SCHOOL OF ANIMAL AND VETERINARY SCIENCES DEVELOPMENT PROGRAM

Sustaining and enhancing value

"An education in animal or veterinary sciences at the University of Adelaide prepares graduates to make a significant contribution to the health and welfare of animals and the sustainability of human society."

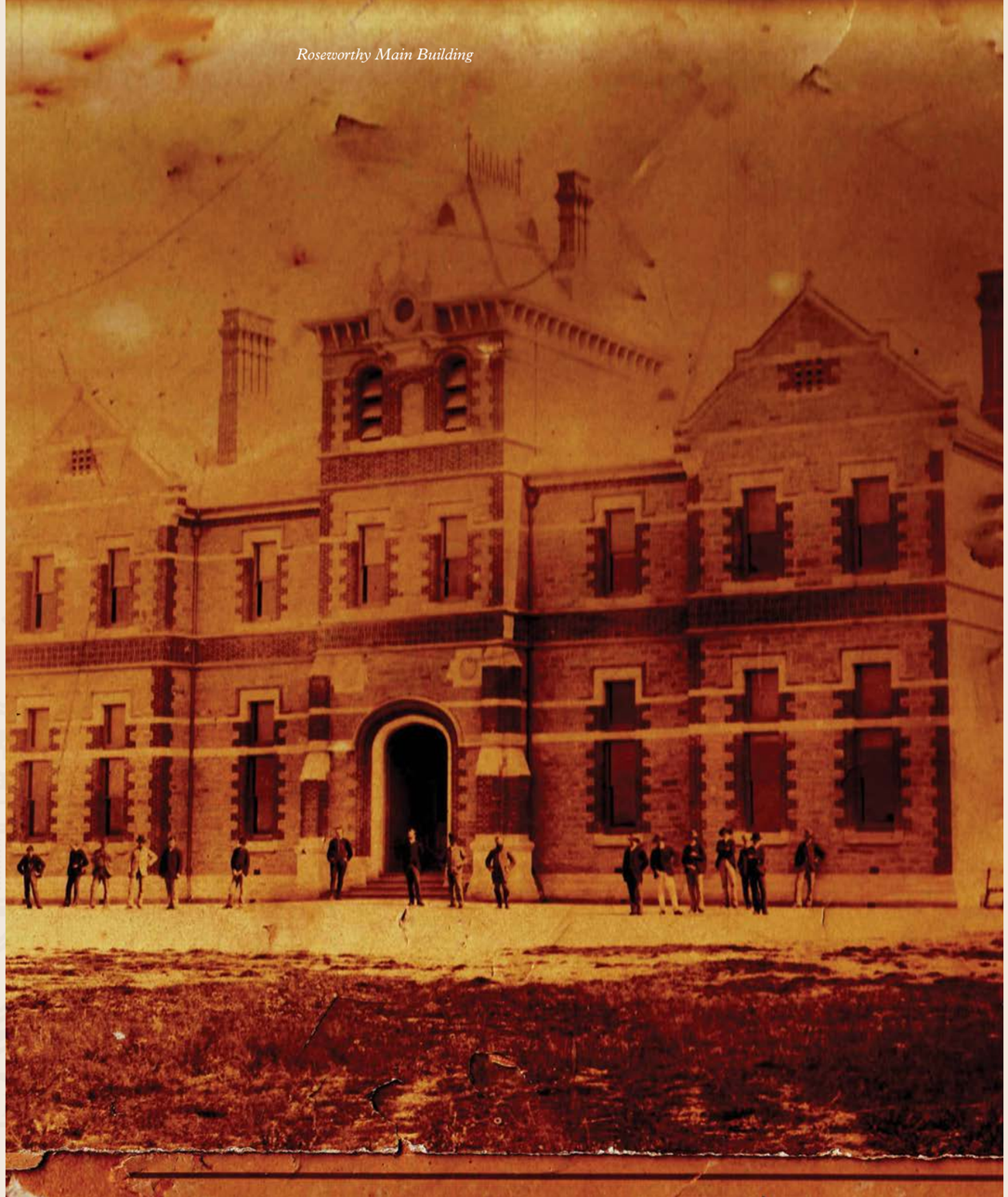
"As alumni, you will have had first-hand experience of the challenges new graduates encounter as they embark on their chosen careers and you will appreciate the benefits of the education you gained from your studies at Roseworthy and other campuses at the University.

