-Freedom Haptics-Enabled Teleoperation Test Bed for Minimally Invasive Surgery. *Journal of Medical Devices, Transactions of the ASME*, **2014**, 8,	1.3	11
121	Anatomy-based eligibility measure for robotic-assisted bypass surgery. *Innovations: Technology and Techniques in Cardiothoracic and Vascular Surgery*, **2014**, 9, 349-53; discussion 353	1.5	11
120	An expertise-oriented training framework for robotics-assisted surgery **2014**,		11
119	Teleoperated master-slave needle insertion. *International Journal of Medical Robotics and Computer Assisted Surgery*, **2009**, 5, 398-405	2.9	11
118	A semi-infinite programming approach to preoperative planning of robotic cardiac surgery under geometric uncertainty. *IEEE Journal of Biomedical and Health Informatics*, **2013**, 17, 172-82	7.2	10
117	Projection-based force reflection algorithms for teleoperated rehabilitation therapy **2013**,		10
116	Intraoperative Localization of STN During DBS Surgery Using a Data-Driven Model. *IEEE Journal of Translational Engineering in Health and Medicine*, **2020**, 8, 2500309	3	9
115	PHTNet: Characterization and Deep Mining of Involuntary Pathological Hand Tremor using Recurrent Neural Network Models. *Scientific Reports*, **2020**, 10, 2195	4.9	9
114	Application of Magneto-Rheological Fluid based clutches for improved performance in haptic interfaces **2014**,		9
113	A framework for supervised robotics-assisted mirror rehabilitation therapy **2014**,		9
112	Estimation of lung air volume and its variations throughout respiratory CT image sequences. *IEEE Transactions on Biomedical Engineering*, **2011**, 58, 152-8	5	9
111	Modelling and gain scheduled control of shape memory alloy actuators		9
110	Computer Vision Based Autonomous Robotic System for 3D Plant Growth Measurement **2015**,		8
109	Sensorization of a surgical robotic instrument for force sensing **2016**,		8
108	**2014**,		8
107	Robot-assisted lung motion compensation during needle insertion **2013**,		8

106	A new passivity-based control technique for safe patient-robot interaction in haptics-enabled rehabilitation systems **2015**,		8
105	Needle control along desired tracks in robotic prostate brachytherapy **2007**,		8
104	**2007**,		8
103	The role of visual and direct force feedback in robotics-assisted mitral valve annuloplasty. *International Journal of Medical Robotics and Computer Assisted Surgery*, **2017**, 13, e1787	2.9	7
102	HMFP-DBRNN: Real-Time Hand Motion Filtering and Prediction via Deep Bidirectional RNN. *IEEE Robotics and Automation Letters*, **2019**, 4, 1061-1068	4.2	7
101	A multi-sensory mechatronic device for localizing tumors in minimally invasive interventions **2015**,		7
100	Shape sensing for torsionally compliant concentric-tube robots **2016**,		7
99	Model-Based Force Control of a Steerable Ablation Catheter with a Custom-Designed Strain Sensor **2013**,		7
98	Integration of trans-esophageal echocardiography with magnetic tracking technology for cardiac interventions **2010**,		7
97	A Macro-Robot Manipulator for Medical Applications **2006**,		7
96	Robot-assisted thoracoscopic brachytherapy for lung cancer: comparison of the ZEUS robot, VATS, and manual seed implantation. *Computer Aided Surgery*, **2007**, 12, 270-7		7
95	Scattering-based stabilization of non-planar conic systems. *Automatica*, **2018**, 93, 1-11	5.7	7
94	Magneto-Rheological actuators for haptic devices: Design, modeling, control, and validation of a prototype clutch **2015**,		6
93	A robotics-assisted catheter manipulation system for cardiac ablation with real-time force estimation **2015**,		6
92	Tissue compliance determination using a da Vinci instrument **2015**,		6
91	Preoperative planning of robotics-assisted minimally invasive coronary artery bypass grafting **2010**,		6
90	MIRA V: An integrated system for minimally invasive robot-assisted lung brachytherapy **2008**,		6
89	Modified Newton method applied to potential field based navigation for nonholonomic robots in dynamic environments. *Robotica*, **2008**, 26, 285-294	2.1	6

