

Special Issue on  
**Fully 3D Image Reconstruction**  
*IEEE Transactions on Medical Imaging*

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Guest Editors

Since the pioneering investigations of Hounsfield and Cormack on X-ray computed tomography the development of reconstruction methods for different tomographic modalities has been a fascinating research topic with tremendous impact on clinical diagnosis and biomedical research. Initially image reconstruction was more or less confined to two-dimensional (2D) problems in which slices were reconstructed from 1D profiles. With the advancement of CT, PET and SPECT scanners we now require sophisticated 3D methods to obtain high quality volumetric images reconstructed from data obtained with axially extended detectors. More than ever, improved image reconstruction algorithms are needed to exploit the full potential of novel scanner technology and to stimulate further development aimed at continuously increasing the power of diagnostic imaging and at advancing biomedical research.

We invite submission of papers describing advances in fully 3D reconstruction of medical images. Suggested topics include but are not restricted to:

- Analytical and statistical volumetric reconstruction techniques for CT, MRI, PET, SPECT and US
- Image reconstruction algorithms for dynamic/cardiac (4D) tomographic modalities
- Theoretical and numerical aspects of fully 3D image reconstruction methods
- Evaluation and comparison of 3D reconstruction algorithms
- Optimization of geometry and sampling strategies for tomography
- Improvements in 3D image reconstruction by refinement of modeling and calibration

The IEEE Transactions on Medical Imaging seeks high quality research papers for this special issue. Authors should submit their manuscripts electronically through the IEEE Manuscript Central Office (<http://mc.manuscriptcentral.com/tmi-ieee>) following the TMI instructions and indicating in the author comments to the editor-in-chief that the manuscript is submitted for the special issue on fully 3D image reconstruction. Authors intending to submit articles are encouraged to discuss their submissions with the guest editors to determine suitability for this special issue.

**Schedule:**

Submission of manuscripts:	October 1, 2007
Accept/reject notifications:	January 1, 2008
Revised manuscripts due:	March 1, 2008
Special issue published:	July 2008

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