

THE VISION COOPERATIVE RESEARCH CENTRE

There is an explosion in the need for eyecare in Australia and worldwide. Over three billion people in the world need vision correction, and this number is growing rapidly.

From this need comes an enormous opportunity for Australia.

The Vision CRC has created a unique worldwide collaboration to deliver business growth and better eyecare for Australia and the world, by developing breakthrough technology and products for the correction of myopia and presbyopia; delivering innovative education programs at all levels of the eyecare industry; and developing models which provide effective, affordable, and sustainable eyecare delivery to communities in need.

Vision: Vision Excellence For All People.

Mission: To establish Australia as a world leader in research, education and delivery of vision correction; to improve international eyecare; and to maximise commercial opportunities for the Centre, Australia and the eyecare industry.

RESEARCH

Vision CRC is designed around an integrated network of programs and activities that combine excellent science with expansion of the market to deliver achievable outcomes.

Myopia: Myopia (short-sightedness) is reaching epidemic proportions, especially in Asia, due to heredity and increased screen and text-based activity throughout all aspects of our daily lives. The Vision CRC addresses myopia from cause and prevalence through to prevention, treatment and cure, delivering new products to this enormous market. Product developments include continuous wear contact lenses that are truly biocompatible, and offer optimum comfort and vision for all prescriptions; a corneal onlay suitable for the correction of high degrees of myopia; and optical interventions to slow the progress of myopia.

Presbyopia: During close work such as reading, the eye must increase its refractive power to provide the close focus required. However, as we age, accommodation, or the ability of the lens to change its shape and power, is reduced. This inevitable loss of accommodation is called presbyopia, and because of it virtually everyone over the age of 45 will require optical aids for reading and other close work. The ageing population means that presbyopia will soon affect over 40% of the population. The Vision CRC is developing new products for the correction of presbyopia based on revolutionary technologies. These include a multifocal soft contact lens offering excellent visual performance with the convenience of continuous wear; and an intra-ocular lens to restore accommodation.

Vision care delivery: Refractive error, which can be corrected by spectacles, is responsible for functional blindness of 6 million people and the impaired vision of over 100 million people worldwide. In Australia, Aboriginal communities are particularly in need of effective eyecare systems, with Aboriginal people suffering up to 10 times the rates of blindness as the rest of the Australian population. The Vision CRC works with eyecare organisations and other organisations to develop effective models for vision care delivery, and develop technology and education to improve Australian and international eyecare.

Business growth: The Vision CRC is designing best practice ophthalmic business training packages to enhance ophthalmic business growth in Australia. The Centre is also developing appropriate materials for use by educational institutions in order to ensure that business strategies become a standard component of the undergraduate eyecare curriculum to create an ongoing supply of business-aware practitioners able to contribute to future market growth.

Science and core capabilities: The Vision CRC is developing disciplines of specific importance to the Centre, which are then applied within other Programs. This enables the Centre to maintain a high level of strategic research and commercialisation capability, and to maximise the contribution and synergy of the international collaborators.

EDUCATION

Professional education: The Vision CRC educational programs, models, and materials target all levels of human resource development needed for global expansion of the industry and improvement in eyecare. The Vision CRC is developing a range of educational courses, models and materials, designed to enhance the skills of ophthalmic practitioners, educators and industry staff in Australia and worldwide, and to enhance the transfer of Vision CRC research outputs into the marketplace.

Academic education: The Vision CRC is creating new industry and research capacity in Australia through excellent research training, including PhD and Masters degrees and Certificate and Diploma courses aimed at professionals. The Vision CRC postgraduates will be experienced in working with industry and become the base for the next generation of vision technologies and industry growth.

PARTICIPANTS

The Vision CRC is a synergistic collaboration of the world's leading groups in eyecare and vision research, education and delivery who have come together from over 30 organisations to tackle the eyecare challenge.

Core participants include:

- Centre for Eye Research Australia (Australia)
- International Centre for Eyecare Education (Australia)
- Institute for Eye Research (Australia)
- LV Prasad Eye Institute (India)

Supporting participants include:

- Aboriginal Health & Medical Research Council (Australia)
- Anglia Polytechnic University, Department of Optometry (UK)
- Aston University, School of Engineering and Applied Science (UK)
- University of Miami, Bascom Palmer Eye Institute (USA)
- CSIRO Molecular Science (Australia)
- International Association of Contact Lens Educators (Australia)
- Johns Hopkins University, Department of International Health (USA)
- Open Training and Education Network (Australia)
- Optometric Vision Research Foundation (Australia)
- Pennsylvania College of Optometry (USA)
- Queensland University of Technology, Centre for Eye Research, School of Optometry (Australia)
- State Government of Victoria– Department of Human Services (Australia)
- Sun Yat-sen University, Zhongshan Ophthalmic Centre (China)

- University of California, Los Angeles, Jules Stein Eye Institute (USA)
- University of Houston, College of Optometry (USA)
- University of Melbourne, Department of Ophthalmology (Australia)
- University of New South Wales, Cornea and Contact Lens Research Unit and School of Optometry and Vision Science (Australia)
- University of New South Wales, Graduate School of Biomedical Engineering (Australia)
- University of Sydney, Centre for Vision Research, Westmead Millennium Institute (Australia)
- University of Sydney, Save Sight Institute (Australia)
- University of Waterloo, Centre for Contact Lens Research (Canada)
- Vision 2020: The Right to Sight (Australia)
- VisionCare NSW (Australia)

Industry participants include:

- Australian Ophthalmic Consortium (Australia)
- CIBA Vision (USA and International)
- Contact Lens Industry Council (Australia)
- Ellex Medical (Australia)
- Essilor International
- Gelflex Laboratories (Australia)
- i-Optics (Australia)
- ProVision (Australia)
- Vision Instruments (Australia)

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