



Australian Government  
Australian Research Council

# Laureate Fellowship

## 2013 Australian Laureate Recipient

### PROFESSOR ARTHUR LOWERY



**The electro-photonic interchange: a new green platform for communications signal processing**  
(FL130100041)

Current organisation  
Administering organisation  
Primary research field  
National Research Priority

Monash University  
Monash University  
Optical Fibre Communications  
Frontier Technologies for Building and  
Transforming Australian Industries

Professor Arthur Lowery is the Director of the Monash Vision Group based at Monash University, which aims to develop a bionic eye implant by 2013 and is funded by the Australian Research Council's (ARC) Special Research Initiative in Bionic Vision.

Professor Lowery is an engineer, innovator and educator with a proven success record transforming ground-breaking technical innovations into successful international businesses. His core competencies are in management of research and development, communications technology, intellectual property management, export marketing and innovative teaching.

**Professor Lowery's project will deliver the science for a new generation of green optical networks, by identifying optimum combinations of electronic and photonic signal processing to solve fundamental data bottlenecks. It will implement these technologies in powerful electro-photonic chips, upon which superior energy-efficient internet switches can be built.**

Professor Lowery built the global Photonic Design Automation (PDA) industry from his fundamental research in semiconductor laser modelling. In 1996 he founded Virtual Photonics Pty Ltd (later Inc) with Dr Phil Gurney, to commercialise OPALS, a software tool for designing optical communications devices and circuits. In 1997 GOLD (Gigabit Optical Link Designer) was launched to an enthusiastic and rapidly-growing market. GOLD was developed in a joint project with Telstra and The University of Melbourne. Virtual Photonics Inc merged with BNeD Inc, a competitor out of the Hienrich Hertz Institute (Berlin) that had obtained government funding and VC money, to form VPI Virtual Photonics Inc in late 1998 (known in the industry as VPI, but now officially VPIsystems).

Professor Lowery was appointed Chair of Electrical and Computer Systems Engineering, at Monash University in September 2004. Professor Lowery is a Fellow of the IEEE (for leadership in computer aided design of optical communications systems), ATSE and the IET. Professor Lowery is also a Science Leader in the ARC's Centre of Excellence in Devices for Ultrahigh bandwidth Optical Systems (CUDOS).

Find out more about Professor Lowery and his research by visiting the [Monash University website](#).

For more information on the Australian Laureate Fellowships scheme, visit the [ARC website](#) or phone the ARC media team on 0412 623 056.