The high-quality training in areas such as animal science, behaviour, veterinary technology and veterinary medicine continues to equip our graduates with the skills and knowledge to excel in their field and make a positive difference to South Australia and the wider community.

In the future, we hope to build upon our world-leading research with investment in teaching, research and facilities; and further develop opportunities for training generations of general practitioners and clinical specialists in compassionate and evidence-based veterinary care.

I ask and encourage all our alumni to support their school and university in these endeavours."

From the Head of School, Professor Wayne Hein



Roseworthy Main Building

CORE VALUES

To attract and retain able and motivated students to study and learn at the School of Animal and Veterinary Sciences in a supportive environment that sets challenging targets for achievement.

Through first class academic staff, and state-of-the-art facilities to develop rigorous analytical and clinical skills towards high academic and employment potential.

To undertake new and innovative research that will broaden the scope of the School's contribution to animal science and welfare; and thereby to enhance its standing in national and world rankings.

To be the leading force in the development of animal welfare in South Australia, contributing to the State's prosperity and setting the standard for the Commonwealth and wider world.

ALUMNI AND DEVELOPMENT

The School of Animal and Veterinary Sciences asks support from its alumni and friends collectively to underwrite its value, reputation and standing, in perpetuity.

It is part of a University-wide program across all the Schools of Study to grow the worth of the whole by raising the individual outcomes of its most important constituent parts.

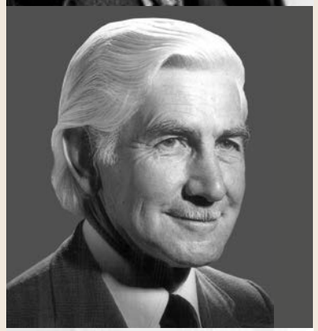
Through an entertaining program of class reunions, each School connects with consecutive alumni cohorts, year-on year. It builds a continuous relationship that strengthens the mutual bond, re-visiting the student experience that delivered a formative education and contributed to their professional progress to the present day.

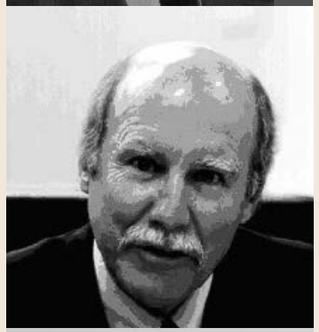
The program underlines the importance of endowment giving which, as it grows, strengthens the School's position permanently and continuously. The benchmark gift of $25,000, payable over a time period up to ten years, qualifies for life membership of the Board of Benefactors (*Roseworthy Foundation*) and an annual invitation with spouse, partners and guests to the Benefactors' *Festum*.

Looking down the development pathway, a number of key requirements are highlighted in this document, some of which (most notably scholarships, teaching and research) can be funded through alumni cohorts giving at Board of Benefactors' level, often in the follow-up to a class reunion. Others (*Evolution Funding initiatives*) will depend on very major gifts to achieve transformative outcomes.

Supporting any part of the program will enhance the value of your degree, both as a Member of the School of Animal and Veterinary Sciences and the University of Adelaide.

Bruce Eastick,
Rex Butterfield,
Graham Mitchell
& Fiona Hill





ANIMAL AND VETERINARY SCIENCES AT THE UNIVERSITY OF ADELAIDE

The teaching of undergraduate animal science courses began in 1883 when Roseworthy Agricultural College was established as the first of its kind in Australia.

Over the next century, the College delivered broad training in agriculture, with animal husbandry and animal science prominent in the curriculum. In the 1990s a formal amalgamation occurred when the University of Adelaide adopted Roseworthy as a new campus.

In the early stages of the 21st century, specialised programs in animal science and veterinary medicine were developed and expanded. The campus and School have a long association with the veterinary profession. Veterinarians have always been included among the teaching staff and several agriculture alumni subsequently went on to study veterinary medicine.

Perhaps the most distinctive alumnus is Dr Bruce Eastick AM (pictured left), who completed a degree in veterinary science after graduating from Roseworthy with a Roseworthy Diploma of Agriculture (RDA) in 1947. In addition to making distinctive contributions to the veterinary profession in South Australia, and to regional and state politics, Bruce played a pivotal role in the transfer of the Roseworthy campus to the University of Adelaide.

Other influential alumni include Professor Rex Butterfield (RDA 1941) who was Professor of Veterinary Anatomy at the University of Sydney and undertook world leading research into the growth and development of muscling in beef cattle. Also, Dr Graham Mitchell AO (RDA 1961) with a distinguished international career in biomedical research, has asserted major influence on Australian science practice and policy. Sustaining a valued and strong alumni affiliation over many years, the Roseworthy Old Collegians Association (ROCA) elected their first female president, Fiona Hill (B Ag 2001), in 2018.

