Projet PHANTOM

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Title: Pipeline from real MRI to virtual MRI images of phantoms.

In the VIVABRAIN project (http://vivabrain.fr), we aim at creating virtual cerebral angiography images, that is to say virtual MRI images of blood flows in the cerebral vasculature. The pipeline consists in medical teams who acquire real MRI images of the cerebral vasculature, computational graphics teams who reconstruct the vascular network by segmentation algorithms, mathematical computing teams who transform segmentations into computational meshes and simulating blood flows and finally physicians who compute virtual MRI images from the simulations (see Figure 1.).
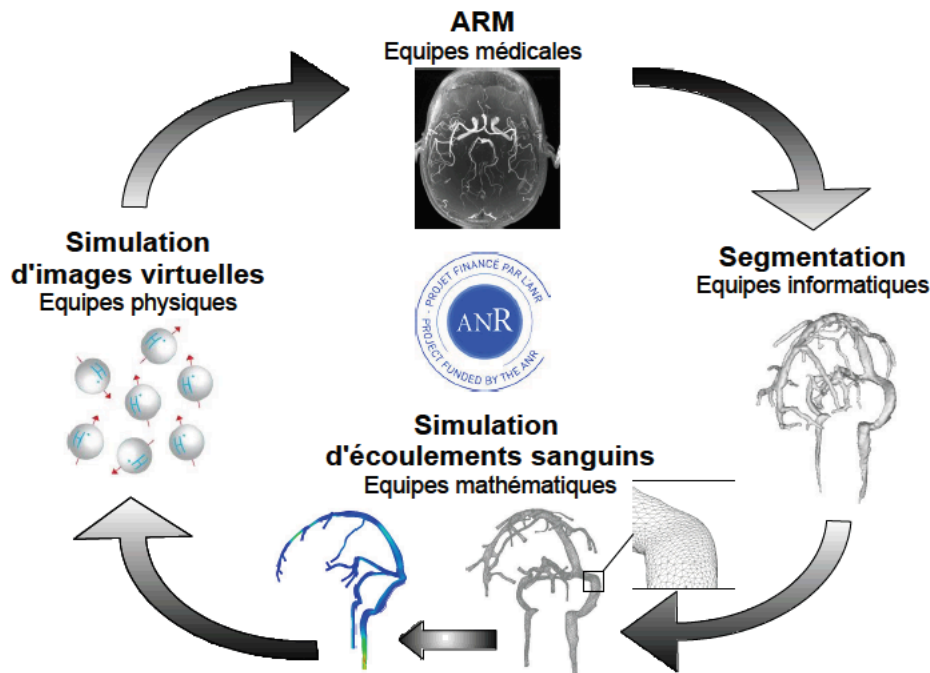

Figure 1: Physical phantom for cerebral arteries.

To address this pipeline, we want to test during CEMRACS 15, each step on physical phantoms representing cerebral arteries as the one shown on Figure 2.

Figure 2: Physical phantom for cerebral arteries.