

## Cell Robotics Workstation

The Cell Robotics Workstation is a generic term for a laser microscope system that is used for various types of research. Three of the variations of this project are described below:

### Cell Robotics IVF WorkStation

This program allows control of micro-robotic microscope, which is fitted with an X-Y stage, a focus drive, a laser, a joystick and a digital camera. The purpose of this system is to make the process of In Vitro Fertilization easier, faster, and more reliable. Images from the microscope are presented on the computer monitor through the use of a Sony CCD camera in conjunction with a Hauppauge video acquisition board. The stage controller is connected to the host computer through RS-232. Various mouse actions on the video image or joystick inputs are translated into X-Y motion, focus, and laser firings. A point list function allows users to note important points and return to them later. Digitized images may be captured to the hard drive in the form of bitmaps. MS Word is used to generate reports from the system including on screen measurements and bitmaps. This system is used to measure various aspects of an egg to determine if it is a good candidate for fertilization, to fertilize the egg, and to perforate the outside shell of the egg to assist in hatching.

### Cell Robotics WorkStation

This program allows control of micro-robotic microscope which is fitted with an X-Y stage, a focus drive, a Tweezer laser, a Scissor laser, a CellSelector, a joystick and a digital camera. Images from the microscope are presented on the computer monitor through the use of a Sony CCD camera in conjunction with a Hauppauge video acquisition board. The stage controller is connected to the host computer through RS-232. Various mouse actions on the video image or joystick inputs are translated into X-Y motion, focus, and laser firings. The program keeps complex user preference information for up to eight different users. A point list function allows users to note important points and return to them later. Digitized images may be captured to the hard drive in the form of bitmaps. A script language function allows users to capture commands to the controller, edit them, and then run them in order to make macros for complex tasks. This system is being used for various research efforts around the world, including attempts to re-grow damaged spinal cords.

### Cell Robotics SmartStage

This program allows control of micro-robotic microscope which is fitted with an X-Y stage. It consists of a subset of the functionality of the WorkStation. The stage controller is connected to the host computer through RS-232. The program keeps complex user preference information for up to eight different users. Speed and direction of the stage can be adjusted through the use of dials on the main panel. A point list function allows users to note important points and return to them later. A script language function allows users to capture commands to the controller, edit them, and then run them in order to make macros for complex tasks. This system is being used for various research efforts around the world, analysis of mold growth.

## About NTS Test Systems Engineering

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- Maintenance & Support

**Contact**

To discuss how NTS can help you solve your next test system engineering challenge, contact Tim Brooks at 505-345-9499 or email [tim.brooks@ntscorp.com](mailto:tim.brooks@ntscorp.com).

