Vice-Chancellor Professor Alan Robson.

A message from the Vice-Chancellor

IN this International Year of Physics – celebrating the work of the world's most famous scientist, Albert Einstein – it is particularly significant that we highlight the activities of the high quality staff in the Faculty of Life and Physical Sciences at The University of Western Australia.

The economy of Western Australia continues to be heavily dependent on continuing advances in science and technology and, since its foundation in 1911, The University of Western Australia has been at the forefront of developments in science in this state.

As a consequence, our university is now one of the strongest research-intensive universities in Australia (as measured for example, by our extremely high level of per capita competitive research funding); with some of the highest-quality under-graduates in Australia (our undergraduate programs have been ranked in a national survey as the best in Australia).

On our staff, we have many of Australia's leading scientists in fields that include physics, chemistry, molecular biology, psychology, neurobiology and sports science. We deliver high quality teaching to young West Australians and increasing numbers of out-of-state and international students in a creative and productive learning environment.

In my capacity as a member of the Premier's Science Council, I can readily see the significance our State Government attaches to having a strong science enterprise within the state.

The University of Western Australia is proud to contribute further to that enterprise through the opening of a major new facility to support Biochemistry and Chemistry. The Molecular and Chemical Sciences Building is the largest infrastructure project undertaken by The University of Western Australia. The building's state-of-the-art facilities will enhance the reputation of both the university and the state for internationally recognised teaching and research.

It will ensure that Western Australia remains at the forefront of research and innovation in the molecular sciences.

Our new building houses outstanding research groups working in areas such as bio-inorganic and green chemistry, plant molecular biology and the molecular and cell biology of cancer cells.

As an agricultural scientist, I am delighted that our university has been awarded an Australian Research Council Centre of Excellence in Plant Energy Biology that will be located in our new building.

This is a clear indication of the quality of research being pursued by outstanding men and women in our Faculty of Life and Physical Sciences. Already we have a nucleus of world class scientists in the Centre and shortly they will be joined by Professor Ian Small who comes to us as a Western Australian Premier's Research Fellow from the Laboratoire de Biologie Cellulaire at the National Institute for Agricultural Research in Versaille.

Professor Small is one of an increasing number of high profile researchers who are attracted by the opportunities and facilities offered at The University of Western Australia and by the excellent life-style we have here in Western Australia.

These are exciting times for science at The University of Western Australia as we achieve international excellence for the benefit of our students and in the service of the wider State and national communities.

At The University of Western Australia, we will continue to develop the scientific advances needed to underpin the sustainable growth and prosperity of Western Australia and we will train the next generation of scientists on whom the state is dependent.

"It will ensure that Western Australia remains at the forefront of research and innovation in the molecular sciences."

Unparalleled promise

A message from Professor George Stewart, Dean, Faculty of Life and Physical Sciences

IN his millennium speech, ex-US President Bill Clinton described the coming age as "an era of unparalleled promise, fuelled by curiosity, powered by technology and driven by science".

This is a view echoed by many commentators and there is a widespread belief that the knowledge economy is going to deliver unprecedented social and economic benefits, and science at UWA will play an important role in the state's development as a knowledge-based economy.

I have had the privilege of being Dean here at UWA for the past seven years. It has been an exciting and rewarding time, with many developments and innovations in our teaching and research activities.

The Faculty has introduced several important changes in the delivery of the Bachelor of Science (BSc) over the past few years, aimed at ensuring our graduates have a strong training in fundamental science and are well prepared to enter the work force.

Among these changes are the introduction of a series of foundation packages that form the basis of first–year teaching, consisting of groupings of units in the Life Sciences, Mathematical & Computer Sciences, Earth Sciences and Physical Sciences.

These provide both a strong preparation for subsequent specialisation as well as offering students flexibility.

A second major innovation was the introduction of programs within the BSc, allowing students the option of following a prescribed program with clear job-related outcomes. Many of the programs are interdisciplinary such as those in Biomedical Science, Biophysical Science and Nanotechnology.

I think these developments show the Faculty is responding to changes in the external environment, that we continuously review and update our teaching programs and also take into account the skills and competencies employers expect of our graduates.

We see that there are enormous benefits for our teaching by having world-class research. For us the nexus between research and teaching is fundamental to what we do. Research within the faculty is very diverse, covering areas as different as theoretical physics, molecular genetics and sport's psychology.

In recent years the Faculty has been very successful in attracting external research funding from both Commonwealth and industry sources. Increasingly, more and more staff are working in interdisciplinary research groups, in the university or with colleagues in other parts of Australia or in overseas institutions.

The Faculty looks outward and we participate in many programs aimed at raising the awareness of the importance of science in schools and the general community.

We regard maintaining and developing close links with high school science teachers as high priority for the faculty. Several organisations have highlighted the looming crisis in science teaching as a consequence of declining numbers entering the profession.

Professor George Stewart

One of the new BSc programs we introduced is Science Education, aimed at attracting high quality students into science teaching.

As part of our efforts to raise public awareness of developments in science, we have held a number of highly successful Dean's Lectures.

The future for the Faculty is full of promise; we are committed to help drive the unparalleled promise of the new era for Western Australia.

The University's investment of over $60 million in the new Molecular and Chemical Sciences Building is only one indicator of how important science is to the success of UWA in establishing itself as one of the world's leading universities.

Science commitment gets support from Government

A message from Judy Edwards, Minister for Science

WESTERN Australia has a proud tradition of innovation and scientific excellence across a wide range of disciplines.

The Goldfields water supply pipeline – built more than 100 years ago – is an example of excellence in engineering.

More recently, Western Australian scientists developed a revolutionary spray-on skin treatment for burns victims. And the state's innovations in dryland farming are internationally recognised.

Western Australians from many walks of life excel at harnessing our natural advantages which, along with their talent and knowledge, is increasing the well being and prosperity of the state.

The State Government is building on developments such as these through fostering scientific excellence, particularly in those areas of science in which WA has a comparative advantage.

Dr Judy Edwards

Underlying this strategy is the government's $100 million InnovateWA policy that seeks to strengthen and improve the educational and research capacity of the state as well as maximising the commercialisation of ideas by building links between industry and research.

In turn, this will generate more jobs and expand export potential.

Initiatives under InnovateWA include a series of research fellowships that not only help retain our scientists, but also attract overseas researchers of international renown to the State. The State Government also is funding a program that is seeing a range of centres of excellence being established at the state's research institutions.

A major emphasis of the State Government's science policy is on education, particularly to ensure that we have well-trained teachers of the physical sciences and mathematics.

In the past two years, more than 100 undergraduate teachers in these disciplines have been assisted with the costs associated with their university training.

As Minister for Science, I am pleased that the University of Western Australia has been a major supporter of the State Government's science policy and is playing a lead role in developing centres of scientific excellence.

The UWA's new Molecular and Chemical Sciences facility further reflects this support and is indeed a welcome extension to the state's efforts in stimulating excellence in research and education.