

Special issue on Single photon counting spectral x-ray computed tomography imaging

Call for papers: submission deadline extension to the 15/02/2020

Guest Editors

Katsuyuki Taguchi, Dimitra G. Darambara, Michael Campbell, and Rafael Ballabriga

The IEEE TRPMS encompasses radiation- and plasma-related technologies for medical applications, including radiation detectors, imaging instrumentation, radiation-based image reconstruction, data analysis and image processing, and clinical/preclinical evaluation of imaging systems. We are organizing a special issue on single photon counting x-ray computed tomography (CT) imaging in collaboration with the Editorial Board of the IEEE TRPMS, to be published in 2020.

Single photon counting detectors and its application to x-ray computed tomography are very active fields of research in the community. It has great potential for not only improving the current computed tomography imaging substantially but also enabling novel clinical applications such as simultaneous multi-contrast-agent imaging and molecular computed tomography imaging. In the past decade, there has been steady progresses in developments of detectors, imaging system modeling, algorithms, whole-body prototype systems, and clinical performance assessments. The number of research groups in the world, which tackle various aspects of single photon counting imaging, has been growing quickly.

We would like to invite authors to submit papers related to research and applications in single photon counting x-ray computed tomography imaging. The topics include but are not limited to:

- X-ray tubes
- Detectors (crystals, readout electronics (ASIC), and detector systems)
- Detector modeling and CT imaging system modeling
- Data processing and image reconstruction including material decomposition
- Image processing and analysis
- Contrast agents including nanoparticles
- Computed tomography system technologies
- Pre-clinical and Clinical applications

Authors must submit papers digitally according to <https://mc.manuscriptcentral.com/trpms>, indicating that the submission is aimed for this special issue in the cover letter. Authors are encouraged to contact the guest editors to determine suitability of their submission for this special issue.

Guest Editors:

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Schedule:

Submission of manuscripts:	February 15, 2020
Acceptance/rejection notification:	March 31, 2020
Revised manuscripts due:	June 1, 2020
Publication:	October 1, 2020