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Optic scientists take a shine to Legoland

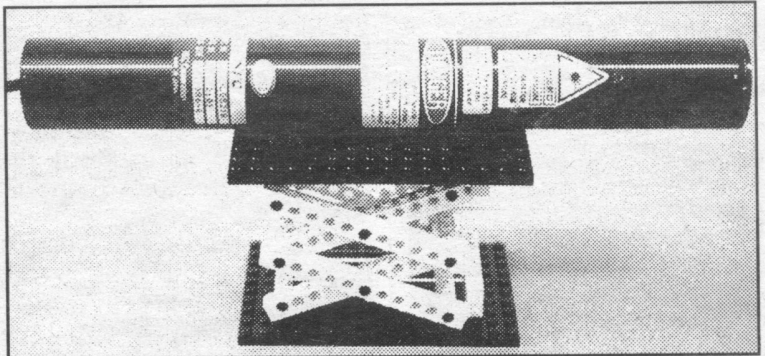
Top Italian scientists have rejected their traditional lab equipment in favour of Lego, which they say is withstanding some of the most demanding experiments in optics.

The scientists have built laser supports, posts and rails, and a range of devices for shining laser beams and adjusting mirrors and rotating tables, using standard Lego pieces.

"At Christmas I bought a Lego toy for my nephew and I saw that it had very good versatility," said Dr Franco Quercioli, of the National Institute of Optics in Flor-

ence. He bought some for himself and began to build equipment. "First we built lens holders and then more complicated things like microscopes, interference experiments and optical filtering."

The most difficult component — a stable rotator to turn lenses or mirrors through precisely measured arcs — had to be made by cutting up a standard Lego baseplate and gluing it to a couple of pieces of acrylic. The scientists also have Lego microscopes, beam expanders to increase the diameter of laser beams and several kinds of interferometer — among the most accurate of all optical instruments. Some components, particu-



Superior: 'Lego is cheaper, lighter and easier to transport'

larly holders for lenses and other bits of equipment, are "far superior" to purpose-made equivalents, he said.

"The Lego is cheaper, lighter and easier to transport. In 10 minutes it is possible to set up a demonstration experiment. Commercial optomechanical components are still very far from such goals." Even the moving parts, such as screws, gears and rails, come from Lego packs.

The greatest use of the

Lego so far has been in setting up optical experiments with which students can be taught, according to the Institute of Physics magazine *Opto & Laser Europe*. For very sophisticated research, Quercioli said commercial metal equipment was still better.

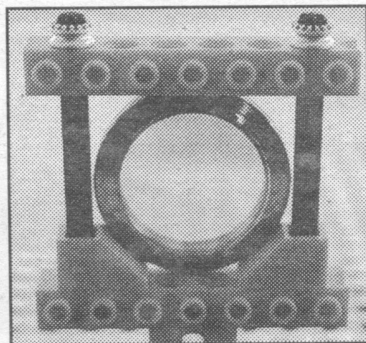
He is hoping the idea will catch on in schools, enabling impoverished teachers to teach optoelectronics without buying expensive equipment.

Aisling Irwin

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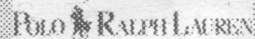
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