

Research School of  
Physical Sciences & Engineering

Annual Report 2002

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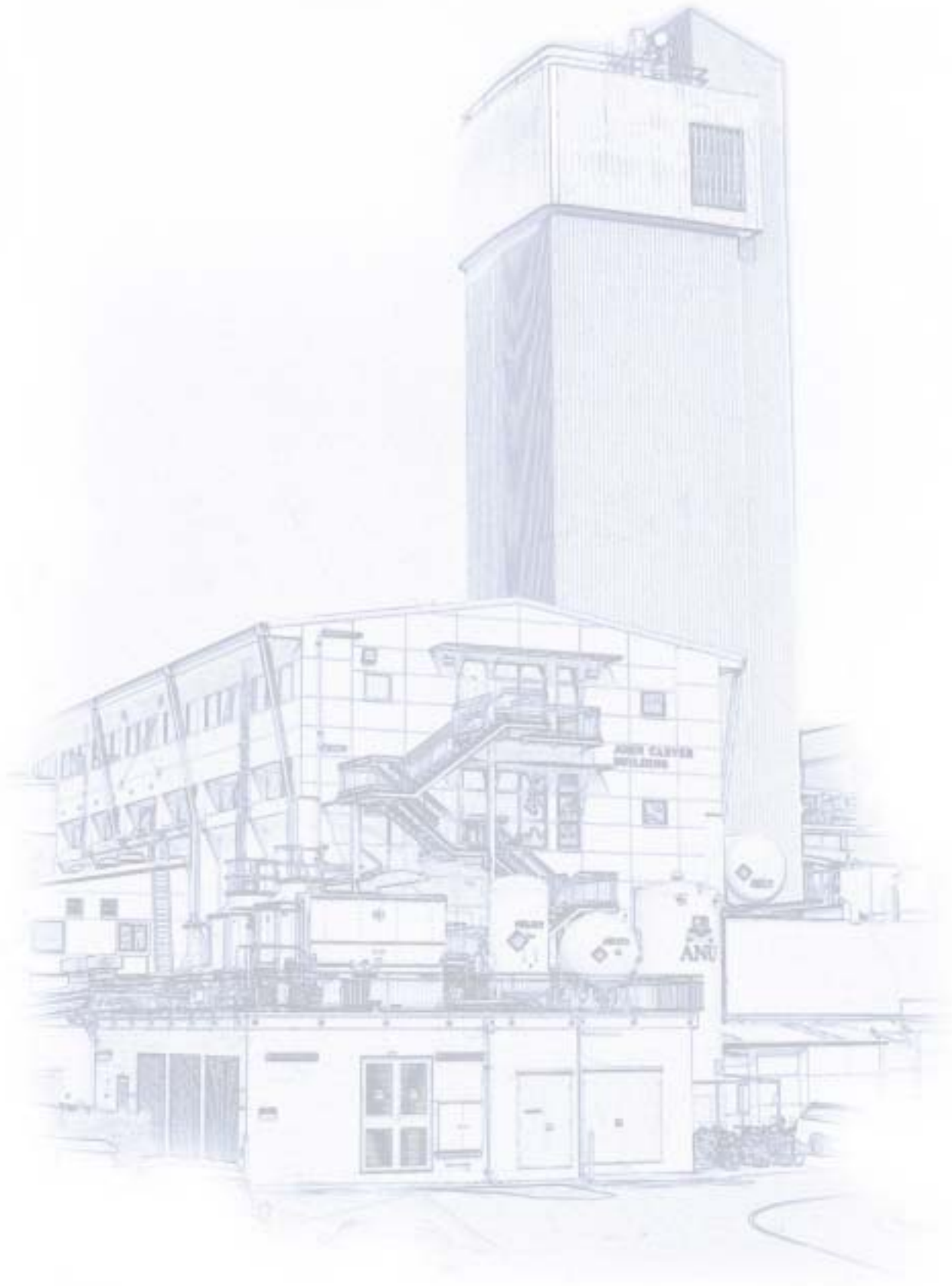
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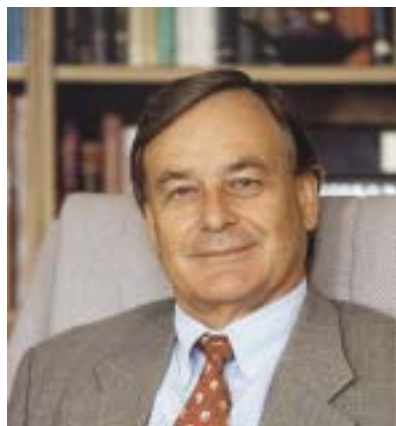
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# Director's Report



*Professor Jim Williams  
- Director from October 20*



*Professor Erich Weigold  
- Director until October 20*

In 2002, the School continued to make a very prominent contribution to Australia's research and research training activities in a broad spectrum of the physical sciences and engineering. In doing this it maintains a balanced program of fundamental, strategic and applied research. Although the overriding goal is to carry out curiosity-driven research and to further the advancement of knowledge, the School also very actively pursues the commercialisation of the results of its research whenever possible.

