

Contents

Impact of Lossy Image Compression on CAD Support Systems for Colonoscopy	1
<i>Peter Elmer, Michael Häfner, Toru Tamaki, Shinji Tanaka, Rene Thaler, Andreas Uhl, and Shigeto Yoshida</i>	
Pointing with a One-Eyed Cursor for Supervised Training in Minimally Invasive Robotic Surgery	12
<i>Martin Kibsgaard and Martin Kraus</i>	
Instrument Tracking with Rigid Part Mixtures Model	22
<i>Daniel Wesierski, Grzegorz Wojdyga, and Anna Jezierska</i>	
Stereoscopic Motion Magnification in Minimally-Invasive Robotic Prostatectomy	35
<i>A. Jonathan McLeod, John S.H. Baxter, Uditha Jayarathne, Stephen Pautler, Terry M. Peters, and Xiongbiao Luo</i>	
Tissue Shape Acquisition with a Hybrid Structured Light and Photometric Stereo Endoscopic System	46
<i>Marco Visentini-Scarzanella, Tatsuya Hanayama, Ryunosuke Masutani, Shigeto Yoshida, Yoko Kominami, Yoji Sanomura, Shinji Tanaka, Ryo Furukawa, and Hiroshi Kawasaki</i>	
Using Shading to Register an Intraoperative CT Scan to a Laparoscopic Image	59
<i>Sylvain Bernhardt, Stéphane A. Nicolau, Adrien Bartoli, Vincent Agnus, Luc Soler, and Christophe Doignon</i>	
Surgical Simulation Robot with Haptics and Friction Compensation	69
<i>Tao Yang, Weimin Huang, Kyaw Kyar Toe, Jiayin Zhou, Yuping Duan, Yanling Chi, and Loong Ee Loh</i>	
A Real-Time Target Tracking Algorithm for a Robotic Flexible Endoscopy Platform	81
<i>Nanda van der Stap, Luuk Voskuilen, Guido de Jong, Hendrikus J.M. Pullens, Matthijs P. Schwartz, Ivo Broeders, and Ferdi van der Heijden</i>	
2D/3D Real-Time Tracking of Surgical Instruments Based on Endoscopic Image Processing	90
<i>Anthony Agustinos and Sandrine Voros</i>	

Tracking Accuracy Evaluation of Electromagnetic Sensor-Based
Colonoscopy Tracking Method 101
*Masahiro Oda, Hiroaki Kondo, Takayuki Kitasaka, Kazuhiro Furukawa,
Ryoji Miyahara, Yoshiki Hirooka, Hidemi Goto, Nassir Navab,
and Kensaku Mori*

Non Rigid Registration of 3D Images to Laparoscopic Video for Image
Guided Surgery. 109
Max Allan, Ankur Kapoor, Philip Mewes, and Peter Mounthey

A Novel Dual LevelSets Competition Model for Colon
Region Segmentation. 117
*Huafeng Wang, Wenfeng Song, Lihong Li, Haixia Pan, Ming Ma,
Weifeng Lv, Zhaohui Zhong, and Zhengrong Liang*

Enhancing Normal-Abnormal Classification Accuracy in Colonoscopy
Videos via Temporal Consistency 129
*Gustavo A. Puerto-Souza, Siyamalan Manivannan, María P. Trujillo,
Jesus A. Hoyos, Emanuele Trucco, and Gian-Luca Mariottini*

3D Stable Spatio-Temporal Polyp Localization in Colonoscopy Videos 140
*Debra Gil, F. Javier Sánchez, Gloria Fernández-Esparrach,
and Jorge Bernal*

Uninformative Frame Detection in Colonoscopy Through Motion, Edge
and Color Features 153
*Mohammad Ali Armin, Girija Chetty, Fripp Jurgen, Hans De Visser,
Cedric Dumas, Amir Fazlollahi, Florian Grimpen, and Olivier Salvado*

Author Index 163



<http://www.springer.com/978-3-319-29964-8>

Computer-Assisted and Robotic Endoscopy
Second International Workshop, CARE 2015, Held in
Conjunction with MICCAI 2015, Munich, Germany,
October 5, 2015, Revised Selected Papers
Luo, X.; Reichl, T.; Reiter, A.; Mariottini, G.-L. (Eds.)
2016, XII, 164 p. 91 illus. in color., Softcover
ISBN: 978-3-319-29964-8