

# Timothy M Kowalewski

## List of Publications by Year in descending order

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Version: 2024-02-01

64  
papers

1,011  
citations

623734

14  
h-index

454955

30  
g-index

64  
all docs

64  
docs citations

64  
times ranked

1007  
citing authors

#	ARTICLE	IF	CITATIONS
1	A Framework for Objective Evaluation of Handheld Robotic Surgical Tools Against Patient Needs. , 2022, , .		0
2	A Simple Free-Fold Test to Measure Bending Stiffness of Slender Soft Actuators. IEEE Robotics and Automation Letters, 2021, 6, 8702-8709.	5.1	1
3	Crowd-Sourced Reliability of an Assessment of Lower Facial Aging Using a Validated Visual Scale. Plastic and Reconstructive Surgery - Global Open, 2021, 9, e3315.	0.6	6
4	Virtual Reality Warm-up Before Robot-assisted Surgery: A Randomized Controlled Trial. Journal of Surgical Research, 2021, 264, 107-116.	1.6	6
5	Bidirectional long short-term memory for surgical skill classification of temporally segmented tasks. International Journal of Computer Assisted Radiology and Surgery, 2020, 15, 2079-2088.	2.8	8
6	Temporal variability of surgical technical skill perception in real robotic surgery. International Journal of Computer Assisted Radiology and Surgery, 2020, 15, 2101-2107.	2.8	0
7	The effect of video playback speed on surgeon technical skill perception. International Journal of Computer Assisted Radiology and Surgery, 2020, 15, 739-747.	2.8	5
8	A Vision for Using Simulation & Virtual Coaching to Improve the Community Practice of Orthopedic Trauma Surgery. Iowa orthopaedic journal, The, 2020, 40, 25-34.	0.5	1
9	Adaptive Impedance Control with Setpoint Force Tracking for Unknown Soft Environment Interactions. , 2019, , .		5
10	Conditions for reliable grip force and jaw angle estimation of da Vinci surgical tools. International Journal of Computer Assisted Radiology and Surgery, 2019, 14, 117-127.	2.8	9
11	Performance Assessment. Comprehensive Healthcare Simulation, 2019, , 89-105.	0.2	1
12	Stretchable, Flexible, Scalable Smart Skin Sensors for Robotic Position and Force Estimation. Sensors, 2018, 18, 953.	3.8	24
13	Evaluation of Torque Measurement Surrogates as Applied to Grip Torque and Jaw Angle Estimation of Robotic Surgical Tools. IEEE Robotics and Automation Letters, 2018, 3, 3027-3034.	5.1	14
14	Dynamic additive manufacturing onto free-moving human anatomy via temporal coarse/fine control. , 2018, , .		0
15	Blended shared control utilizing online identification. International Journal of Computer Assisted Radiology and Surgery, 2018, 13, 769-776.	2.8	7
16	Da Vinci tool torque mapping over 50,000 grasps and its implications on grip force estimation accuracy. , 2018, , .		9
17	Serially Actuated Locomotion for Soft Robots in Tube-Like Environments. IEEE Robotics and Automation Letters, 2017, 2, 1140-1147.	5.1	39
18	Predicting surgical skill from the first N seconds of a task: value over task time using the isogony principle. International Journal of Computer Assisted Radiology and Surgery, 2017, 12, 1161-1170.	2.8	22

