

# Virologists I have known – a short history

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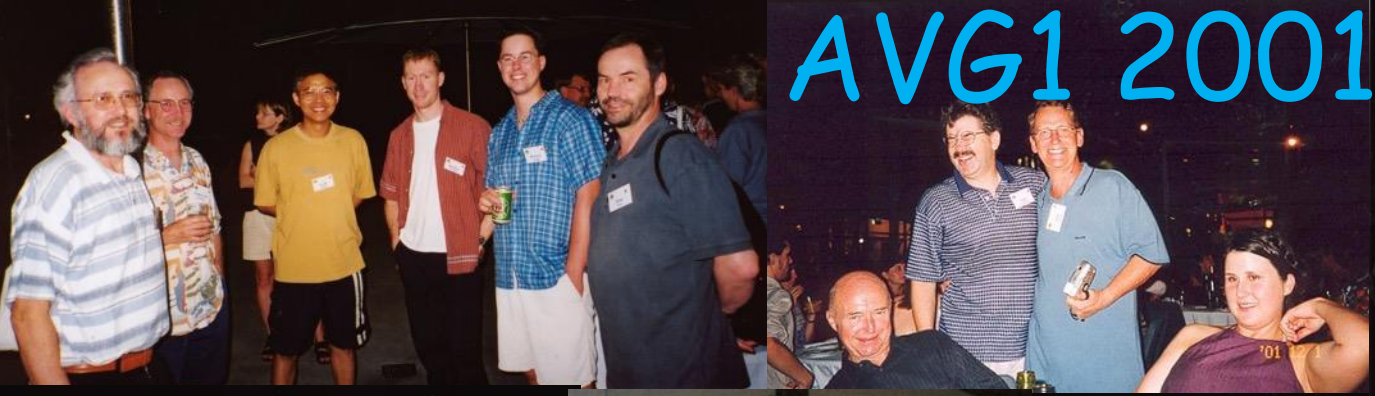




Greg Smith  
General Manager  
EQUIPMENT PLANS, LLC  
01/01/2009

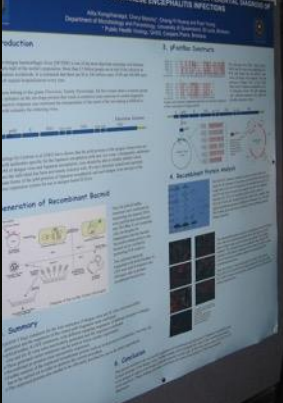
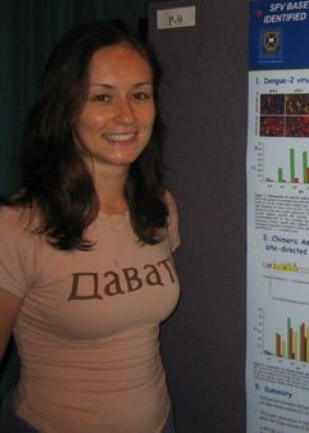


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# AVG2 2003





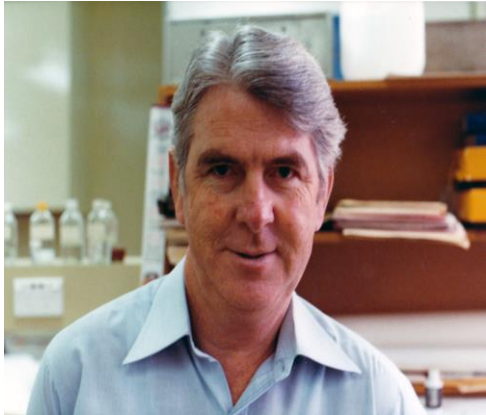
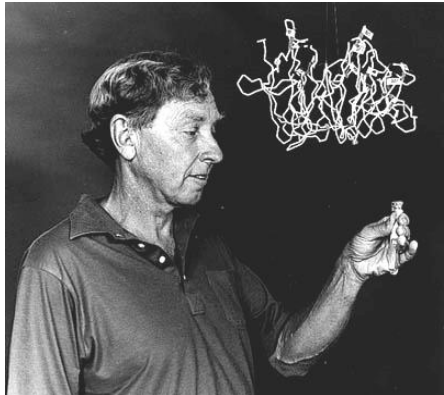








# THE VIROLOGY HALL OF FAME







# David Ogilvie White

Medical Virologist [L] [SEP]

1931 - 2004



Professor Emeritus David Ogilvie White was one of Australia's most distinguished medical virologists.

