A Detailed 3D Model of the Human Hand

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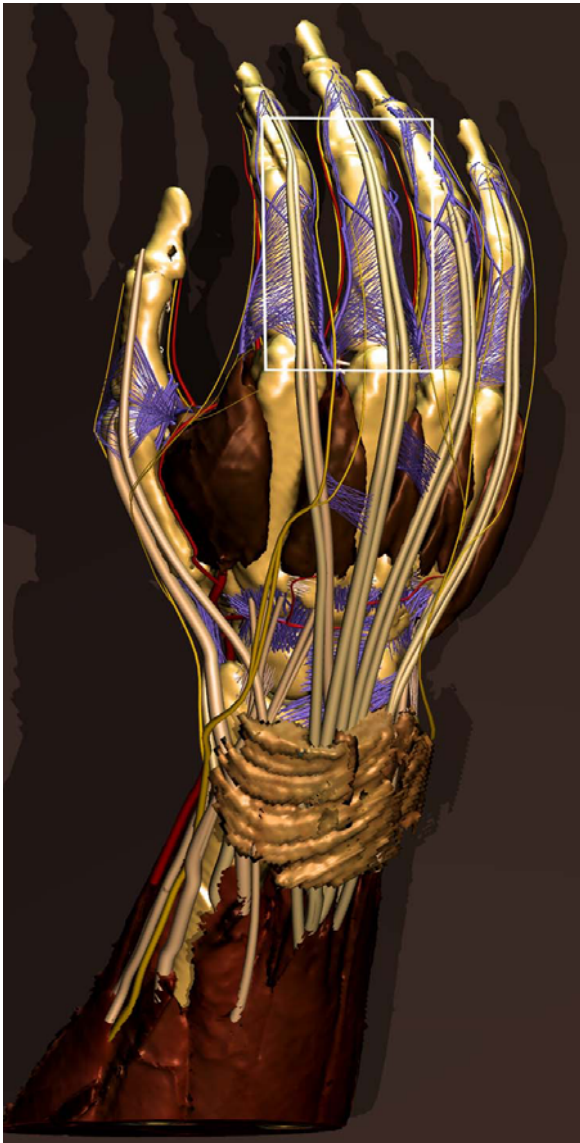

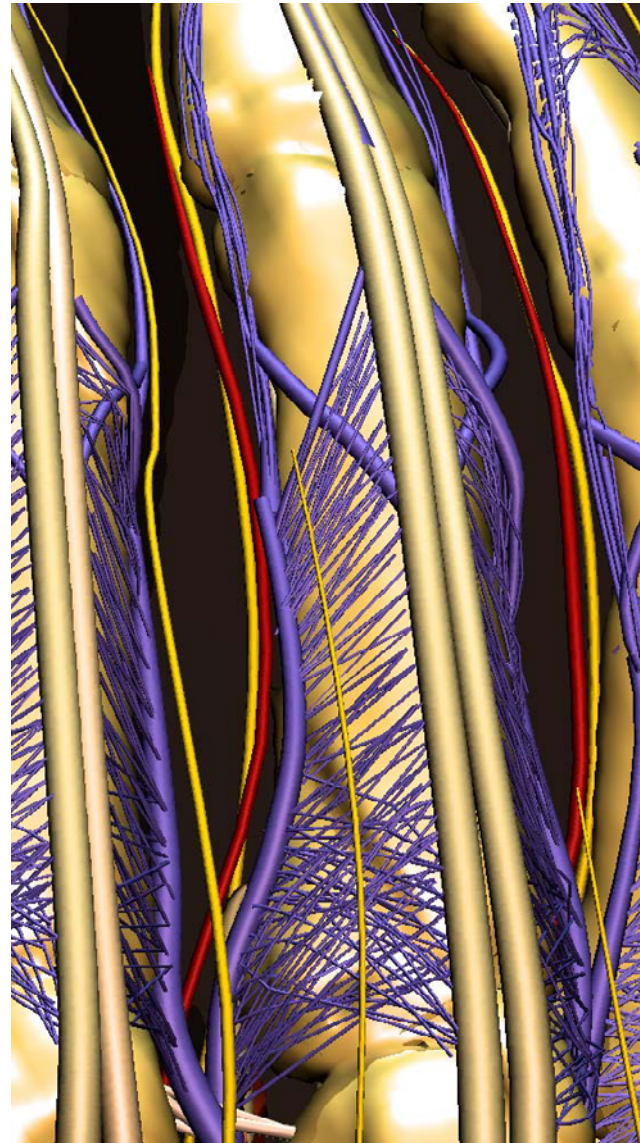Fig. 1. Combined volume and surface model of the hand.

Fig. 2. Detail within the rectangle depicted in Fig. 1.

Because of its complicated anatomy and function, the human hand is a most delicate object for surgery. Therefore a tool for learning the detailed anatomy and the possibility of training surgical interventions without harm for a patient is highly desired. For this purpose the shown 3D model has been created from the Visible Human data set (Fig. 1). The large objects, like bone and muscles are volume objects, while the small objects such as blood vessels (red), nerves (yellow), tendons (gray) and ligaments (blue) are modelled as surface objects (Fig. 2). The model contains about 400 anatomical objects. Within the VOXEL-MAN framework it can be explored and interrogated by mouse click (e. g. "show me the branches of this nerve"). Tools for simulation of surgical interventions are under development.