Special Issue

Assessment of Radiation Dose in X-ray and CT Exams

Message from the Guest Editor

Medical imaging and interventional radiology procedures that use ionizing radiation play a significant role in patient healthcare. But the biologic effects of X-ray exposures related to medical imaging and interventional radiology procedures have been investigated and debated for a long time. The principle of as low as reasonably achievable (ALARA) has long provided a basic guideline for medical imaging. Especially, radiation doses in computed tomography (CT) are nontrivial and the number of individuals being exposed is large and rapidly increasing. For patient undergoing medical imaging or interventional radiology procedure, both the amount of radiation that is incident on the patient and the total radiation received by the patient need to be determined. This information can be used for the derivation of local and total dose quantities that are related to deterministic and stochastic risks to the patient. This Special Issue will include studies on the assessment of radiation doses in CT, radiography, fluoroscopy, angiography, and interventional radiology procedures. The dose assessment methods will include direct/indirect measurement, simulation, and the deep learning approach.

Guest Editor

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