



Technology News

## Eye-safe laser research

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A [Strathclyde University](#) researcher has won the [Thales](#) Scottish Technology Prize for laser technology and applications for his work on rendering cheap industrial lasers eye-safe.

Dr Walter Lubeigt, from Strathclyde's [Institute of Photonics](#), won an individual prize of £2,500 plus £40,000 for the university for his work on eye-safe neodymium (Nd) diamond Raman lasers.

It was presented by David Lockwood, managing director of Thales's optronics facility in Glasgow.

Lubeigt is researching a technique for changing the wavelength of inexpensive industrial Nd lasers from one micron to the eye-safe wavelength of 1.5 microns.

At this wavelength, lasers cannot penetrate the cornea, thus protecting the retina from damage by the laser light.

Erbium lasers are currently used to generate laser light in the eye-safe range, but the technology is not as well established as Nd lasers.

Lubeigt is working on a project to develop continuous wave (CW) Raman diamond lasers.

He has managed to get the wavelength to 1.2 microns using what is known as the Stocks effect, and will use the prize money to push the investigation forward into applying a second Stocks effect to bring it within the eye-safe range.

Lubeigt worked on the project alongside principle investigator, Dr Alan Kemp, and Dr David Burns, associate director of Strathclyde's Institute of Photonics.

Competition runners-up were teams led by Prof Gerald Buller of Heriot-Watt University and Prof Deepak Uttamchandani, from Strathclyde University, who won individual prizes of £1,500 and £1,000 respectively.

Nicholas Smart, a physics student at Aberdeen, won the £1,000 prize for the best entry from an undergraduate for his idea for a co-ordinated positioning and reconnaissance system using lasers.

Eight other finalists from the Universities of Glasgow, Strathclyde and Heriot-Watt each won individual prizes of £500.

The awards were co-sponsored by Scottish Enterprise.