88	Preoperative Evaluation of Patient Anatomy to Increase Success of Robotics-Assisted Bypass Surgery. *Innovations: Technology and Techniques in Cardiothoracic and Vascular Surgery*, **2010**, 5, 335-340	1.5	6
87	A Multi-Functional Lower- and Upper-Limb Stroke Rehabilitation Robot. *IEEE Transactions on Medical Robotics and Bionics*, **2020**, 2, 549-552	3.1	6
86	Tendon-sheath analysis for modeling and control of steerable ablation catheters **2016**,		6
85	A chance-constrained programming approach to preoperative planning of robotic cardiac surgery under task-level uncertainty. *IEEE Journal of Biomedical and Health Informatics*, **2015**, 19, 612-22	7.2	5
84	A sterilizable force-sensing instrument for laparoscopic surgery **2014**,		5
83	Robotics-assisted catheter manipulation for improving cardiac ablation efficiency **2014**,		5
82	Real-time trajectory tracking for externally loaded concentric-tube robots **2014**,		5
81	Force/position-based modular system for minimally invasive surgery **2010**,		5
80	A 7-DOF haptics-enabled teleoperated robotic system: Kinematic modeling and experimental verification **2010**,		5
79	A Manipulator for Medical Applications: Design and Control. *Journal of Medical Devices, Transactions of the ASME*, **2010**, 4,	1.3	5
78	Lung Cancer Brachytherapy: Robotics-Assisted Minimally Invasive Approach. *Current Respiratory Medicine Reviews*, **2011**, 7, 340-353	0.3	5
77	Robot-Assisted Minimally Invasive Brachytherapy for Lung Cancer **2008**, 33-52		5
76	**2014**,		4
75	Networked dual-user teleoperation with time-varying authority adjustment: A wave variable approach **2014**,		4
74	The WHaSP: A Wireless Hands-Free Surgical Pointer for Minimally Invasive Surgery. *IEEE/ASME Transactions on Mechatronics*, **2012**, 17, 434-442	5.5	4
73	Energy-Based Metrics for Arthroscopic Skills Assessment. *Sensors*, **2017**, 17,	3.8	4
72	A six-degree-of-freedom robotic system for lower extremity rehabilitation **2015**,		4
71	Evaluating the effect of three-dimensional visualization on force application and performance time during robotics-assisted mitral valve repair. *Innovations: Technology and Techniques in Cardiothoracic and Vascular Surgery*, **2013**, 8, 199-205	1.5	4

70	The application of force sensing to skills assessment in Minimally Invasive Surgery **2013**,		4
69	Intraoperative 3D stereo visualization for image-guided cardiac ablation **2011**,		4
68	Haptic interaction in robot-assisted endoscopic surgery: a sensorized end-effector. *International Journal of Medical Robotics and Computer Assisted Surgery*, **2005**, 01, 53	2.9	4
67	Predicting target vessel location for improved planning of robot-assisted CABG procedures. *Lecture Notes in Computer Science*, **2010**, 13, 205-12	0.9	4
66	Classical Preisach model of hysteretic behavior in a da Vinci instrument **2016**,		4
65	Development of a physical shoulder simulator for the training of basic arthroscopic skills. *International Journal of Medical Robotics and Computer Assisted Surgery*, **2018**, 14, e1868	2.9	4
64	Frequency response analysis of magneto-rheological clutch designs. *Journal of Intelligent Material Systems and Structures*, **2018**, 29, 905-923	2.3	4
63	Randomized control trial for evaluation of a hands-free pointer for surgical instruction during laparoscopic cholecystectomy. *Surgical Endoscopy and Other Interventional Techniques*, **2015**, 29, 3655-65	5.2	3
62	Therapist-in-the-Loop robotics-assisted mirror rehabilitation therapy: An Assist-as-Needed framework **2015**,		3
61	A parallel Remote Center of Motion mechanism for needle-based medical interventions **2014**,		3
60	Adaptive neural Preisach model and model predictive control of Shape Memory Alloy actuators **2017**,		3
59	Accelerated needle steering using partitioned value iteration **2010**,		3
58	Palpation system for minimally invasive localization of occult tumors **2010**,		3
57	CT image construction of the lung in a totally deflated mode **2009**,		3
56	A framework for preoperative planning of robotics-assisted minimally invasive cardiac surgery (RAMICS) under geometric uncertainty **2011**,		3
55	Data fusion for catheter tracking using Kalman filtering: applications in robot-assisted catheter insertion **2011**,		3
54	Compensation for relative velocity between needle and soft tissue for friction modeling in needle insertion. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2012**, 2012, 960-3	0.9	3
53	Predicting target vessel location on robot-assisted coronary artery bypass graft using CT to ultrasound registration. *Medical Physics*, **2012**, 39, 1579-87	4.4	3