After more than 135 years of continuous improvement, now ranked in the best 50 in the world, the School teaches students at bachelor, honours, masters, doctoral (Doctor of Veterinary Medicine (DVM)) and PhD levels, with an enviable record of producing successful, pragmatic and highly skilled animal scientists, animal behaviourists and veterinarians.

The Roseworthy School of Animal and Veterinary Sciences is not only an important academic constituent of the University of Adelaide, but also a versatile veterinary practice for domestic, farm, equine and wild animals. This dual function is to the mutual benefit of the students, who learn from working with qualified vets in real-life situations; and the owners (and their animals) who have ready access to research facilities, expertise and manpower in a way that would not be forthcoming in other situations.

THE ANIMAL AND VETERINARY SCIENCES DEVELOPMENT PLAN

This development plan identifies areas in all stages of teaching, learning, research and clinical practice where development funding will further enhance the School's standing and reputation.

Support is required not only to improve research facilities and other major projects, but also to maximise the learning experience of students who will be applying the science in clinics around South Australia and the wider world.

This plan identifies key areas along the pathway (page 17) where additional funding will make an important impact in achieving that aspiration. It is targeted to be achieved in full over a ten-year time horizon, but benefits will accrue continuously as the plan progresses.

Already ranked 43, the School is on the cusp of becoming a leading world player. But it needs financial support to keep pace with technological advances, and also to attract and retain the best students and researchers.

The Student and Teaching Support Fund (STSF)

Within the teaching framework, the STSF aims to attract, enable and support students at undergraduate, honours, postgraduate and clinical internship/residency levels to achieve best outcomes in results and employability.

The aim is to offer quality teaching, experiential learning and state of the art facilities. But also continuously to offer financial assistance along the pathway from university entry to employment, whether that be within the academic environment or down the large number of practising veterinary and animal science avenues.

Scholarships for the most able are welcomed in all subjects and at different points of entry. For animal and veterinary sciences, demand for places from able students is strong; and possibly not so dependent on offering the highest financial incentive in the form of competitive scholarships. However, there are critical points along the pathway, where the disparity in affordability leaves a number of them at a disadvantage and where the overall quality of whom the School takes in, and what it offers, could be generally lifted.

Regional outreach summer camp program

In many cases, particularly in rural areas, the first challenge is to build awareness of the opportunities and benefits of a tertiary education and, more specifically in pursuing an interest in animals and their welfare. Without this aspirational encouragement many potentially able students are not even getting as far as the point of entry. But coupled with appropriate student funding and scholarship support, the number entering the pipeline could be considerably enhanced.

Currently, Roseworthy runs a day-long program funded by the University to develop awareness amongst secondary students. More could be done, however, with a Roseworthy-led initiative by way of a summer camp that covers a broad experience of animal husbandry and welfare, and which will generate and assist applications for entry from students who hitherto would not have considered it. This proposal, which is designed to broaden diversity as well as numbers and quality of entry, would mould well with the wish to build the number of indigenous students studying in these disciplines.

An annual week's summer camp offering early contact across a range of scientific, husbandry and clinical skills, much of which would occur at Roseworthy itself, will amount to approximately $45,000 per annum in operational and staffing costs. An additional $5,000 for travel and accommodation support would fund this project in its entirety.

Annual cost $50,000

Relocation assistance and continuation awards

The expense of re-locating to Roseworthy (and starting a university career in general) is not insignificant and, to many who already may find tertiary education a challenging step, acts as a disincentive to start at all. Being geographically separated from the rest of the University accentuates the scale of commitment and increases its cost. The availability of a one-off means-tested payment would be particularly apposite for animal or veterinary science students, many of whom may have entered through the outreach program outlined above.

The Undergraduate Entrance Fund will offer one-off maximum financial assistance of $2,500 for this purpose to an anticipated average of 20 qualifying students each year.

Four further continuation awards with an average annual value of $7,500 each, to those from the most disadvantaged backgrounds, will add a further $90,000 per annum to assist students throughout their bachelor studies and prevent drop-outs when the pressure to balance studies and part-time work becomes intense.

Relocation awards: *Annual cost $50,000*
Continuation awards: *Annual cost $90,000*

"An education in animal or veterinary sciences at the University of Adelaide prepares graduates to make a significant contribution to the health and welfare of animals and the sustainability of human society."