Professor of Microbiology, University of Melbourne, 1967-1994

- Head of Department of Microbiology for 14 of those years.
- Assistant Dean of Medicine (Preclinical), 1971-82
- Dean of Research and Graduate Studies, 1974-75
- Chairman, Academic Board, 1977-1978
- Pro-Vice-Chancellor, 1975-78.

David White authored six major books on virology including co-authorship with Frank Fenner of Medical Virology through four editions, each of which has been widely used in medical schools around the world and was variously translated into Spanish, German, Japanese, Chinese and Russian.

With Frank Fenner and veterinary colleagues, he coauthored two editions of 'Veterinary Virology', which in an international review was recommended as "the text of choice for the teaching of veterinary virology".





Ruth F. Bishop

# Ruth Bishop and Ian Holmes



Ian H. Holmes



## Discovery of *Rotavirus* in Melbourne in 1973

- Ruth Bishop (with G. Davidson) collected small intestinal biopsies from infants with acute non-bacterial gastroenteritis at the Royal Children's Hospital.
- Biopsies were processed and examined by electron microscopy by Ian Holmes (with B. Ruck) in the Department of Microbiology, University of Melbourne, with the identification of icosahedral viral particles.
- The virus was initially referred to as duovirus because they were seen in the duodenum and had a double capsid. The name rotavirus was later suggested by Thomas Flewett and subsequently adopted.
- Ruth and Ian went on to play key roles in the development of rotavirus vaccines.





# Frank Fenner

Medical Virologist [SEP]

1914 -

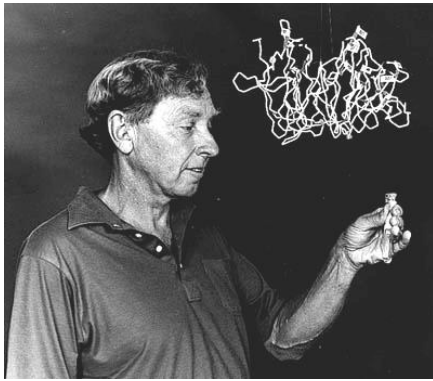


Addressing the WHO Assembly  
in 1979 to formally announce the  
eradication of smallpox



- Frank Fenner graduated in medicine and surgery from the University of Adelaide in 1939.
- After serving in the Australian Army Medical Corps from 1940-46 as a malariologist, he undertook research in microbiology in Melbourne and New York before being appointed as Foundation Professor of Microbiology, Australian National University from 1949-1967.
- He was prominent in developing the myxamatosis virus as a biological control for rabbits.
- He campaigned for the need to establish an international centre for virology research resulting in his appointment as Director of the ANU's John Curtin School for Medical Research in 1967-73.
- His identification and study of the mousepox virus contributed to the eradication of human smallpox and became a senior advisor to the World Health Organization Global Commission for Certification of Smallpox Eradication eventually sharing the 1988 Japan Prize for his role.
- From 1973-79 he was Director of the ANU's Centre for Resources and Environmental Studies where he pursued preventive medicine and ecological education.





# Graeme Laver

Virologist<sup>[L]</sup><sub>[SEP]</sub>

1929 - 2008



- In 1947 Graeme Laver was working as a technician at WEHI while completing a part-time Science course at Melbourne University. He helped Alfred Gottschalk discover the "split product" of the influenza receptor destroying enzyme (RDE) as being sialic acid (N-acetyl neuraminic acid), identifying RDE as a sialidase (or neuraminidase).
- He moved to the UK and completed his Ph.D. in London in 1958 and returned to Australia to the John Curtin School of Medical Research at the ANU to work with Stephen Fazekas de St Groth and his graduate student, Rob Webster, on the molecular structure and antigenic properties of the influenza virus.
- Graeme was the first to crystallize the influenza HA and with Carolyn Wright (Sydney) and Peter Coleman (Melbourne) solved the structure in 1983.
- Rob Webster wrote of Graeme following his passing: "Graeme Laver, the maverick of influenza research in Australia, was always prepared to challenge authorities. He established the biochemical basis of antigenic drift and shift in seasonal and pandemic influenza viruses and played a key role in the development of the anti-influenza drug Relenza. In classic Graeme style, he finished his life with a great flourish while on his way to a scientific meeting on influenza in Portugal. The air traffic controllers cleared the air space over Heathrow so that he could receive rapid medical attention. We his friends all know that he would have reveled in the mayhem caused had he been aware of it."





