



INTERDISCIPLINARY CENTRE FOR
ADVANCED MATERIALS SIMULATION

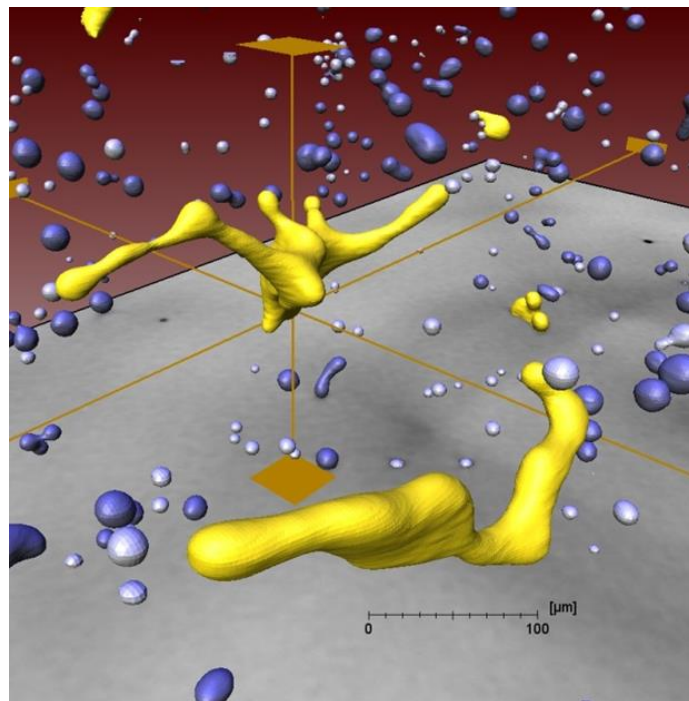
ICAMS Special Seminar

Thursday, 01 March, 4:00 p.m.
Room IC 04-408

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Digital material microstructures by means of tomography for simulation models



Cast and heat treatment pores in a single crystalline nickel based superalloy.

Properties of materials with a complex microstructure depend on the properties and the arrangement of the microstructural constituents. The presentation will show exemplarily for some materials how to derive 3-dimensional microstructure data on different length scales for the generation of numerical models, suitable for finite element analyses. For different length scales two methods are utilized - non-destructive X-ray tomography in the range from mm to μm and combined sequential focused ion beam (FIB) ablation and scanning electron microscopy in the sub-micron range.