Extra Mural Studies (EMS) assistance

Veterinary students are required to undertake a total of 35 weeks of EMS as a compulsory component of both parts of their qualifications, for Bachelor of Science (Veterinary Bioscience) and Doctor of Veterinary Medicine. These may occur in diverse environments such as farms, diagnostic laboratories, government departments or veterinary clinics over the course of their degree. It can present difficulties on account of travel and accommodation cost as well as timing and availability. Although, for many students the financial cost is not a constraint, there are a significant number for whom the quality of their experiential learning is in some way impaired.

Relevant to both clinical and farm experience, a small but variable subsidy may lead to students being able to concentrate on a project of their particular interest or to continue in the same practice and develop more significant results. The EMS Enhancement program would provide average assistance of $750 to 50 students annually, uplifting its quality and effectiveness with knock-on benefits to these students' future employability.

Annual cost $37,500

Mentor support

A Graduate Mentoring Program sponsored by the Australian Veterinary Association (AVA) provides advice and support to veterinary graduates from the School on a voluntary basis as they transition into practice. Outside this post-graduation scheme, there is no established scheme to provide comparable advice and support to students while they complete the final phases of their studies at Roseworthy, and contemplate entering their career pathway. Funding to cover expenses of visiting veterinary practitioners and researchers could allow recruitment and offer incentives to come to Roseworthy such that the facility becomes regular and predictable rather than occasional. This project aims for 30 three day visits a year, with an average maintenance, accommodation and travel stipend of $750 each, to benefit from valuable and experienced volunteers who are happy to give their time.

Annual cost $22,500

The Honours Excellence initiative

In order to grow research capacity and capability, and hence still further strengthen the School's position in world rankings, there is a need to attract strong students to continue through the pipeline to PhD and further research. Apart from the DVM, which can lead directly to a PhD, these frequently come from diverse scientific backgrounds where the honours degree acts as a conversion to higher degree programs. Being located at a distinct, specialised campus outside the city, attracting students is more difficult, and the incentive to carry on to Roseworthy, rather than other related scientific areas, is less evident. The Honours Excellence initiative aims to provide five scholarships annually of $20,000, targeting high-quality students from a wide range of scientific disciplines across the University of Adelaide and from other institutions; and to build a strong cohort of researchers in animal science.

Annual cost $100,000

The Research Support Fund (RSF)

This fund provides finance for ongoing projects as needed, and independently of volatile government funding and revenue cross-subsidy.

The Research Training Fund

Financial support from the Australian Research Council (ARC) and the National Health and Medical Research Council (NHMRC) has become increasingly difficult to obtain because of a reduction of total funding allocated, and, especially, the small number of grants made to animal health and production.

Because there is no guarantee, and the process is unpredictable, the School frequently misses out on some strong, or even, exceptional candidates.

The development of an independent PhD program to train the next generation of Australian researchers in animal science and veterinary medicine, will attract some of the best to Adelaide and be a driving force behind our research productivity and quality. As such, our reputation and ranking as a research-intensive institution is directly influenced by our ability to attract and retain the best students.

The School aims initially for a research training fund that would underwrite annually two top class researchers at $30,000 or six in a steady state.

Annual cost $180,000

Wildlife Research and Rehabilitation Initiative

The traditional Australian funding agencies dedicate almost no funds for research into wildlife despite a number of species being endangered or at risk. The Wildlife Research and Rehabilitation Initiative will provide reliable and ongoing support to enable small-scale but critical research projects into wildlife to be undertaken, and also support the treatment of injured and sick wildlife that are regularly brought in to the clinic for care, the costs of which are usually borne by the School. Targeted research areas will include infectious and metabolic diseases, combating climate change and population stability of wildlife species which, if adequately funded, will broaden the capability and profile and attract further funding to become an area of specialisation and distinction. The equivalent of two academic loads at 0.5 FTE ($60,000 each) would establish this project with a guaranteed positive impact on the School

Annual cost $120,000

The Animal and Veterinary Sciences Evolution Fund

This program is for game-changing initiatives where a single very major contribution will enable the School to operate in a significantly higher league.

Four are listed below, but other projects are highly desirable to put this dynamic veterinary and animal science school amongst the very best in the world. Please contact the development office for further details.