52	An Ultrasound Probe Holder for Image-Guided Surgery. *Journal of Medical Devices, Transactions of the ASME*, **2008**, 2,	1.3	3
51	Multimode Control of a Large-Scale Robotic Manipulator **2007**, 23, 1264-1270		3
50	An experimental test-bed for robot-assisted image-guided minimally invasive lung brachytherapy **2007**,		3
49	Anatomy-Based Eligibility Measure for Robotic-Assisted Bypass Surgery. *Innovations: Technology and Techniques in Cardiothoracic and Vascular Surgery*, **2014**, 9, 349-353	1.5	3
48	Predicting Improvement in Writer$\odot$ Cramp Symptoms following Botulinum Neurotoxin Injection Therapy. *Tremor and Other Hyperkinetic Movements*, **2016**, 6, 410	2	3
47	**2016**,		3
46	*. IEEE/ASME Transactions on Mechatronics*, **2019**, 24, 538-548	5.5	2
45	Articulating minimally invasive ultrasonic tool for robotics-assisted surgery **2015**,		2
44	Haptic Feedback Manipulation During Botulinum Toxin Injection Therapy for Focal Hand Dystonia Patients: A Possible New Assistive Strategy. *IEEE Transactions on Haptics*, **2016**, 9, 523-535	2.7	2
43	Kinematic and kinetic assessment of upper limb movements in patients with writer$\odot$ cramp. *Journal of NeuroEngineering and Rehabilitation*, **2016**, 13, 15	5.3	2
42	**2013**,		2
41	A multi-rate and auto-adjustable wavelet decomposition framework for pathological hand tremor extraction **2017**,		2
40	Performance evaluation of Magneto-Rheological based actuation for haptic feedback in medical applications **2015**,		2
39	**2014**,		2
38	Systematic design of an ultrasonic horn profile for high displacement amplification **2012**,		2
37	A knee arthroscopy simulator: design and validation. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2013**, 2013, 5715-8	0.9	2
36	Small-gain design of networked cooperative bilateral teleoperators **2011**,		2
35	Computer-assisted patch clamping **2010**,		2

