

COMPUTER SCIENCE DEPARTMENT COLLOQUIUM SERIES

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When: Wednesday, October 26th 2005, 2-3 pm

Where: CS Department Conference Room, Academic Center Rm.. 736

Title:

Building Laparoscopic Surgical Simulations:

Generation of Virtual Environment and Development of Applications

Abstract:

The practice of surgery requires integration of considerable cognitive skills with patient data, some of which has to be done in real time.

Computer-based surgical simulation promises to provide effective surgical training through the introduction of anatomical variation, simulation of unforeseen events, and collection of objective performance data for evaluation purposes. Computer simulations also facilitate acquisition of skills needed to master emerging surgical techniques.

Most of the current surgical simulators rely on preset anatomical virtual environments resulting in the functionality limited to specific tasks. This presentation will focus on addressing real-time issues of developing a dynamic surgical simulation. We will discuss two major applications: a PC-based haptic laparoscopic skills trainer, LapSkills, and a virtual anatomical body structures generation tool, VBS."