

WP14: High resolution *in vivo* imaging of small laboratory animals

The focus of the work here has not been to develop new SOPs but, firstly, to provide support in validating existing imaging platforms e.g. X-ray analysis and secondly, to undertake development analysis and explore the application of various imaging technologies to mouse phenotyping, including PET, SPECT, MRI and ultrasound. Generic 3D automated algorithms have been developed in order to increase the speed of analysis of images obtained either *in vitro* or *in vivo* in embryos or adult animals (for example, analysis of MRI images of cardiovascular structures in mouse models of congenital heart disease). In addition, there has been much focus on the use of X-ray imaging for soft tissue analysis using dedicated contrast agents, including the assessment of intra-venous urography (IVU) for kidney phenotyping.