# Yvonne Cossart

Medical Virologist [SEP]

1934 -



- Yvonne Cossart studied at the University of Sydney, graduating with a Bachelor of Science in 1957 and an MBBS in 1959.
- In 1959, she became Resident Medical Officer at Royal Prince Alfred Hospital and Registrar in Pathology from 1960 to 1962. At Royal Prince Alfred Hospital, she also established a virus diagnostic laboratory within the Department of Microbiology.
- She moved to London in 1963 and from 1963 to 1966 was responsible for the enterovirus section of the Virus Reference Laboratory in the Central Public Health Laboratory, Colindale, where she devised laboratory methods for the surveillance of the efficacy and safety of poliomyelitis vaccination.
- She was appointed consultant virologist in 1967 and began work on hepatitis, which remains her main area of interest.
- In 1975, she and her colleagues discovered a previously unknown parvovirus in blood donations and transfusion recipients. This virus 'B19' is now known to be the cause of Fifth Disease in children and can also cause aplastic anaemia, hydrops fetalis and acute arthritis.
- She returned to Australia in 1977 as Senior Lecturer in the Department of Bacteriology at the University of Sydney and became instrumental in shaping an innovative program in research and teaching of virology in the Department. She was appointed Associate Professor in the Department of Infectious Diseases from 1979 to 1985 and Head from 1981 to 1992.
- Yvonne has continued her work on hepatitis and parvovirus, but her interests have expanded to include human papilloma viruses.





# Peter Doherty

Viral Immunologist<sup>[LSEP]</sup>

Nobel Laureate 1996



1940 -

- Peter Doherty graduated from the University of Queensland in Veterinary Science and became a veterinary officer. Moving to Scotland he received his PhD from the University of Edinburgh Medical School.
- He worked consistently in the areas of T cell and viral immunology since the early 1970s. His work focused on cellular and molecular aspects of virus-specific CD8+ T cells.
- Peter shared the 1996 Nobel Medicine Prize with Swiss colleague Rolf Zinkernagel, for their discovery of how the immune system recognizes virus-infected cells. He is the first person with a veterinary qualification to win a Nobel Prize. In addition to the Nobel Prize, Peter also shared the Paul Ehrlich Prize (Germany), the Gardner International Award (Canada), and the Lasker Award for Basic Science (USA) with Rolf Zinkernagel.
- Peter's research has been supported by competitive grants from the National Institutes of Health in the US, the National Health and Medical Research Council and institutional funding at SJCRH and the Australian National University.
- He is a Fellow, or Foreign Associate, of the Australian, UK, US, and Russian Academies of Science, and the French, US, and Australian Academies of Medicine. Peter is also a Fellow of numerous professional societies, has been awarded more than 20 Honorary Doctorates and has published some 500 research papers and reviews.
- Peter was Australian of the Year in 1997 and received a Companion of the Order of Australia in 1997, is listed as a living National Treasure, had his face on a postage stamp, and has research fellowships, a street and two buildings (in Edinburgh and Melbourne) named after him!





