

THE SUN FLOWER AND BROOD



Newsletter of the
Veterinary Science
Foundation at the
University of Sydney
Issue 8 May 2003

ROUNDHOUSE
IS PROUDLY
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These quirky and beautiful works of art are dog and cat collars created and donated by more than thirty significant Australian artists to raise funds for the Veterinary Science Foundation's October 2002 Galah Occasion.

Visit the Events section of our website to read about the contributing artists: www.vetsci.usyd.edu.au/Foundation.

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KRISTEN CLARKE

INNOVATIVE
TEACHING
AND
LEARNING

Professor Reuben Rose,
Dean, Faculty of Veterinary Science

The veterinary profession is facing a number of challenges in the 21st century and the Faculty of Veterinary Science is taking a pro-active approach to preparing the next generation of veterinarians. Our new curriculum has been well received by the profession, with its focus on the problem solving, communication and management issues that confront veterinarians in day-to-day practice.

Our current Year 4 students will complete their formal studies in November 2003 and then enter a practical year of clinical training as "veterinary interns" in our veterinary teaching hospitals at Sydney and Camden. The Year 5 interns will undertake extramural rotations and electives in veterinary practices and with veterinarians in NSW Rural Lands Protection Boards - Associate Professor Bob Ratcliffe has been coordinating this program with practitioners around NSW. We are excited about this new phase of curriculum development as we seek to better meet community and professional needs for veterinary training, and for continuing professional learning after graduation.

Significant financial support from the Andrew Thyne Reid Charitable Trust has enabled the Faculty to invest in a major innovative teaching program, Learning Through Enquiry. This program will provide new approaches and skills for student-centred and life-long learning, both increasingly important as the profession changes and adapts to new challenges.

In looking forward to where the profession is going, it also is helpful to look back and see where we have come from. The stimulus for establishing veterinary schools in the 18th and 19th centuries was based on the need to provide better treatments for horses - veterinarians were then often called horse doctors. Only in the second half of the 20th century did veterinarians become critically important in animal agriculture. In Australia, the involvement of the profession in the eradication of brucellosis and tuberculosis was an extraordinary success but now we are

facing challenges in providing effective services to rural communities and in attracting and retaining young veterinarians in the bush. The demand for veterinary services by pet owners and their preparedness to pay for veterinary services will no doubt drive much of the future development of the profession, one reason the Faculty is embarking on a major redevelopment of its Sydney Veterinary Teaching Hospital, to provide a world class facility for small animal clinical training.

The challenge for the community and for our profession is to equip veterinary graduates for wider opportunities in areas such as public health, research, ecosystem management and farm animal health and production. Increasingly we must focus postgraduate training in these areas relevant to the community and our innovative on-line postgraduate program in Veterinary Public Health Management has had a great start with 18 students enrolled from around Australia and overseas. The Faculty is committed to looking for opportunities to partner with the profession in postgraduate training but in areas of public need, there does need to be an investment by governments and industry in creating attractive jobs that provide exciting career prospects, as well as good pay and conditions.

Increasingly our focus must be global and the Faculty has taken on the challenge of internationalisation. We hope the April 2003 visit by the American Veterinary Medical Association will lead to accreditation - this is the next step in a range of strategies developed to achieve our vision: a world leader in veterinary education, animal science and research, focused on the health and welfare of animals and benefit to the community. I continue to be grateful for the advice and support I receive from alumni, members of the profession and the general community as we strive to achieve this vision.



Veterinary Science Foundation
UNIVERSITY OF SYDNEY

The Veterinary Science Foundation of the University of Sydney is the promotional and fundraising arm of the Faculty of Veterinary Science.



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Rob Ferguson
Chair of
Campaign

Mr Rob Ferguson (right) is Chair of the Veterinary Science Foundation (VSF) Capital Campaign, raising funds for the University Veterinary Centre Sydney (UVCS) redevelopment. Following a longstanding career in the finance sector - he was Managing Director of Bankers Trust Australia from 1986 to 1999 - he now sits on a number of Boards, including Westfield and the Sydney Writers Festival. Rob is Director and shareholder, with Gerry Harvey and John Singleton, in the equine auction company Magic Millions, and a horse breeder and racehorse owner (including the 2001 Golden Slipper winner, Ha Ha).

Rob and his wife Jenny are devoted to their pets, including the new addition to the family, a German Shepherd puppy, Bruno.



VSF volunteer

The Foundation's first volunteer is Ms Roslyn van der Sandt, a "friend" of the Faculty through her interest in wildlife, a passion that developed during her fourteen years in South Africa. Roslyn is a nurse educator and registered nurse consultant. She is researching Trusts and Foundations relevant to the VSF, facilitating the submission of funding proposals.



Dr Harry's the face of our appeal

One of Australia's - and the Faculty's - best known veterinarians, Dr Harry Cooper, has generously lent his name to the Foundation's first direct mail fundraising appeal. The campaign also features loyal client Ms Gillian Bonham and her dog Molly, a patient of the UVCS, and Merial Australia helped us cover costs.



Trek in Nepal next year and you could be helping the VSF raise critical funds for the future of animal health and welfare. The renowned adventure travel company, World Expeditions (WE), has welcomed the VSF into the select group of charities it supports - for every trek participant, WE will generously donate \$1,000 back to the Foundation. The March/April 2004 trip combines Nepal's Annapurna Machapuchare trek with the

Chitwan National Park - see insert. The Veterinarian is also supporting the project with editorial and advertising.



