

## **Part 1 INTRODUCTION**

**1 Overview of IGRT, *Fang-Fang Yin, Yu Yan and Robert Timmerman***

**2 History and future of IGRT in lung cancer, *Joe Y. Chang***

## **Part 2 PRINCIPLES OF IGRT FOR LUNG CANCER**

**3 Imaging simulation for lung cancer IGRT, *Daniel Low, Tinsu Pan, Ning Wen and Carri K. Glide-Hurst***

**4 Treatment planning, *Yan Yu, Kamila Nowak Choi and Virginia Lockamy***

**5 Treatment verification and delivery, *Ning Wen, Carri Glide-Hurst, Karen Chin Snyder, Mischa Hoogeman, Martina Descovich, Lei Ren and Indrin Chetty***

**6 Quality assurance of IGRT, *Krishni Wijesooriya, Taeho Kim, Josh Evans and Quan Chen***

## **Part 3 PRACTICE OF IGRT FOR LUNG CANCER 125**

**7 L-shaped linacs, *David Hoffman, Julian Perks, Steve Goetsch and Stanley Benedict***

**8 TomoTherapy, *Ke Sheng***

**9 Robotic arm linac, *Jun Yang, Andrew Cardin, Jing Feng, Xing Liang and EnMing Wang***

**10 Proton therapy, *Clemens Grassberger, Gregory C. Sharp and Harald Paganetti***

**11 Application of IGRT for lung stereotactic body radiotherapy, *Julianne M. Pollard-Larkin, Peter Balter and Joe Y. Chang***

**12 Uncertainties of IGRT for lung cancer, *Irina Vergalasova, Guang Li, Chris R. Kelsey, Hong Ge, Long Huang and Jing Cai***

## **Part 4 ADVANCES IN IGRT FOR LUNG CANCER**

**13 Advances in imaging simulation for lung cancer IGRT, *Jing Cai, Daniel Low, Tinsu Pan, Yilin Liu, Zheng Chang and Wei Lu***

**14 Advances in treatment planning, *Mei Li, Ruijiang Li and Lei Xing***

**15 Advances in verification and delivery techniques, *Lei Ren, Martina Descovich and Jing Wang***

**16 Treatment response assessment and response guided adaptive treatment, *Tim Lautenschlaeger, Martha Matuszak and Feng-Ming (Spring) Kong***

**17 Adaptive radiation therapy for lung cancer, *Martha Matuszak, Kristy K. Brock and Feng-Ming (Spring) Kong***

**18 MRI-based IGRT for lung cancer, *Rojano Kashani and Lauren Henke***

**Index**