# Ian Gust

## Medical Virologist<sup>[SEP]</sup>

1941 -



- After his residency at the Alfred Hospital Ian spent two years at the London School of Tropical Medicine and Hygiene and at the WHO Regional Virus Laboratory in Glasgow. He returned to Fairfield in 1970 and was appointed a medical virologist at the Fairfield Infectious Diseases Hospital, a position he held for over twenty years. During this period, Fairfield gained a worldwide reputation for virology education, research and treatment. His laboratory was the first to isolate hepatitis A virus (and provided the strain from which the first Hepatitis A vaccine was developed) and also isolated one of the first strains of respiratory syncytial virus (the A2 strain, now a reference A group virus).
- In 1985, he founded and was appointed the inaugural director of the Macfarlane Burnet Centre for Medical Research, Fairfield Hospital, now the Burnet Institute, until 1991.
- Between 1991 and 2008, Gust served as director of research and development for the CSL, where he was closely involved in the company's successful expansion in Australia and internationally.
- Since retirement in 2000, he has been a Professorial Fellow in the Department of Microbiology and Immunology in the University of Melbourne, and as a consultant to the Bill and Melinda Gates Foundation; to UNICEF, the World Bank and the World Health Organization. A non-executive director of Biota Holdings Limited, since 2001, and Promics Pty Ltd.
- He served as a member of WHO expert committees on viral hepatitis (1974, 1979, 1982), biological standardisation (1992), and virus diseases (1975, 1985–1991). He was Director of the National Hepatitis Reference Centre (1979-1990) and served as the Commonwealth Chief Medical and Scientific Adviser on AIDS between 1989 and 1992 .
- He played a key role in development of the Hepatitis A vaccine in collaboration with US NIH and was a member of the International Task Force for Hepatitis B Immunization. He established the National HIV reference laboratory and directed the National Health and Medical Research Council's special unit AIDS virology (later National Centre for HIV Virology Research). He was also director of the World Health Organization Collaborating Centre for Influenza and a member of the National Influenza Pandemic Planning Committee.





# Ian Frazer

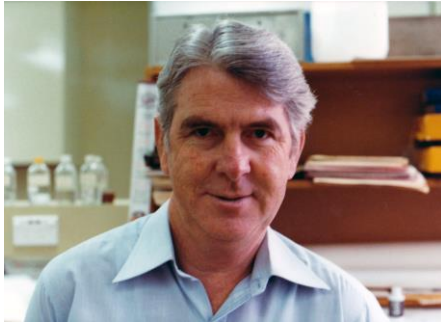
Clinical Immunologist and Viral Immunologist



1953 -

- Ian Frazer is a clinician scientist, trained as a clinical immunologist at Edinburgh University in Scotland. He graduated with a MB ChB in 1977 from Edinburgh University, a Doctor of Medicine from the University of Melbourne in 1988 and an Honorary Degree of Doctor of Science in 2013 from the University of Edinburgh.
- Ian immigrated in 1981 to Melbourne, Australia to continue his clinical training and to pursue studies in viral immunology and autoimmunity at the Walter and Eliza Hall Institute of Medical Research.
- Since 1983, Ian has pursued an interest in human papillomavirus (HPV) infection. He is recognised as co-inventor of the technology enabling the HPV vaccines, currently used worldwide to help prevent cervical cancer.
- In 1985 he moved to Brisbane to take up a teaching post with the University of Queensland (UQ), and from 1991-2011 he was Director of the UQ Diamantina Institute, a research institute of UQ.
- From 2011-2014 he was the inaugural Director of The Translational Research Institute, a major clinical and translational research institute and a joint venture between UQ, Queensland University of Technology and the Princess Alexandra Hospital. He returned to full time research at UQ in 2014.
- Ian heads a biotechnology company, Jingang Medicine (Aus) Pty Ltd, working on new vaccine technologies and is a board member of several companies and not for profit organisations.
- Ian is currently the program leader of the cancer immunotherapy program in the Faculty of Medicine at the University of Queensland. His current research interests include immunoregulation and immunotherapeutic vaccines for squamous cancers and persistent viral infections. He teaches immunology to undergraduate and graduate students at the University.





