

BY KATHARINA MIEDZINSKA



# Radiography education: heading for new shores

The progressing digital revolution does not stop at the gates of radiology and radiography education; in fact, it continues to advance rapidly.

The growing number of innovative developments within informatics will have a significant impact on the education and training of radiologists and radiographers in the near future. Therefore it is becoming more and more important for both trainees and educators to deal with new developments and keep their fingers on the pulse, as today's session about clinical simulation and its role in radiography education will show.

"There is a diversity of requirements and training schemes for radiographers within European countries. A current challenge is to harmonise and standardise radiography training and accreditation across borders," said Prof. Laura Oleaga Zufiría, from the department of radiology at the Hospital Clinic Barcelona, Spain, who will chair today's session together with Dr. Francis Zarb, from the department of radiology at the Faculty of Health Sciences, University of Malta. According to Oleaga, the evolution of informatics and information technology will substantially reshape the practice of radiologists and radiographers over the next decade, meaning it is necessary to integrate some new developments into the training curriculum.

"The education of the future must be learner-centred. Trainees must

have an active role in the learning process, while teachers are not suppliers of knowledge and information, but organisers of activities and directors of their learning experiences," Oleaga noted.

One of these newer developments and educational methodologies that, according to Oleaga and Zarb, needs to be implemented into the training curriculum, is simulation. By providing a safe and effective environment for trainees at all levels to practice and acquire clinical skills, thus bridging the gap between theory and practice, simulation programmes offer radiologists and radiographers a valuable active learning process.

Meanwhile, simulation technology is widely used in medical education as its use has great potential to shape medical education and subsequently the quality of care. Its effectiveness in helping trainees to achieve, measure, and maintain skills in various medical fields, and in the performance of a variety of clinical procedures, has been demonstrated.

So when it comes to radiography education, Oleaga sees much potential in simulation technology: "Simulation teaching programmes allow a more interactive learning process, mimicking the real-world practice of radiology with simulated clinical scenarios. The use of simulation systems allows acceleration of the learning curve, following individual learning needs and thus improvement of patient safety."

"In ultrasound and interventional procedures, in which the acquisition of manual skills and a prolonged learning curve are necessary, the use of simulation methods is especially useful," Zarb added.

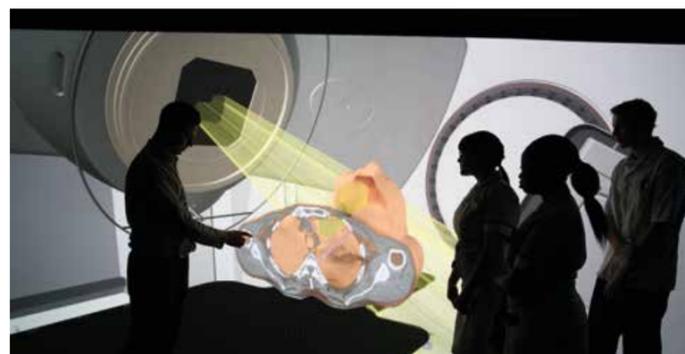
However, although simulation technology has much promise, there are still some obstacles to overcome, among them its place within the curricula, which needs to be carefully determined to promote the highest level of competence, and the link between performance in the controlled simulation environment and



3D printing aortic model used to help trainees to practice complex interventional procedures.

the quality of the patient care delivered. As Zarb says, "It is difficult for simulation techniques to completely replace the interaction of the radiologist or radiographer with the patient, since each patient scenario is unique." Also not be forgotten in this context are the costs. "Costs represent a major obstacle in regard to the implementation of simulation programmes, as simulation is an expensive teaching modality," warns Oleaga. "Other limitations and challenges are the training of the educators, faculty training, and technical support, which is essential for the faculty to embrace and utilise the modality."

In addition to the two co-chairs, a wide range of experts on radiography education, from Europe and



Virtual Environment for Radiotherapy Training (VERT)

(All images provided by Prof. Oleaga Zufiría and Dr. Francis Zarb, Copyright: Hospital Clinic Barcelona, Spain, University of Malta)

## Special Focus Session

Friday, March 1, 08:30–10:00, Room C

SF 9b Clinical simulation and its role in radiography education

- » Chairpersons' introduction  
L. Oleaga Zufiría; Barcelona/ES  
F. Zarb; Msida/MT
- » Clinical radiography education across Europe: an overview  
J. McNulty; Dublin/IE
- » Innovation in education: virtual education/computer-based simulator vs patient imaging  
A. England; Salford/UK
- » High fidelity: clinical simulation for undergraduate radiography  
A. Louw; Johannesburg/ZA
- » How simulation can help prepare students and have a positive impact on interprofessional working  
A. Henner; Oulu/FI
- » Providing opportunities for practical ultrasound training  
B. Kraus; Vienna/AT
- » Panel discussion: Is simulation enough to meet the current challenges facing radiography education? Can simulation replace hands-on patient experience?

beyond, will make this session a particularly interesting one, with speakers from Austria, Finland, the UK, South Africa, and Ireland (EFRS President Dr. Jonathan McNulty) addressing simulation from various angles. The session will close

with a panel discussion featuring all speakers, addressing the potential of simulation to meet the current challenges facing radiography education and the question of whether it can replace hands-on patient experience.



Trainee practicing with a 3D model to acquire experience before facing a real patient case.



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