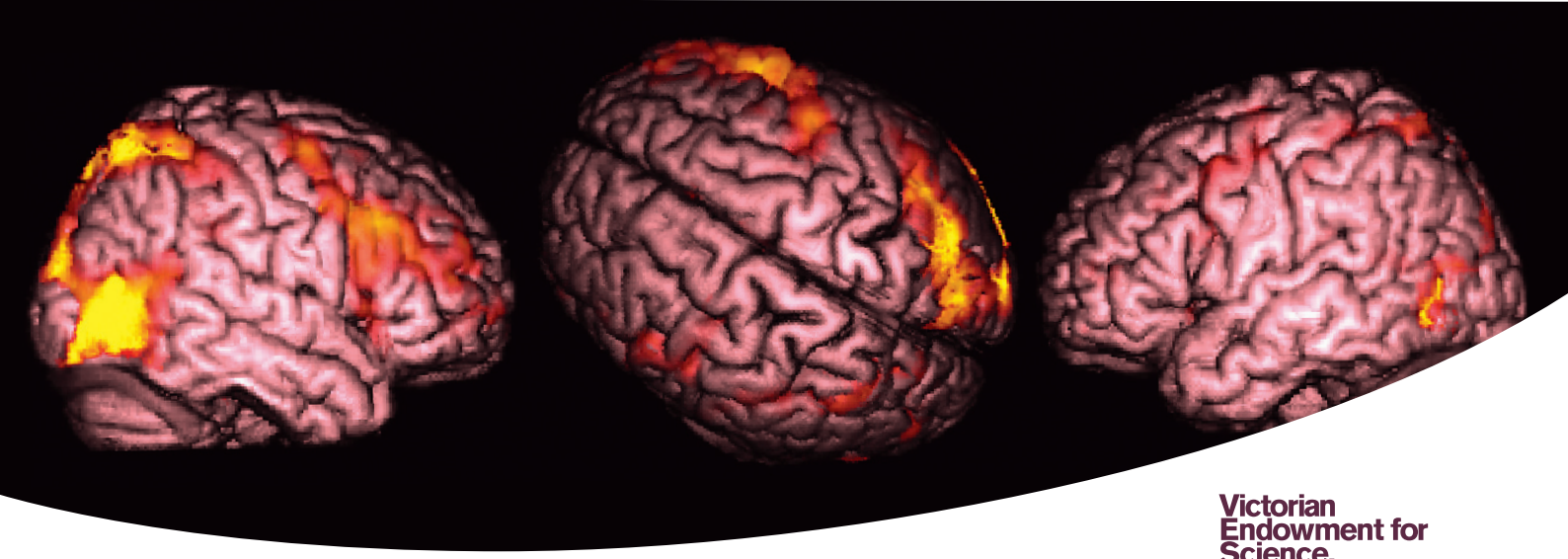

Victorian Endowment for Science, Knowledge + Innovation
veski

VESKI Innovation Fellow

Professor Sarah Hosking

Research Project

Anatomy and Function of the Visual Cortex in Human Glaucoma.

Project Summary

Glaucoma is the leading cause of irreversible blindness and results from a number of interacting factors such as increased eye pressure, compromised vascular health, genetic and other factors. In the USA alone the healthcare costs attributed to the disease amount to US$4bn each year. In Australia there are around 200,000 confirmed glaucoma sufferers, with a further 50% undiagnosed. The direct costs of care are AU$850m per year, with a further $1bn to support quality of life.

Currently, the diagnostic process involves measurements of the eye's own pressure, subjective measures of the visual field, evaluation of the appearance of the optic nerve as seen by observation of the internal eye structures, and consideration of a number of other factors such as patient age, vascular health, family history of disease, race and so on.

Particular difficulties in predicting the onset or progression of glaucoma arise since the clinical indicators of intraocular pressure and anatomical structure overlap substantially from healthy to glaucomatous eyes, and the subjective assessment of visual field loss is somewhat variable and insensitive to early damage or change.

In this research, anatomical investigations using diagnostic imaging methods will be used to establish the anatomical changes in the brain following the onset of glaucoma and the impact of treatment.

The findings of these studies are of importance in tailoring treatments to the needs of individual patients and ultimately, to benefit patients by the preservation of sight, and the community by reducing the financial burden of glaucoma management.

Personal History

Professor Sarah Hosking relocated from the United Kingdom in late 2007 to take up a joint research activity; based at the Centre for Eye Research Australia [CERA] collaborating with Professor Jonathan Crowston, Head of the Glaucoma Unit and Professor Graeme Jackson at the Brain Research Institute at the Austin Hospital.

Professor Hoskings' research aims to tie together the great clinical resource that currently exists at the Royal Victorian Eye & Ear Hospital in Melbourne with the world-leading neural imaging capability at the Brain Research Institute at the Austin.

Professor Hosking has presented her research work at many international conferences and has many published abstracts, book chapters and learned articles. She is widely used as a reviewer for journals of international standing in the vision community.

Professor Hosking is an outstanding researcher of international reputation and has been an advisor to The College of Optometrists *Fellowship in Glaucoma* and an Expert Witness for the General Optical Council.

Sarah also played a key role in the design and development of Aston University's new and highly innovative Academy of Life Sciences. She held the position of Managing Director of the Academy from 2003-2006.

Before coming to Australia Professor Hosking held joint appointments as Professor of Optometry at Aston University in Birmingham and City University in London.

She is married with two children and is living in Brighton with her family.

Other VESKI Innovation Fellowship recipients:
Professor Andrew Holmes AM FRS FAA FTSE
Professor Marcus Pandy PhD
Dr Gareth Forde PhD
Dr Alyssa Barry PhD
Prof Michael Crowley PhD

VESKI Fellows in an ambassadorial role include:
Professor Adrienne Clarke AC
Professor Peter Doherty AC
Professor Alan Trounson

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BACKGROUND INFORMATION

VESKI [Victorian Endowment for Science, Knowledge and Innovation] assists outstanding Australian scientists and leading innovators to undertake their research in Victoria and contribute to building an inspired community where innovation, ideas, and business provide benefits for Australia. VESKI is supported by the State Government of Victoria.

Centre for Eye Research Australia [CERA] is affiliated with the Department of Ophthalmology, at the University of Melbourne. **www.cera.org.au**

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