**Ed Westaway**  
1928 –

**Virologist extraordinaire**



- Ed Westaway's entry into science training was delayed until he was 33 years old by service in the RAAF. In 1961 he was appointed to a research post in the Queensland Institute of Medical Research (QIMR), located in Brisbane in a large WW2 US Army hut (with possums in the ceiling, and wild rats invading at night). He initially worked with Dr Ralph Doherty, later QIMR director, on flaviviruses, devising neutralizing antibody tests to distinguish the various species. He then pursued a postdoctoral fellowship at the famed Yale Arbovirus Unit, further defining such antibody specificities then returned to QIMR where he defined the key proteins in this class of virus.
- In 1969 he was appointed lecturer at Monash University, then to Reader in 1974 and a personal chair in 1989. He continued his work on characterizing Kunjin virus and its RNA.
- As his international reputation grew he chaired a subcommittee of the International Committee on Taxonomy of Viruses which established a new virus family the Flaviviridae, later including Hepatitis C virus. In 1989 he moved to Sir Albert Sakzewski Virus Research Centre (SASVRC), Royal Children's Hospital, Brisbane, recently established by former QIMR colleague John Pope and then from 1991 to 1992 , became part-time Director of the National Centre for HIV Research following Ian Gust (who moved to Director of Research at CSL) and re-established its funding. His productive and ground breaking research on the molecular biology of flaviviruses, their mechanism of replication and defining the role of their nonstructural proteins, using Kunjin as a model, continued with Paul Young, Alex Khromykh and Jason Mackenzie.
- He was a superb role model and mentor.
- He was made a fellow and honorary life member of the Australian Society of Microbiology in 1989 and 1990 respectively.



ADELAIDE



















MELBOURNE



## Macfarlane Burnet Centre established

- Dr Scott Bowden, Dr Suzanne Crowe Dr Stephen Locarnini
  - David Anderson, Bruce Ross (PhD students)