The School is currently faced with the challenge of managing major changes to its funding base while setting new research directions that will pave the way for physical sciences research in Australia in the future. The Cabinet decision to give us access to the National Competitive Grant Schemes (ARC, NHMRC and the DEST Schemes), although at a cost of 20% of our recurrent block funding, has proved to be a wonderful opportunity for us. In the ARC 2002 round for Discovery Grants for funding from 2003 onwards, RSPHysSE was extremely successful, winning nearly \$12M in funding, some involving other parts of the ANU. To put this in perspective, the amount won by the School was approximately 29% of the ANU total and exceeded by several million dollars the total amount won by the University of Adelaide. Indeed, if the School had been a university it would have been in the so-called Group of Eight in terms of its ARC-Discovery success. Included in the above total was one Professorial Fellow, two QEII Fellowships, two Australian Research Fellows and seven ARC Postdoctoral Fellowships. In addition, staff of the School are major players in two of the successful Centres of Excellence awarded late in 2002, that will bring more than \$5M in external funding to the School over the next five years.

On top of this success, Professor Yuri Kivshar was awarded one of the few Federation Fellowships by the ARC. Indeed, the year proved to be a very special one for Professor Kivshar since his Federation Fellowship followed closely on the heels of his election to Fellowship of the Australian Academy of Science. Some other noteworthy honours include the election of Professor Chennupati Jagadish to Fellow of the Australian Academy of Technological Sciences and Engineering, five other academic staff elected to Fellowships of prestigious overseas professional bodies and several awards to our excellent students and general staff. Professor Rodney Baxter, Australia's foremost theoretical physicist retired near the end of the year. The School is greatly indebted to Rodney for his many years of dedication to the School and for his many truly world-leading discoveries in both mathematics and physics.

The School has also played a leading role in the establishment of four of the National Institutes in ANU. School staff were instrumental in the establishment of Science ANU and in strongly supporting a number of science outreach programs such as the National Youth Science Forum, the Science Olympiads, The Science Circus, the Australian Science Festival and Adopt a Physicist programs.



*Professor Yuri Kivshar celebrates the award of his ARC Federation Fellowship with friends and colleagues*



During 2002, the School took steps to develop mechanisms and procedures for exploiting our intellectual property and innovative research results through commercialization. A lead role for this exercise fell to the School commercialization committee in close association with Anutech. As a result we now have clear pathways for IP protection and commercialization in the School and strong involvement of Anutech in this process that is enhanced by co-location of an Anutech staff member in the School. The School's initiative in this area assisted considerably the development of the ANU's commercialization policy documents and manuals during 2002. The School and the National Institute of Physical Sciences also assisted in developing a framework for implementation of the review of the Research Services Office (RSO) as it impacts on physical sciences across the ANU. Again the School has allocated office space for RSO staff to spend time in the School to enhance working relationships between RSO and the School in the interest of maximizing grant outcomes in the physical sciences.

Redevelopment of some of our fifty-year old buildings and inadequate facilities was undertaken with funding through the University's Capital Management Plan. Firstly, within the Department of Nuclear Physics the restructuring of the accelerator building was completed to meet the increasing demands of sample preparation for accelerator mass spectrometry. Secondly, the much larger task of constructing a new wing to the Cockcroft Building and redeveloping the Eastern half of the Cockcroft Building was begun. This will enable the Atomic and Molecular Physics Laboratories and part of the Plasma Research Laboratory to be rehoused in modern facilities meeting current safety standards.

A new conference series, the Sir Mark Oliphant International Frontiers of Science and Technology Conference Series, funded by DEST and jointly administered by the Academies, will focus on cutting-edge science and high technology. The series was named in honour of the School's founding Director. It was therefore only fitting that the first of these conferences should be hosted by the School. This conference, entitled "Photonic Crystals Down Under", was organised and chaired by Professor Yuri Kivshar and opened by the Minister for Science, the Hon Peter McGauran MP, in August. It brought the world experts in this emerging field together in Australia for the first time to interact with over 100 participants at the conference.



*Professor Erich Weigold (centre) with the plaque presented upon his retirement as Director on 19 October 2002, together with Professor Jim Williams (left) the new Director and Professor John Carver (right) former Director*

This year also saw the Directorship being passed into new hands, namely Professor Jim Williams, formerly Associate Director of the School and Professor and Founding Head of the Department of Electronic Materials Engineering. Erich Weigold retired on 19 October after 10 years at the helm, a period which saw major changes in funding arrangements for the Institute of Advanced Studies and the School, particularly during the last five to six years. Now that the National Competitive Grants Schemes are open to the IAS we look forward to enhanced funding and research opportunities for the School over the next decade.



*Stages in the construction of the new wing of the Cockcroft Building as captured by the automated skycam: top, the old Round House. middle, the cleared site. bottom, the new wing under construction*