#	ARTICLE	IF	CITATIONS
19	Biomechanics of human parietal pleura in uniaxial extension. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 75, 330-335.	3.1	10
20	The minimally acceptable classification criterion for surgical skill: intent vectors and separability of raw motion data. International Journal of Computer Assisted Radiology and Surgery, 2017, 12, 1151-1159.	2.8	8
21	3D bioprinting directly onto moving human anatomy. , 2017, , .		7
22	Laparoscopic Skill Classification Using the Two-Third Power Law and the Isogony Principle. , 2017, , .		1
23	Soft Passive Valves for Serial Actuation in a Soft Hydraulic Robotic Catheter1. Journal of Medical Devices, Transactions of the ASME, 2016, 10, .	0.7	6
24	Crowdsourcing Unmet Clinical Needs in Minimally Invasive Surgery1. Journal of Medical Devices, Transactions of the ASME, 2016, 10, .	0.7	0
25	Effects of Grasp Frequency on the Dynamics of a Robotic Surgical Grasper1. Journal of Medical Devices, Transactions of the ASME, 2016, 10, .	0.7	1
26	Decay of Tissue Mechanical Properties Over a 24-hr Period1. Journal of Medical Devices, Transactions of the ASME, 2016, 10, .	0.7	0
27	Validation of the AUA BLUS Tasks. Journal of Urology, 2016, 195, 998-1005.	0.4	28
28	Crowd-Sourced Assessment of Technical Skills for Validation of Basic Laparoscopic Urologic Skills Tasks. Journal of Urology, 2016, 195, 1859-1865.	0.4	49
29	Design of a Dynamic Additive Manufacturing System for Use on Free-Moving Human Anatomy1. Journal of Medical Devices, Transactions of the ASME, 2016, 10, .	0.7	2
30	Assessing quality of unmet user needs: Effects of need statement characteristics. Design Studies, 2016, 44, 1-27.	3.1	6
31	PD19-05 HIGH-VOLUME ASSESSMENT OF SURGICAL VIDEOS VIA CROWD-SOURCING: THE BASIC LAPAROSCOPIC UROLOGIC SKILLS (BLUS) INITIATIVE. Journal of Urology, 2015, 193, .	0.4	3
32	Tissue Identification Through Back End Sensing on da Vinci EndoWrist Surgical Tool1. Journal of Medical Devices, Transactions of the ASME, 2015, 9, .	0.7	4
33	Flexible, Stretchable Skin Sensors for Two-Dimensional Position Tracking in Medical Simulators1. Journal of Medical Devices, Transactions of the ASME, 2015, 9, .	0.7	5
34	PD19-02 USING THE WISDOM OF CROWDS: VALIDATION THROUGH THEÂBASIC LAPAROSCOPIC UROLOGIC SURGERY (BLUS) CURRICULUM. Journal of Urology, 2015, 193, .	0.4	0
35	Feasibility of Online Semantic Labeling of Deformable Tissues for Minimally Invasive Surgery1. Journal of Medical Devices, Transactions of the ASME, 2015, 9, .	0.7	0
36	Large-Scale Needfinding: Methods of Increasing User-Generated Needs From Large Populations. Journal of Mechanical Design, Transactions of the ASME, 2015, 137, .	2.9	16