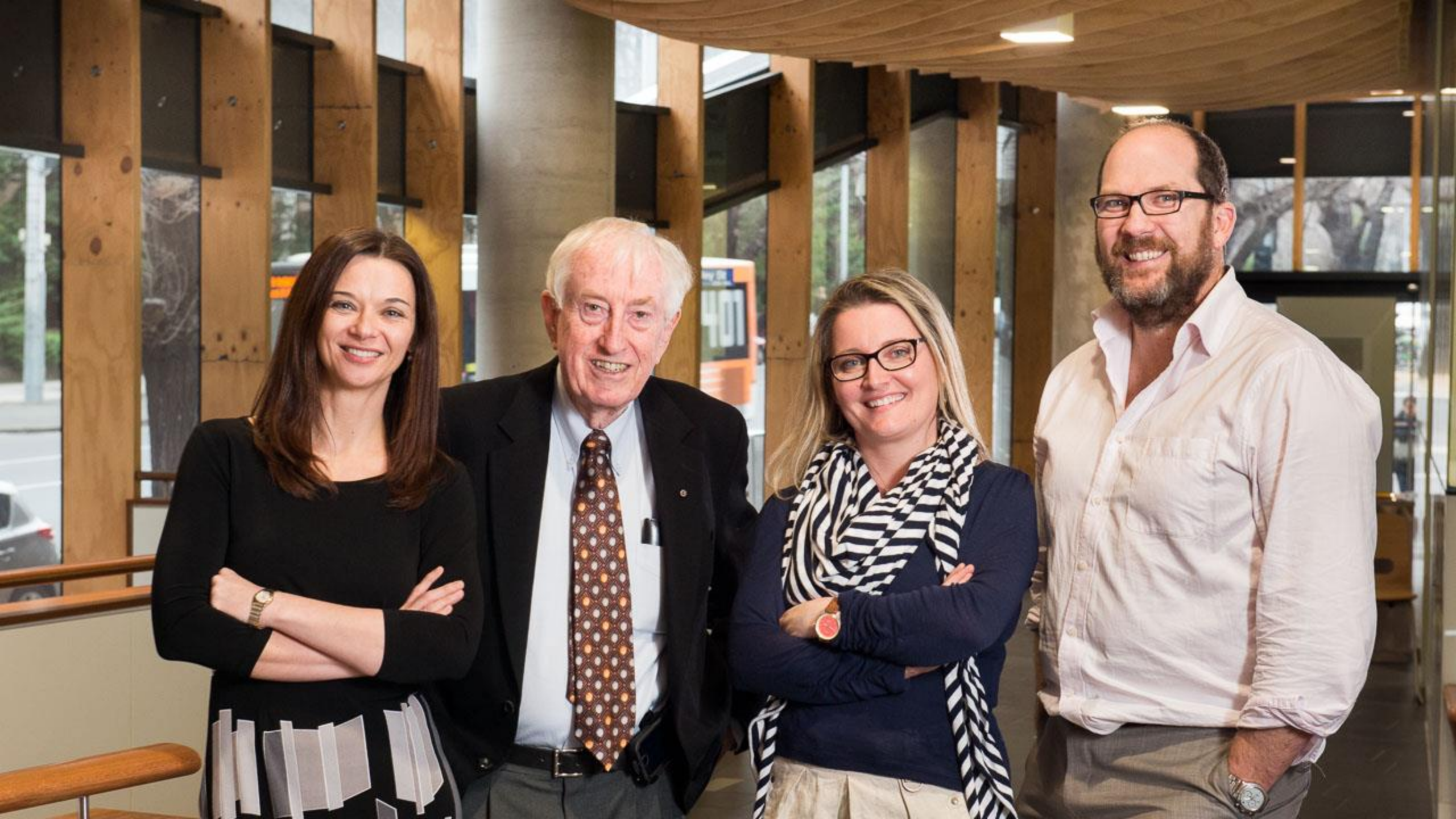
