The Clinical Internship – Residency Program

There is an important gap in what the School currently offers in that there is currently no formalised 3-4 year Internship - Residency programs which allow DVM graduates to undertake additional training, qualify as recognised specialists and thereby reach the pinnacle of their chosen clinical specialty. It is critical the School develops these programs so that it can train clinical specialists, propel the School to the next level and improve its international ranking and reputation. It will be essential to have an Internship – Residency program in operation to achieve American Veterinary Medical Association (AVMA) accreditation, which is an important developmental target. The School currently has staffing capacity to cater for a small number of Internship – Residency programs, and opportunities will expand in future. With an aggregate stipend and on-cost of $50,000 per annum per residency, it will require funding four when in a steady state. This will allow the program to become established at a critical level and give significant impetus to the international profile and accreditation portfolio of the School.

Annual cost $200,000

An Endowed Chair in Veterinary Clinical Research in Companion Animals

It has always been difficult for Australian veterinary schools to develop and support strong programs of clinical research in companion animals. First, obtaining funds from conventional health sector sources is extremely competitive and this is seen as low priority. Secondly, the workload demands placed on clinical academics make it impossible for them to allocate sufficient time and other resources to develop strong research programs.

An appointment to a Chair, funded for five years, will allow an exceptional veterinary clinical scientist to allocate sufficient time and resources to develop a strong and independent research program aimed at tackling major diseases in our companion animals. This can either be funded over a five-year period to give time for self-generated funding to materialise or, as a permanent endowment would, over time, allow for multiple areas of excellence to be nurtured within the School.

Annual cost $270,000

Skills Simulation Centre

Many veterinary teaching hospitals are refocussing their approach by using simulated hands-on methods, including models. This is based on concepts developed in other professions such as medicine, dentistry and aviation. Using alternative simulative teaching provides students with a safe environment to undertake a procedure on a repetitive basis, instilling confidence and improving pre-clinical skills. Didactic group teaching would also benefit from resources within the Centre, simulating medical and emergency scenarios. A facility such as this will enable self-based learning with improved outcomes.

This centre will be equipped with a wide range of models, mannequins and other simulation devices for the practice of clinical skills. It benefits the students who can readily hone their manipulation skills, and do so to a high level before commencing procedures in animals. It also drastically reduces the need for animal involvement in clinical skills development with concomitant animal welfare benefits. Once established, the Skills Simulation Centre will require ongoing support to cover staffing, curation and replacement of training resources.

The proposed Centre includes a fully functional 24/7 consulting, surgical and dental suite with simulated models, computer software and veterinary monitoring equipment. In addition, it will be stocked with consumables and resources similar to a commercial veterinary hospital. One full time veterinary technician will maintain the Centre and facilitate teaching and support student learning.

Funding this project will carry naming rights in perpetuity.

Annual cost $90,000
Infrastructure $250,000

Magnetic Resonance Imaging (MRI) for the Companion Animal Health Centre

Magnetic Resonance Imaging (MRI) is a widely available option as a clinical diagnostic imaging modality in university veterinary teaching hospitals, alongside Computed Tomography, ultrasound and radiology. An MRI is used as an imaging apparatus for clinical cases that cannot define diagnosis using other imaging devices such as CT or radiology. Medical conditions in spinal cord abnormalities, neurological conditions, ligament damage, tendon tears, and brain and organ tumours are best detected by MRI. In addition to supporting clinical services, an MRI is an excellent imaging tool for research in all species.

Currently Specialist veterinarians at the Companion Animal Health Centre travel an hour to use an offsite MRI service, not ideal for critical cases. The ability to offer companion animal MRI imaging on-site means veterinarians can diagnose and treat animals in an efficient and timely manner. Cases requiring an MRI are often critical, requiring immediate diagnostic work up and surgical or internal medical intervention.

DVM students are expected to graduate with a knowledge base of advanced diagnostic imaging including MRI studies to support them in future employment. Acquiring an MRI could attract specialist veterinarians to the University of Adelaide teaching facility, having the knowledge that this equipment is available. Supporting the Companion Animal Health Centre, with the acquisition of an MRI, would fill a huge gap in reference to diagnosis and enhance research opportunities.

MAKING A GIFT TO THE SCHOOL OF ANIMAL AND VETERINARY SCIENCES

Any gift to the School is ring-fenced to supporting the development plan as outlined in this document.

The Endowment Funds support the core needs for both students and research, strengthening the ranking, reputation and autonomy of the School with underpinning independent income. But donors can also singly choose to underwrite a substantial proportion of one of the *Evolution* options.

