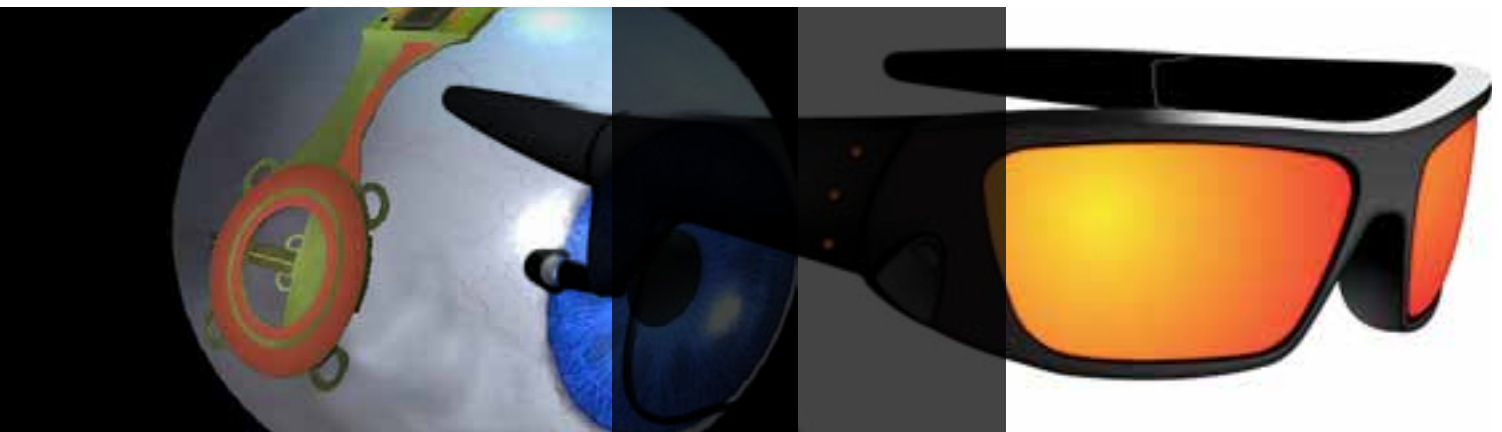


technology  
detection  
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# Vision Processing for the Bionic Eye (VIBE)

NICTA is creating assistive devices for visually impaired people, using computer vision-based technologies. The same technologies will enable the development of the Bionic Eye.



## The Features

- Face recognition technologies providing support for independent mobility and interaction
- Research to best represent processed visual information on a retinal implant in collaboration with other Bionic Vision Australia (BVA) members
- Application of object detection and recognition technologies to key problems for the visually impaired
- Development and publication of original methods for object detection and structure and motion recovery.



NICTA's VIBE Project is part of Bionic Vision Australia. The members of Bionic Vision Australia are; the Bionic Ear Institute, the Centre for Eye Research Australia, NICTA, the University of Melbourne and the University of New South Wales

## Who is helped?

Age-related macular degeneration and retinitis pigmentosa are two of the leading causes of blindness worldwide. Devices that help people with these disorders aim to support independent living, benefiting individuals in terms of their quality of life. The devices we are developing will also benefit the wider community through reduced healthcare burdens and improved participation in the workforce.

## The NICTA Approach

We are using our combined expertise in computer vision research, particularly in the areas of visual structure and motion recovery and object identification and detection. The VIBE project team is also contributing expertise to computer vision processing for BVA, funded by the Australian Research Council. The BVA partnership aims to build the first Australian bionic eye implant whereby individuals may recover some of the lost vision via electrical stimulation of the retina.

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From imagination to impact