

International Conference on

Oncology Nursing, Cancer Care & Radiology and Imaging

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Empa-Swiss Federal Laboratories for Materials Science and Technology, Switzerland

New X-ray imaging developments to characterize ceramic materials for dental applications

The workshop concentrates on a novel technique that has demonstrated great potential for non-destructive testing (NDT) and non-destructive evaluation (NDE). This method uses the Talbot-Lau grating interferometer principle. It enables X-ray insights extended by two additional contrast mechanisms: X-ray phase contrast imaging (XPCI) and scatter dark field imaging (SDFI). Conventional radiographic systems, based on the absorption of x-rays in the sample, have limited contrast for light materials such as polymers and biological tissues. XPCI, on the other hand, is able to reveal subtle changes in the microstructure of the samples, such as micro-cracks in composite.

Biography

Alex Dommann is heading the Department of Materials Meet Life at Empa. He received his PhD in Solid State Physics in 1988 from ETHZ in Switzerland. His research concentrates on the surface analysis, bio surface interactions, structuring, coating and characterization of thin films. He is member of different national and international committees and teaches biomaterials, crystallography and MEMS technology at different Swiss universities and has published more than 130 papers. He is Member of the Swiss Academy of Engineering Science (SATW) and is Adjunct Professor at the University of Berne.

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