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37	Crowdsourcing to Assess Surgical Skill. JAMA Surgery, 2015, 150, 1086.	4.3	80
38	Large Scale Needs-Based Open Innovation via Automated Semantic Textual Similarity Analysis. , 2015, , .		2
39	Assessing Quality of User-Submitted Need Statements From Large-Scale Needfinding: Effects of Expertise and Group Size. Journal of Mechanical Design, Transactions of the ASME, 2015, 137, .	2.9	3
40	Variable-Contact Diffuse Reflectance Spectroscopy in Intravascular Conditions Assessment <sup>1</sup> . Journal of Medical Devices, Transactions of the ASME, 2015, 9, .	0.7	0
41	Practical, stretchable smart skin sensors for contact-aware robots in safe and collaborative interactions. , 2015, , .		22
42	Crowd-Sourced Assessment of Technical Skill: A Valid Method for Discriminating Basic Robotic Surgery Skills. Journal of Endourology, 2015, 29, 1295-1301.	2.1	75
43	Crowd-Sourced Assessment of Technical Skills: Differentiating Animate Surgical Skill Through the Wisdom of Crowds. Journal of Endourology, 2015, 29, 1183-1188.	2.1	75
44	Crowd-Sourced Assessment of Technical Skills: An Adjunct to Urology Resident Surgical Simulation Training. Journal of Endourology, 2015, 29, 604-609.	2.1	75
45	Online identification of abdominal tissues in vivo for tissue-aware and injury-avoiding surgical robots. , 2014, , .		5
46	Dynamic Calibration Method for Instrumented Laparoscopic Surgical Graspers <sup>1</sup> . Journal of Medical Devices, Transactions of the ASME, 2014, 8, .	0.7	0
47	Real-Time Tissue Differentiation Using Fiber Optic Sensing in Laser Catheters <sup>1</sup> . Journal of Medical Devices, Transactions of the ASME, 2014, 8, .	0.7	1
48	Feasibility of a Low-Cost Instrumented Trocar for Universal Surgical Procedure Analyses <sup>1</sup> . Journal of Medical Devices, Transactions of the ASME, 2014, 8, .	0.7	0
49	A fast, low-cost, computer vision approach for tracking surgical tools. , 2014, , .		5
50	Quantifying surgical skill: using the wisdom of crowds. Journal of the American College of Surgeons, 2014, 219, e158-e159.	0.5	1
51	PD6-08 CROWD-SOURCED ASSESSMENT OF TECHNICAL SKILLS (C-SATS <sup>â„†,ç</sup> ): FAST, ECONOMICAL AND ACCURATE ASSESSMENT OF ROBOTIC SURGERY. Journal of Urology, 2014, 191, .	0.4	1
52	Crowd-Sourced Assessment of Technical Skills: a novel method to evaluate surgical performance. Journal of Surgical Research, 2014, 187, 65-71.	1.6	144
53	Beyond task time: automated measurement augments fundamentals of laparoscopic skills methodology. Journal of Surgical Research, 2014, 192, 329-338.	1.6	31
54	A Framework for Calibrating and Benchmarking Computer Vision Algorithms in Surgical Robotics <sup>1</sup> . Journal of Medical Devices, Transactions of the ASME, 2014, 8, .	0.7	0

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55	Towards Crowd-Based Needfinding in Medical Device Development1. Journal of Medical Devices, Transactions of the ASME, 2014, 8, .	0.7	0
56	Medical Simulators for Developing Countries Via Low-Cost Two-Dimensional Position Tracking1. Journal of Medical Devices, Transactions of the ASME, 2014, 8, .	0.7	2
57	Online Free Anatomy Registration via Noncontact Skeletal Tracking for Collaborative Human/Robot Interaction in Surgical Robotics1. Journal of Medical Devices, Transactions of the ASME, 2014, 8, .	0.7	6
58	Virtual Reality Robotic Surgery Warm-Up Improves Task Performance in a Dry Laboratory Environment: A Prospective Randomized Controlled Study. Journal of the American College of Surgeons, 2013, 216, 1181-1192.	0.5	104
59	Quantifying Forces at the Tool-Tissue Interface of a Surgical Laparoscopic Grasper. Journal of Medical Devices, Transactions of the ASME, 2013, 7, .	0.7	3
60	A Low-Cost Computer Vision Based Approach for Tracking Surgical Robotic Tools. Journal of Medical Devices, Transactions of the ASME, 2013, 7, .	0.7	4
61	Automated Electro-Mechanical Assessment of Psychomotor Skill for High-Stakes Certification in Surgical Robotics. Journal of Medical Devices, Transactions of the ASME, 2013, 7, .	0.7	0
62	SurgTrak â€” A Universal Platform for Quantitative Surgical Data Capture. Journal of Medical Devices, Transactions of the ASME, 2013, 7, .	0.7	4
63	Exploratory Visualization of Surgical Training Databases for Improving Skill Acquisition. IEEE Computer Graphics and Applications, 2012, 32, 71-81.	1.2	5
64	Content and Construct Validation of a Robotic Surgery Curriculum Using an Electromagnetic Instrument Tracker. Journal of Urology, 2012, 188, 919-923.	0.4	60