

# A Toolkit for Adaptive Optics

Adaptive Optics (AO) systems are most famous for their success in the field of astronomy where near diffraction limited performance can be achieved from terrestrial telescopes—but AO is also solving problems in retinopathy; ophthalmology; microscopy, free-space communications; optimizing high-power laser systems and laser pulse shaping and more. So far, each user group is originating their own system from scratch, with obvious impact on cost and time.

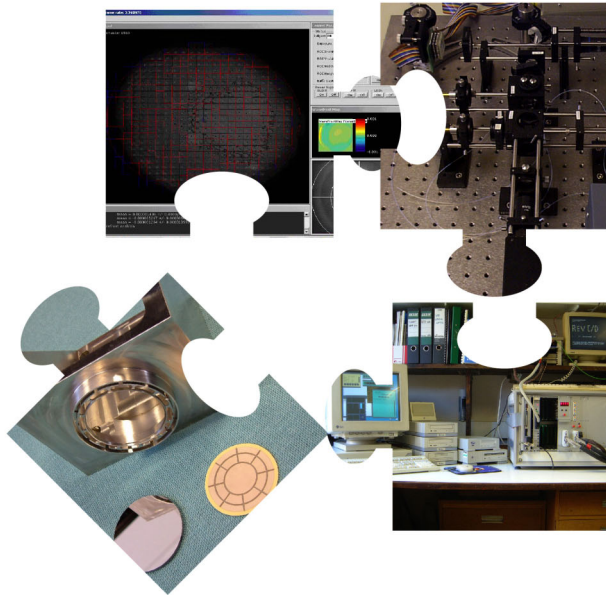
With the Adaptive Optics Toolkit we aim to provide accessible underpinning technology that will take adaptive optics out of laboratory and into industrial and medical applications. The toolkit will contain all of the core components for building AO systems: wavefront sensors, deformable mirrors, control systems and software. Components of this toolkit could be used separately for some applications or as building blocks for a complete adaptive optics system.

To find out more, contact [carlp@imperial.ac.uk](mailto:carlp@imperial.ac.uk)

## OptiSense Limited

Formed in 1998, our key areas of expertise include highly integrated electronic system design (with particular emphasis to exploitation of programmable logic devices), optical sensor systems, digital signal processing and thermal control, design of compact instruments, high-speed thermal cycling and compact photon-counting fluorimeters. We have built proof-of-principle demonstrators for DNA amplification and analysis on behalf of the MoD research laboratory at Porton Down.

<http://www.optisense.co.uk>



## Davin Optronics Ltd

Pioneers in the production of lens and cavity optics for CO<sub>2</sub> lasers, Davin now enjoys considerable success in many fields and has a reputation for achieving innovative, high performance solutions to industrial imaging problems. Among our specialist application areas are: night vision systems, CO<sub>2</sub> laser optics, colour separation systems and computer-to-plate systems for pre-press industry, f- $\theta$  scan lenses, military simulation systems, machine vision systems and, ophthalmic instrumentation.

<http://www.davinoptronics.com>

## Imperial College London

The Photonics Group at Imperial College has a world-wide reputation for its work in high angular resolution imaging and adaptive optics. We have built several complete low cost AO systems and are applying adaptive optics to high resolution retinal imaging and enhanced vision, optical communications, laser cavity correction, as well as to astronomical instrumentation. We also offer 2.5 day short course in Adaptive Optics for scientists and engineers.

<http://www.op.ph.ic.ac.uk/photonics/>

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