

Reducing Surgical Risk

Jerzy Rozenblit is working on intelligent systems to assist and Evaluate surgeons.

University Distinguished Professor Jerzy Rozenblit, director of the Model based System Design Laboratory, recently stepped down as electrical and computer engineering department head to focus on research. He is also co-director of the Arizona Simulation Technology and Education Center at the UA College of Medicine, where his research includes custom building a surgical instrument manipulator for computer-assisted surgical training and performance measurement of laparoscopies.

In this type of procedure, surgeons do not get the same visual and tactile feedback they rely on when conducting conventional surgery. The test bed developed by Rozenblit and his team uses sensor-based tracking to collect and aggregate data about laparoscopic instruments and how they are being used.

Effective training and assessment of surgical skills are essential if the dangers of laparoscopies are to be avoided. Experienced surgeons currently conduct training and assessment, but using fuzzy logic to emulate clinical judgment, Rozenblit and his team are developing a computer model that measures and scores laparoscopic skills more consistently.

A second manipulator under construction will evaluate bilateral surgical instrumentation, and evaluate suturing skills of project participants, from novices to experts.



**University Distinguished
Professor Jerzy Rozenblit**