International Workshop on Advances in X-ray Imaging
ICTP, Trieste, Italy / 11-12 December 2014

# Multimodal x-ray microtomography using a perturbed wavefront

*Irene Zanette*
TU München, Germany

X-ray phase-contrast and dark-field imaging provide signals complementary to conventional absorption contrast. They allow to visualise details with tiny density differences, such as different types of soft tissues, or detect the presence of features at the sub-pixel length scale, such as nano pores, cracks or fibers. X-ray grating interferometry and near-field speckle-based imaging yield simple and accurate access, in two and three dimensions, to these signals through the analysis of the distortions induced by the sample on a suitable reference pattern. We illustrate the working principles of these methods, present the recent results obtained with these techniques, and we discuss the future perspectives of multimodal imaging using a perturbed wavefront.