

Table of Contents

Prostate Cancer MR Imaging	1
<i>Jurgen J. Fütterer</i>	
Computer Aided Detection of Prostate Cancer Using T2, DWI and DCE MRI: Methods and Clinical Applications	4
<i>Henkjan Huisman, Pieter Vos, Geert Litjens, Thomas Hambroek, and Jelle Barentsz</i>	
Prostate Cancer Segmentation Using Multispectral Random Walks	15
<i>Yusuf Artan, Masoom A. Haider, and Imam Samil Yetik</i>	
Automatic MRI Atlas-Based External Beam Radiation Therapy Treatment Planning for Prostate Cancer	25
<i>Jason Dowling, Jonathan Lambert, Joel Parker, Peter B. Greer, Jurgen Fripp, James Denham, Sébastien Ourselin, and Olivier Salvado</i>	
An Efficient Inverse-Consistent Diffeomorphic Image Registration Method for Prostate Adaptive Radiotherapy	34
<i>Xiao Han, Lyndon S. Hibbard, and Virgil Willcut</i>	
Atlas Based Segmentation and Mapping of Organs at Risk from Planning CT for the Development of Voxel-Wise Predictive Models of Toxicity in Prostate Radiotherapy	42
<i>Oscar Acosta, Jason Dowling, Guillaume Cazoulat, Antoine Simon, Olivier Salvado, Renaud de Crevoisier, and Pascal Haigron</i>	
Realtime TRUS/MRI Fusion Targeted-Biopsy for Prostate Cancer: A Clinical Demonstration of Increased Positive Biopsy Rates	52
<i>Samuel Kadoury, Pingkun Yan, Sheng Xu, Neil Glossop, Peter Choyke, Baris Turkbey, Peter Pinto, Bradford J. Wood, and Jochen Kruecker</i>	
HistoCAD: Machine Facilitated Quantitative Histoimaging with Computer Assisted Diagnosis	63
<i>John E. Tomaszewski</i>	
Registration of <i>In Vivo</i> Prostate Magnetic Resonance Images to Digital Histopathology Images	66
<i>A.D. Ward, C. Crukley, C. McKenzie, J. Montreuil, E. Gibson, J.A. Gomez, M. Moussa, G. Bauman, and A. Fenster</i>	

High-Throughput Prostate Cancer Gland Detection, Segmentation, and Classification from Digitized Needle Core Biopsies	77
<i>Jun Xu, Rachel Sparks, Andrew Janowczyk, John E. Tomaszewski, Michael D. Feldman, and Anant Madabhushi</i>	
Automated Analysis of PIN-4 Stained Prostate Needle Biopsies	89
<i>Bikash Sabata, Boris Babenko, Robert Monroe, and Chukka Srinivas</i>	
Augmented Reality Image Guidance in Minimally Invasive Prostatectomy	101
<i>Daniel Cohen, Erik Mayer, Dongbin Chen, Ann Anstee, Justin Vale, Guang-Zhong Yang, Ara Darzi, and Philip ‘Eddie’ Edwards</i>	
Texture Guided Active Appearance Model Propagation for Prostate Segmentation	111
<i>Soumya Ghose, Arnau Oliver, Robert Martí, Xavier Lladó, Jordi Freixenet, Joan C. Vilanova, and Fabrice Meriaudeau</i>	
Novel Stochastic Framework for Accurate Segmentation of Prostate in Dynamic Contrast Enhanced MRI	121
<i>Ahmad Firjany, Ahmed Elnakib, Ayman El-Baz, Georgy Gimel’farb, Mohamed Abo El-Ghar, and Adel Elmagharby</i>	
Boundary Delineation in Prostate Imaging Using Active Contour Segmentation Method with Interactively Defined Object Regions	131
<i>Yan Zhang, Bogdan J. Matuszewski, Aymeric Histace, Frédéric Precioso, Judith Kilgallon, and Christopher Moore</i>	
Author Index	143