Call for Papers
IEEE Signal Processing Society
IEEE Journal of Selected Topics in Signal Processing

Special Issue on Digital Image Processing Techniques for Oncology

Cancer has been one of the biggest threats to human life for many years, and is expected to become the leading cause of death over the next few decades. Based on the statistics of the World Health Organization (WHO), cancer accounted for 13% of all deaths in the world in 2005; deaths from cancer are expected to rise in the future, with an estimated 11.4 million dying due to cancer in 2030. Therefore, detection and diagnosis of cancer have become a significant area of research activity in the medical imaging and image processing communities. Modern imaging technology has already had life-saving effects on the ability to detect cancer early and to diagnose the disease more accurately. In order to improve further the efficiency and veracity of diagnosis and treatment, image processing techniques are being developed and applied for the detection, recognition, and analysis of cancer; for the evaluation of the effectiveness of treatment; and for the prediction of the risk of development of cancer. The aim of the proposed special issue is to bring together researchers who work on image processing techniques for the detection and diagnosis of cancer, and to promote further research and advances in image processing techniques for oncology.

Original papers, previously unpublished and not currently under review by another journal, are solicited, addressing one or more of the following topics:

- Multimodal image registration and fusion for the detection and diagnosis of cancer
- Content-based image retrieval for the diagnosis of cancer
- Tumor segmentation and quantitative analysis
- Tracking of cancer cells
- Image enhancement for the diagnosis of cancer
- Image-guided treatment of cancer and computer-assisted surgery
- Machine learning for computer-aided detection and diagnosis of cancer
- Image normalization for the detection of cancer
- Image processing for segmentation and localization of cancer

Prospective authors can find submission information at http://www.ece.byu.edu/jstsp. The authors are required to follow the Author’s Guide for manuscript submission to the IEEE Transactions on Signal Processing (T-SP) at http://ewh.ieee.org/soc/sps/tsp/. The manuscripts will be peer reviewed according to the standard IEEE process.

Manuscript submissions due: April 15, 2008
First review completed: June 15, 2008
Revised manuscripts due: August 15, 2008
Second review completed: October 1, 2008
Final manuscript due: November 15, 2008

Lead guest editor:
Jinshan Tang, Alcorn State University, Alcorn State, MS, USA, jtang@alcorn.edu

Guest editors
Raj Rangayyan, University of Calgary, Calgary, Alberta, Canada, ranga@ucalgary.ca
Yongyi Yang, Illinois Institute of Technology, Chicago, IL, USA, yy@ece.iit.edu
Jianhua Yao, National Institute of Health, Bethesda, MD, USA, JYao@cc.nih.gov