Gifts of $25,000 or more (payable over ten years) qualify for Board of Benefactors at the point of pledge. They are particularly appropriate to the Foundation Funds which can, in a relatively short period of time, and in conjunction with like-minded animal and veterinary scientists, make a number of affordable gifts significant to both the School and the University.

Amount	**Instalment payable**				**Higher rate tax**		
Gross Gift	Annually (five years)	Annually (eight years)	Monthly (five years)	Monthlly (eight years)	Net Cost 32.5%	Net Cost 37%	Net Cost 45%
$25,000	$5,000	$3,125	$417	$260	$16,825	$15,625	$13,750
$100,000	$20,000	$12,500	$1,667	$1,042	$67,300	$62,500	$55,000
$250,000	$50,000	$31,250	$4,167	$2,604	$168,250	$156,250	$137,500

The table shows the giving costs for Board of Benefactors and above, with the implications of higher rate tax relief and gifts made over time. Over an eight year period, Board of Benefactors can be achieved with a monthly gift of $260, costing an equivalent of as little as $13,750 ($143 per month) in the maximum higher rate tax band.

Net of tax contributions are provided as examples calculated for current tax rates at the time of writing. Donors should seek their own tax advice.

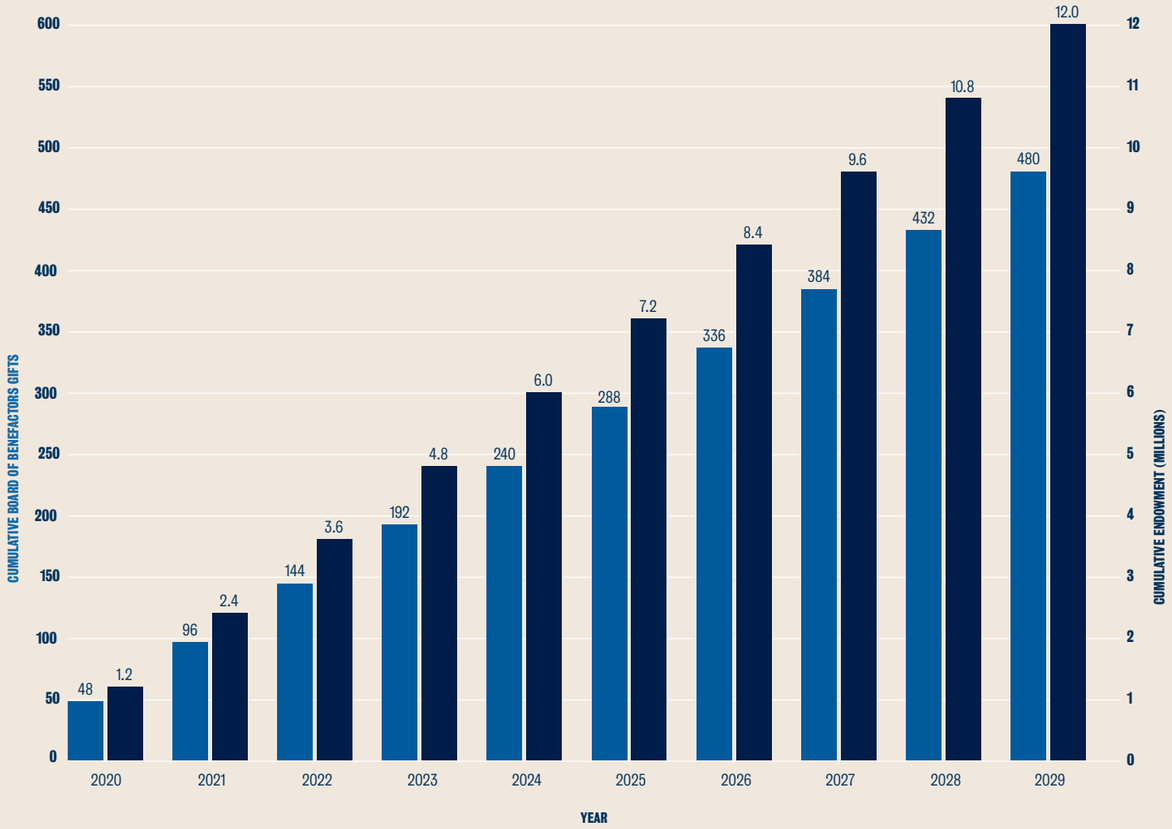
ENDOWMENT SUMMARY

School of Animal and Veterinary Science Development Targets

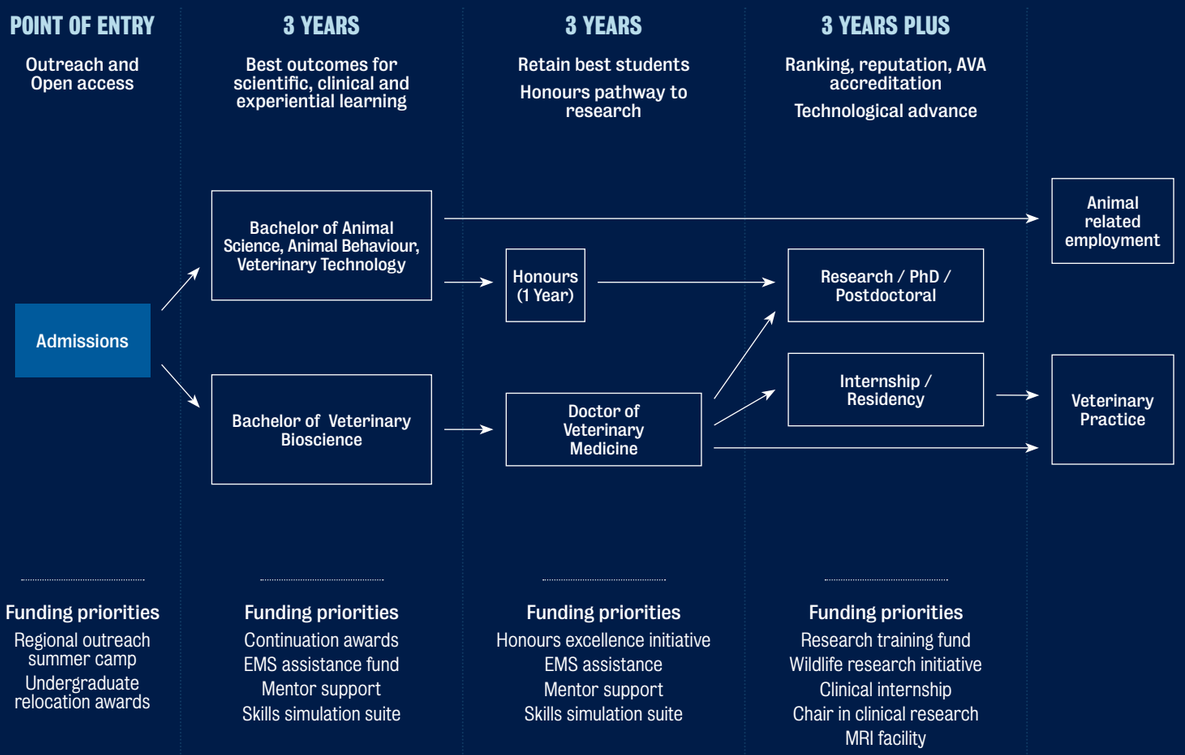
Development target (annual number)	Annual cost	Endowment cost
Student and teaching support		
Outreach summer camp (1)	$50,000	$1,000,000
Relocation assistance (20)	$50,000	$1,000,000
Continuation awards (12)	$90,000	$1,800,000
Extra Mural Studies assistance (50)	$37,500	$750,000
Mentor Support (30)	$22,500	$450,000
Honours Excellence (4)	$80,000	$1,600,000
	$330,000	**$6,600,000**
