



The Abdus Salam  
**International Centre  
for Theoretical Physics**



# Joint ICTP-IAEA Workshop on Quality Assurance and Dosimetry in X-ray Breast Imaging

## Description:

The workshop is designed for medical physicists having interest in expanding their knowledge and skills in quality assurance in X-ray breast imaging modalities. It will provide to medical physicists a contemporary overview of the X-ray breast imaging technologies and theoretical and practical aspects of quality assurance, fundamental for quality and safety in X-ray breast imaging.

## MORE INFORMATION:

X-ray breast imaging, including digital mammography, digital breast tomosynthesis and related modalities as breast biopsy and contrast enhanced mammography is widely used for timely detection and management of the breast cancer. Either as screening or diagnostic tool, it is very demanding due to requirements for visualization of fine details, high contrast, appropriate viewing conditions and lowest dose compatible with adequate image quality. Therefore, X-ray breast imaging requires highest quality standards. The optimization of image quality versus radiation dose and quality assurance are the key tasks for medical physicists in X-ray breast imaging. An effective quality assurance programme has positive impact on improving image quality and reducing patient exposure in X-ray breast imaging. Training of medical physicists to adequately support breast imaging is crucial, considering that this professional lead quality and dosimetry activities. Over the past few decades, technology advancements in X-ray breast imaging have transformed the field, requiring more systematic and comprehensive approach for quality to ensure safe and effective services, emphasizing even more a need for adequate medical physics support. Aligned with the need for continuous education and training, the workshop will introduce to medical physicists the knowledge and skills necessary to implement quality assurance in X-ray breast imaging.

## TOPICS:

- Current technologies used in X-ray breast imaging;
- Framework of quality assurance for X-ray breast imaging and related roles and responsibilities of clinically qualified medical physicists;
- Philosophy of the quality assurance protocol, image quality metrics, dosimetry, performance standards and optimization strategies;
- Dosimetry in X-ray breast imaging;
- Quality control for digital mammography, digital breast tomosynthesis, contrast enhanced mammography, display systems and biopsy units;
- Instrumentation, equipment and tools needed for dosimetry and quality control in X-ray breast imaging.

## PREREQUISITES:

The target audience are clinically qualified medical physicists (CQMPs, as per IAEA Publication Human Health Series No. 25) specialized in diagnostic radiology from United Nations, UNESCO or IAEA Member States holding a postgraduate-level university degree in medical physics and working in hospitals or X-ray breast imaging facilities.



**26 - 30 May 2025**



**Trieste, Italy**



**Deadline:  
15 March 2025**

## DIRECTOR:

Olivera Ciraj-Bjelac, IAEA, Austria

## LOCAL ORGANIZER:

Marco Esposito, ICTP, Italy

## FURTHER INFORMATION:

E-mail: [smr4072@ictp.it](mailto:smr4072@ictp.it)

Web: <https://indico.ictp.it/event/10837/>

Female scientists are encouraged to apply.



## GRANTS:

A limited number of grants are available to support the attendance of selected participants, with priority given to participants from developing countries. There is no registration fee.