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34	**2010**,		2
33	Friction identification in robotic manipulators: case studies		2
32	An analytical model for deflection of flexible needles during needle insertion		2
31	Unsupervised Clustering of Micro-Electrophysiological Signals for localization of Subthalamic Nucleus during DBS Surgery **2019**,		2
30	ELECTROPHYSIOLOGICAL SIGNAL PROCESSING FOR INTRAOPERATIVE LOCALIZATION OF SUBTHALAMIC NUCLEUS DURING DEEP BRAIN STIMULATION SURGERY **2018**,		2
29	A haptics based simulator for laparoscopic pyeloplasty. *Studies in Health Technology and Informatics* , **2006**, 119, 583-5	0.5	2
28	Mastery Learning - does the method of learning make a difference in skills acquisition for robotic surgery?. *International Journal of Medical Robotics and Computer Assisted Surgery*, **2017**, 13, e1828	2.9	1
27	Robot-assisted, ultrasound-guided minimally invasive navigation tool for brachytherapy and ablation therapy: initial assessment **2015**,		1
26	Design and Implementation of a Two-DOF Robotic System with an Adjustable Force Limiting Mechanism for Ankle Rehabilitation **2019**,		1
25	Effect of kinesthetic force feedback and visual sensory input on writer� cramp **2013**,		1
24	Sensory manipulation in writer� cramp: Possibilities for rehabilitation **2013**,		1
23	Design of a Minimally Invasive Lung Tumor Localization Device **2012**,		1
22	Robotic Techniques for Minimally Invasive Tumor Localization **2011**, 469-496		1
21	Investigating perioperative heart migration during robot-assisted coronary artery bypass grafting interventions. *Innovations: Technology and Techniques in Cardiothoracic and Vascular Surgery*, **2011**, 6, 323-30	1.5	1
20	Suitability of three saws for minimally invasive bone cutting. *Surgical Innovation*, **2010**, 17, 5-10	2	1
19	A chance-constrained approach to preoperative planning of robotics-assisted interventions. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2011**, 2011, 2127-30	0.9	1
18	Optimization-based dosimetry planning for brachytherapy. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2011**, 2011, 5569-72	0.9	1
17	An Ultrasound Probe Holder for Image-Guided Robot-Assisted Prostate Brachytherapy. *Proceedings - IEEE International Conference on Robotics and Automation*, **2007**,		1

LIST OF PUBLICATIONS

16	Robot-assisted thoracoscopic brachytherapy for lung cancer: Comparison of the ZEUS robot, VATS, and manual seed implantation. *Computer Aided Surgery*, **2007**, 12, 270-277		1
15	Eccentric-Tube Robot (ETR) Modeling and Validation **2020**,		1
14	Energy-based metrics for laparoscopic skills assessment. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2016**, 2016, 2648-2651	0.9	1
13	Training of Deep Bidirectional Rnns for Hand Motion Filtering Via Multimodal Data Fusion **2019**,		1
12	Differential Temporal Perception Abilities in Parkinson℗ Disease Patients Based on Timing Magnitude. *Scientific Reports*, **2019**, 9, 19638	4.9	1
11	Scattering-Based Stabilization of Complex Interconnections of (Q,S,R)-Dissipative Systems With Time Delays **2019**, 3, 368-373		1
10	Adaptive Wave Reconstruction Through Regulated-BMFLC for Transparency-Enhanced Telerobotics Over Delayed Networks. *IEEE Transactions on Robotics*, **2022**, 1-15	6.5	1
9	An autoclavable wireless palpation instrument for minimally invasive surgery. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2016**, 2016, 6489-6492	0.9	0
8	Abnormal Vision-Based Displacement Perception in Parkinson℗ Disease. *Frontiers in Neuroscience*, **2021**, 15, 676469	5.1	0
7	Scattering Transformation for Non-Planar Conic Systems * *The research was supported by the Discovery Grants Program of the Natural Sciences and Engineering Research Council (NSERC) of Canada through grants RGPIN-05753 (I.G. Polushin) and RGPIN-1345 (R.V. Patel). A.A. Usova was	0.7	
6	Evaluating the Effect of Three-Dimensional Visualization on Force Application and Performance Time during Robotics-Assisted Mitral Valve Repair. *Innovations: Technology and Techniques in Cardiothoracic and Vascular Surgery*, **2013**, 8, 199-205	1.5	
5	Augmented Reality System for Ultrasound Guidance of Transcatheter Aortic Valve Implantation. *Innovations: Technology and Techniques in Cardiothoracic and Vascular Surgery*, **2016**, 11, 31-39	1.5	
4	A Graph Separation Stability Condition for Non-Planar Conic Systems. *IFAC-PapersOnLine*, **2016**, 49, 933-938		
3	Stabilization of Robot-Environment Interaction Through Generalized Scattering Techniques. *IEEE Transactions on Robotics*, **2021**, 1-15	6.5	
2	. *IEEE Access*, **2021**, 9, 111472-111485	3.5	
1	Texture-based Intraoperative Image Guidance for Tumor Localization in Minimally Invasive Surgery. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2021**, 2021, 3526-3530	0.9	