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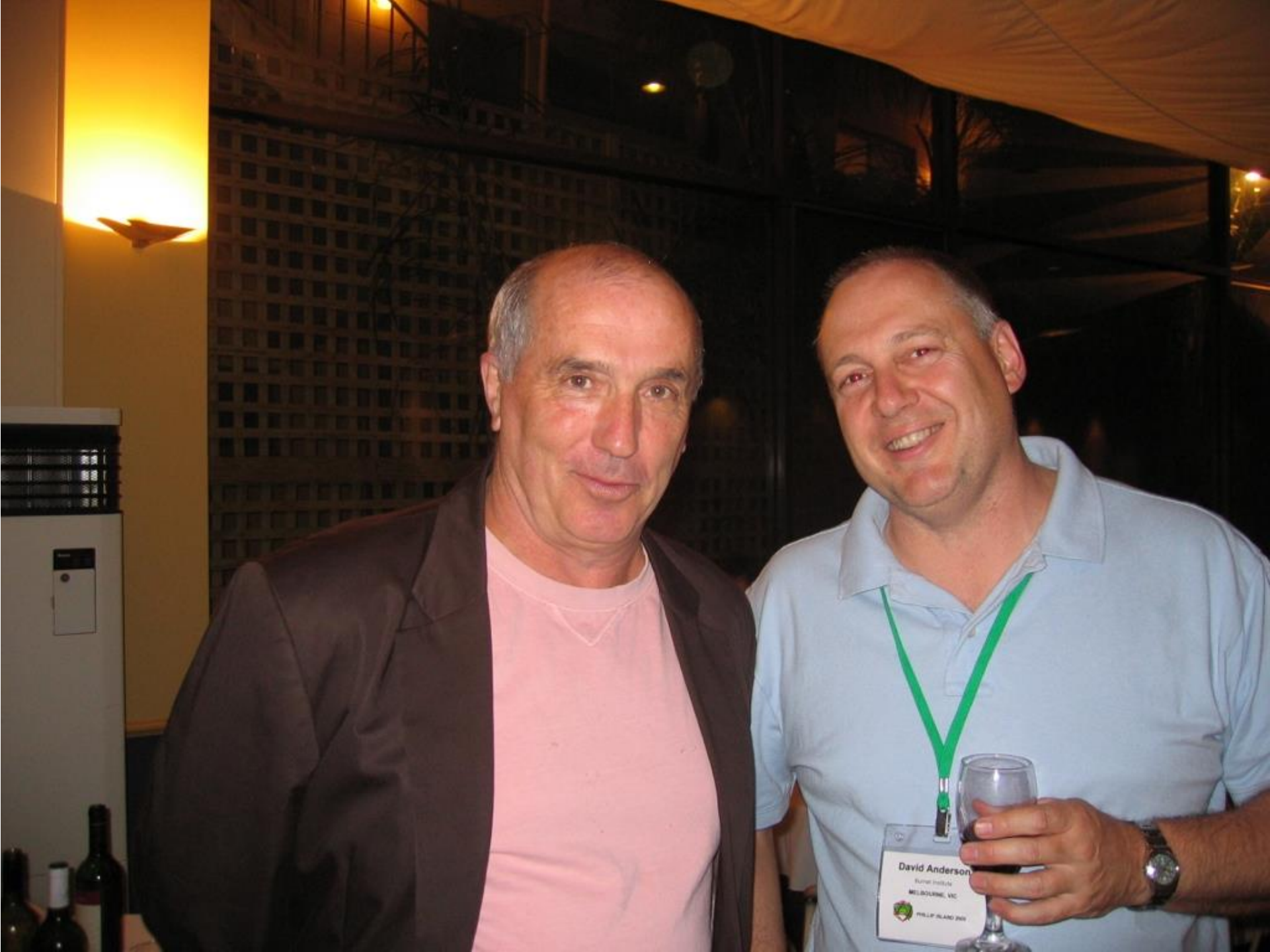