Research		
Research training fund (6)	$180,000	$3,600,000
Wildlife research and rehab. (2)	$120,000	$2,400,000
	$300,000	**$6,000,000**
Evolution projects		
Clinical internship residency program	$200,000	$4,000,000
Chair in veterinary clinical research	$270,000	$5,400,000
Skills simulation suite*	$90,000	$1,800,000
MRI unit (purchase and infrastructure cost)		$1,300,000

* plus $250,000 infrastructure

SCHOOL OF ANIMAL AND VETERINARY SCIENCES ENDOWMENT TARGETS (2020–2029)



SCHOOL OF ANIMAL & VETERINARY SCIENCES DEVELOPMENT PATHWAY



ACADEMIC STAFF LEADERS

Professor Wayne Hein

Currently Head of the School of Animal and Veterinary Sciences and Dean of Roseworthy Campus at the University of Adelaide, Wayne came from a rural background in South Australia; he studied at Roseworthy Agricultural College, followed by a degree in veterinary science at the University of Queensland. He completed a PhD in immunology in the John Curtin School of Medical Research at the Australian National University. Over the next 13 years, he conducted basic research into the immune system of ruminants at the Basel Institute for Immunology, Switzerland. Following a move to New Zealand, his research interests focussed on basic and applied immunoparasitology. From 2007-2010 he was the Director of the Hopkirk Research Institute located at Massey University, focusing his research on parasitic and infectious diseases of livestock. From 2011-2014 he was Professor and Head of the School of Veterinary and Biomedical Sciences and Dean of Veterinary Science at James Cook University, Australia. Professor Hein returned to South Australia as Head of the School of Animal and Veterinary Sciences and Dean of Roseworthy Campus at the University of Adelaide in February 2015.

