SPECIAL SECTION ON SENSORS FOR PHYSICAL INTERACTION AND PERCEPTION IN MINIMALLY INVASIVE ROBOTIC SURGERY

GUEST EDITORIAL
Sensors for Physical Interaction and Perception in Minimally Invasive Robotic Surgery ........................................ G. G. Muscolo and P. Fiorini 456

SPECIAL SECTION REVIEW ARTICLES

SPECIAL SECTION PAPERS
A Robust Graph-Based Framework for 3-D Shape Reconstruction of Flexible Medical Instruments Using Multi-Core FBGs ........................................ Y. Lu, W. Chen, B. Li, B. Lu, J. Zhou, Z. Chen, and Y.-H. Liu 472
Safe Manipulation in Robotic Surgery Using Compliant Constant-Force Mechanism .............................................. Y. Sun and T. C. Lueth 486

REGULAR ISSUE REVIEW ARTICLES
Shoulder-Support Exoskeletons for Overhead Work: Current State, Challenges and Future Directions ........ F. A. Reyes, D. Shuo, and H. Yu 516

(Contents Continued on Page 455)
Continuous Prediction of Human Joint Mechanics Using EMG Signals: A Review of Model-Based and Model-Free Approaches ................................................................. S. P. Sitole and F. C. Sup, IV 528
Electromyography-Based Control of Lower Limb Prostheses: A Systematic Review ................................................................................................................................. B. Akkami, K. Ahmed, A. Thesleff, L. Hargrove, and M. Ortiz-Catalan 547

REGULAR ISSUE PAPERS

An Effective Endoscope Actuator Based on Electromagnetic Driving Principle ........................................ L. Zhu, Y. Xiang, B. Tong, D. Kong, and Q. Zhu 580
Force Control With a Novel Robotic Catheterization System Based on Braided Sleeve Grippers ............................. O. Al-Ahmad, M. Ourak, J. Vlekken, and E. Vander Poorten 602
SimPS-Net: Simultaneous Pose and Segmentation Network of Surgical Tools ................................................................. S. Souipas, A. Nguyen, S. G. Laws, B. L. Davies, and F. Rodriguez y Baena 614
An Online Model-Free Adaptive Tracking Controller for Cable-Driven Medical Continuum Manipulators ................................................................. J. Hao, K. Zhang, Z. Zhang, S. Wang, and C. Shi 623
Deployable Parallelogram Mechanism and Constrained Bendable Segment for Flexible Robot Toward Transoral Procedures ......................................................... C. Li, X. Gu, X. Xiao, C. M. Lim, X. Zuo, Y. Li, X. Duan, and H. Ren 636
Robotic Guidance of a Surgical Tool Under Constrained Motions ......................................................................................... B. Dahroug, B. Tamadazte, P. Rougeot, and N. Andreff 645
A Novel Continuum Overtube With Improved Triangulation for Flexible Robotic Endoscopy ......................................................... D. Song, S. Wang, Z. Zhang, X. Yu, and C. Shi 657
Deep Brain Stimulation on Ca2+ Signalling and Neuro-Glial Network: A Digital Implementation ................................. M. Seyedbharagh, A. Ahmadi, and M. Ahmadi 704
Lower-Limb Exoskeleton With Compliant Actuators: Human Cooperative Control .................................................. L. Bergmann, D. Voss, S. Leonhardt, and C. Ngo 717
Design and Evaluation of a Bidirectional Soft Glove for Hand Rehabilitation-Assistance Tasks ......................................................... J. Lai, A. Song, K. Shi, Q. Ji, Y. Lu, and H. Li 730