SYDNEY

AND CANBERRA





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The  
Westmead  
Institute  
FOR MEDICAL RESEARCH













# The Herpesvirologists







BRISBANE

































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**AUSTRALASIAN SOCIETY  
FOR HIV MEDICINE INC**

## **7TH ANNUAL CONFERENCE**

IN ASSOCIATION WITH  
THE THREE NATIONAL CENTRES IN HIV RESEARCH  
AND  
THE AUSTRALIAN & NEW ZEALAND ASSOCIATION OF  
NURSES IN AIDS CARE



HYATT REGENCY COOLUM, QUEENSLAND  
16-19 NOVEMBER 1995

**PROGRAMME & ABSTRACT BOOK**

# **Australian National Centre in HIV Virology Research**

Adelaide - Brisbane - Canberra - Melbourne - Sydney





# THE RESEARCHING MEDICAL VIROLOGISTS











Tony Cunningham  
Sales Director

Cynthia McLean  
Sales Director  
Sales Director  
24 / 08 / 2003







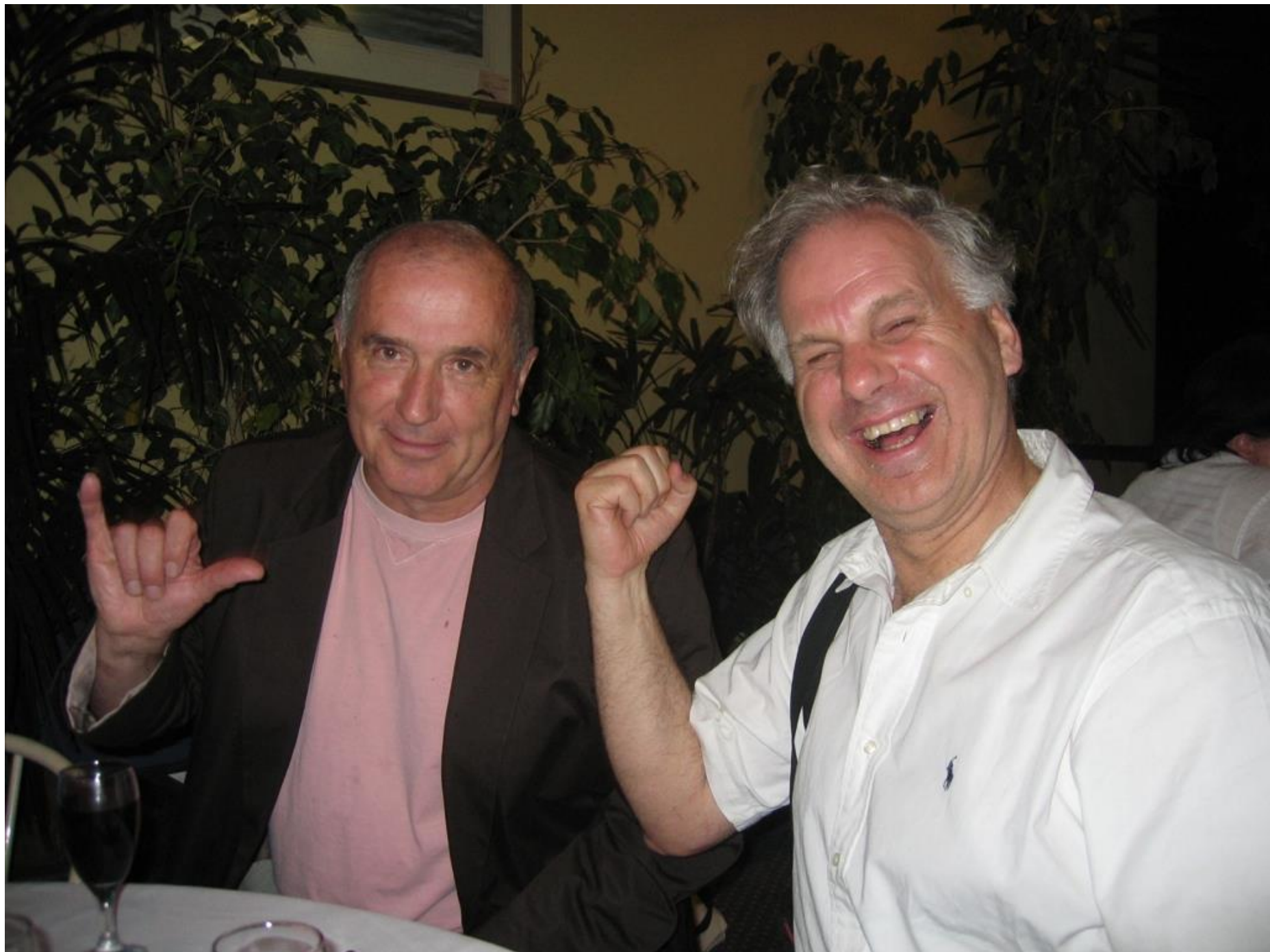




















“Young people are mainly given messages of consumption - to drive consumer society..Only in science can young people find out things that nobody has ever known before...science is a young person’s game....”

*Laureate Professor Peter Doherty*





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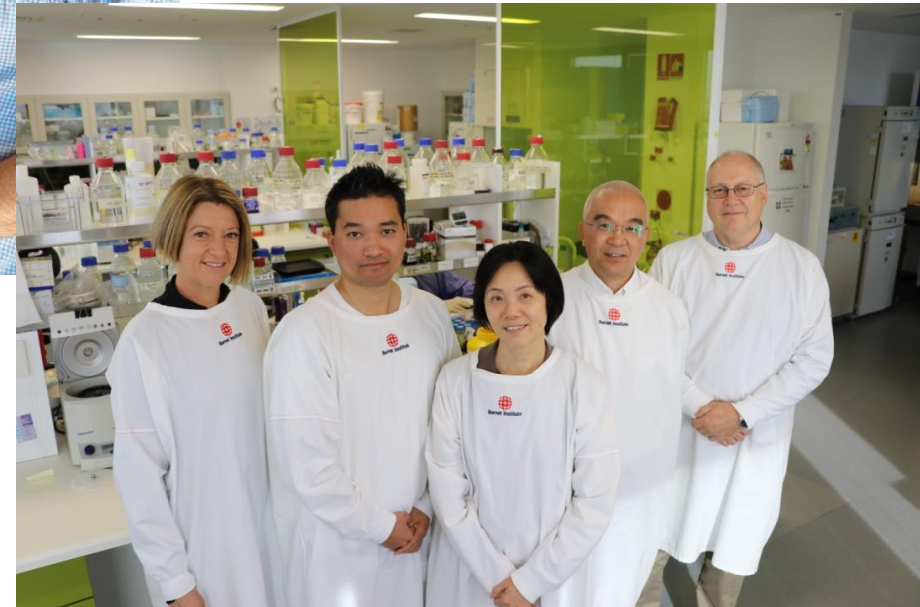
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## Global Health Diagnostics R&D at Burnet



Kye Mohd Hanafiah, Rose Ffrench, Huy Van, Rob Center, Helen Wei, Shuning Zheng, Heidi Drummer, Minh Pham, Fan Li, Mary Garcia



Jen Barnes, Riya Palchaudhuri, Thomas Mikeska, Mark Stoové, Stanley Luchters, Suzanne Crowe, Roz Hendriks, Caroline Popper



