

# Optical tweezers software now available for the iPad

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Optics researchers from the Universities of Glasgow and Bristol have developed an iPad application for accurate, easy and intuitive use of optical tweezers.

Optical tweezers, used to manipulate tiny particles through the use of highly focused [laser beams](#), are the tool at the heart of much molecular biology – helping us to experiment with and better understand the microscopic processes of organisms.

Research published today, Friday 4 March 2011, in IOP Publishing's *Journal of Optics*, shows how a team of researchers has overcome the limitations of computer mouse and joy-stick controlled systems through the design of an iPad [app](#).

Control of the lasers used in [optical](#) tweezers systems has often been limited by the functionality of the computer mouse or joystick, making it difficult to manipulate multi-particles in the range of directions researchers need to move particles in.

The new multi-touch-based application allows researchers a clear representative 3D view of particle systems and offers a range of techniques, like pinching the screen or tilting the iPad, for moving single and multi-particles left and right, up and down, and to rotate them.

To see the iPad application in action:

Due to the iPad's wireless capability, the app will also help with regards laser safety and avoiding experiment contamination.

The researchers write, "Our iPad-based interface allows intuitive control of a holographic [optical tweezers](#) system using a dedicated application on the [iPad](#) and a modified version of our tweezers' control software running on a host PC.

"The interface is responsive and easy to use, so even inexperienced users can trap particles, move them around and translate the microscope stage."

**More information:** The researchers' paper can be downloaded here: [iopscience.iop.org/2040-8986/1 ... 8986 13 4 044002.pdf](http://iopscience.iop.org/2040-8986/1...8986_13_4_044002.pdf)

Provided by Institute of Physics

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