Professor Hein has published extensively in basic and applied immunology, participated in numerous scientific advisory and review committees, given presentations at multiple national and international scientific conferences and held company director positions.

Professor Darren Trott

Darren Trott is a veterinarian and microbiologist with research interests including zoonotic, companion and production animal bacterial diseases, focusing on molecular epidemiology, microbial pathogenesis, microbial ecology, antibiotic resistance and development and repurposing of new antimicrobials. He is the inaugural Director of the Australian Centre of Antimicrobial Resistance Ecology. He has published 152 peer-reviewed manuscripts in microbiology/veterinary science journals. He teaches veterinary microbiology, antimicrobial chemotherapy and antimicrobial stewardship to veterinary science students and co-ordinates the DVM-1 Clinical Research Project.

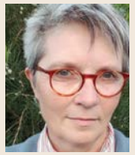
Professor Peter Hill

Peter Hill is Head of the Department of Companion Animal Health. He is a specialist veterinary dermatologist with clinical, teaching and research interests. His research interests primarily relate to the allergic skin condition atopic dermatitis and the interplay between the immune system and skin microbiome. He is the only veterinary dermatologist in the world to have been board certified as a Diplomate in the UK, Europe and the USA, as well as having a PhD. He has published 2 textbooks, 94 peer reviewed publications, 31 book chapters and has given over 270 invited lectures in 18 different countries.

Associate Professor Kapil Chousalkar

Kapil finished his graduation and post-graduation in the Veterinary Science from India and came to Australia in 2005 to do his PhD in Virology which he completed in a record time of 2.5 years with six publications. Kapil's PhD work proved that Australian strains of virus were not responsible for formation of soft-shelled eggs or production drops. His work has been considered as a "myth buster" in the industry.

Kapil received the 2008 Australian Agriculture Industries Young Innovator and Scientist award for his research and was invited to Parliament house in Canberra to receive this award from the Federal Minister for Agriculture. After completion of his PhD, Kapil was awarded a post-doctoral fellowship at the University of New England and then started his academic career as a lecturer at Charles Sturt University, Wagga Wagga. Since 2010, Kapil is mainly involved in the food safety research.



Associate Professor Anne Peaston

Anne Peaston is Clinical Lead for the Companion Animal Health Centre, where she has established a clinical oncology referral service. She is a Diplomate of the American College of Veterinary Internal Medicine (Oncology), a Fellow of the Australian and New Zealand College of Veterinary Scientists (Oncology), and holds a PhD from the University of NSW. Anne's research interests encompass basic and clinical biology of animal cancers and genetic disorders. Her most recent projects focus on epidemiology of health and disease in Australian companion animals.

Associate Professor Samantha Franklin

Samantha Franklin joined the School of Animal and Veterinary Sciences in 2010 and is the current Head of the Equine Department. She holds a BVSc and PhD from Bristol University, UK and has specialist qualifications in equine sports medicine (DipACVSMR and RCVS Recognised Specialist in Equine Sports Medicine). Her research interests relate to cardio-respiratory causes of poor performance in equine athletes and current projects include investigations into exercise induced pulmonary haemorrhage, cardiac arrhythmia and sudden cardiac death in racehorses.

Professor Wayne Pitchford

Wayne Pitchford began as Lecturer in Animal Breeding and Genetics at the University of Adelaide in 1992. He completed Honours in Agricultural Science at University of Adelaide in 1987 and PhD at University of New South Wales in 1992. His teaching and research are in Livestock Production, Meat Science, Animal Breeding and Genetics. He has had research leadership roles in the beef, lamb and pork industries. His current projects are in genomics, maternal productivity, meat quality and data decision systems in the meat industry.

The development plan and broader needs of the School may be subject to change over time. The School of Animal and Veterinary Science Endowment Fund will be held in perpetuity to support those plans and needs, in accordance with the fund rules, which are available on request.

FOR FURTHER ENQUIRIES

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SOUTH AUSTRALIA