The Land

During March, The Land carried a 6-page special supplement on the Faculty and Foundation that reached a significant and important audience. The feature covered the Faculty's commitment to the animal production industries and veterinary public health, research projects such as Ovine Johne's Disease, and the specialist equine and large animal services of the University Veterinary Centre at Camden.



The Foundation is delighted to welcome Dogs Life Magazine, with a national readership of around 100,000, as its official pet magazine sponsor. The magazine will promote the Foundation and its activities. Think about subscribing - Dogs Life is a great read for the clients in your waiting room - see insert.

BID FOR AVMA ACCREDITATION



Members of the Faculty AVMA Management Committee, L to R: Dr Paul McGreevy, Associate Professor Geraldine Hunt, Dr Fiona Hollinshead, Year 4 student Ms Jennie Mohler, and Ms Hannah Forsyth (missing are Dr Jennie Hodgson, Mr George Tsoukalas and Mr Jamie Wearne).

The Faculty of Veterinary Science came under intense scrutiny in mid-April during the preliminary Site Visit by three members of the American Veterinary Medical Association (AVMA) Council of Education and AVMA accreditation team – Chair Dr Doug Aspros, Dr Don Simmons (Director of the Council on Education), and Dr Richard Dierks.

The accrediting body for Veterinary Schools in the United States and Canada, the AVMA also offers accreditation for foreign schools – achieved by schools at the Universities of London, Edinburgh, Glasgow, Utrecht and Massey (New Zealand). Murdoch University (Western Australia) is waiting for the report from their final accreditation visit.

Accreditation is critical for our Faculty. Students graduating from an accredited school have their degree recognised in North America and are entitled to sit the US National Veterinary Licensing Examinations. It is both an important quality assurance process and a means of benchmarking different veterinary schools nationally and internationally.

Winning and maintaining AVMA Accreditation is a rigorous process and the Faculty AVMA Management Committee, led by Chair, Associate Professor Geraldine

Hunt, has involved academic and general staff, and undergraduate and postgraduate students in the required processes.

The AVMA sets guidelines for 11 Standards covering a wide range of Faculty activities, with major emphasis on the effectiveness of teaching, scope of the curriculum, adequacy of facilities, occupational health and safety and outcomes assessment. The AVMA Standards can be viewed at the Faculty web site: <http://www.vetsci.usyd.edu.au/>. The accreditation process is:

- Submission of a comprehensive Self-Study Document outlining the Faculty's strengths and weaknesses, and its performance in relation to the 11 Standards – February 2003
- Consultative Site Visit during which 3 members of the AVMA Council of Education tour the Faculty facilities, interview staff and students, and provide a report detailing the Faculty's performance – 13 to 16 April 2003
- Preliminary report from the AVMA detailing areas of deficiency to be addressed
- Final Site Visit, usually in 1-2 years, after which the AVMA Council makes a final decision regarding the suitability of the Faculty for Accreditation.

Outcomes Assessment is a recent addition to the AVMA Standards and evaluates the Faculty's assessment of the quality of its teaching program and its graduates. Very few veterinary schools have a formal mechanism for Outcomes Assessment and the Faculty will be conducting surveys and discussions with veterinary employers in 2003 to assess its success in meeting the objectives of its Strategic Plan, and to obtain feedback about undergraduate veterinary education.



Dr Don Simmons (Director of the Council on Education), Dr Richard Dierks and Chair Dr Doug Aspros, the three visiting members of the AVMA Council of Education.

BALLERINA ANOTHER REPROGEN WORLD FIRST

Following the birth in July 2001 of the world's first lambs born from ewes inseminated with sex-sorted frozen-thawed semen (see Roundhouse November 2001), Reprogen, the Faculty's Centre for Advanced Technologies in Animal Genetics and Reproduction, has followed with another world first - the December 2002 birth of a filly foal from a sophisticated two-step process: insemination of a mare with sex-sorted semen followed 8 days later by non-surgical embryo transfer to a surrogate dam.

The sex-selected filly, Ballerina, is the daughter of one of Australia's top polo ponies and, as with the lambs, she was born through the collaborative efforts of Reprogen and US-based company XY Inc.

The team involved in the breakthrough included Dr Lee Morris, then with the Reprogen Unit and the developer of the special endoscopic insemination method for sex-sorted sperm. Other contributors were Professors Chis Maxwell and Gareth Evans, postdoctoral student Fiona Hollinshead and Dr Mervyn Jacobsen of XY Inc.

Choosing the sex of a foal prior to conception has long been a dream of horse breeders (especially breeders of sport horses) and in Ballerina's case, her biological mother was able to continue with her polo career following the embryo transfer to the surrogate mare.



Dr Lee Morris with Ballerina and her surrogate dam.



Dr Lee Morris, Dr Mervyn Jacobsen, XY Inc., and the Faculty's Professor Chis Maxwell, members of the team responsible for developing the sophisticated techniques that led to the birth of Ballerina.

PROFESSIONAL PRACTICE GAINS A NEW LECTURER

Professional Practice, a unique part of the Faculty's curriculum developed to introduce students early in their degree to the management aspects of veterinary practice, has gained an innovative and entrepreneurial lecturer, Dr John Baguley (right).

John graduated from Sydney University in 1985, and after time in small animal practice in Sydney and overseas, returned to Australia to work with the late Dr Bob Kibble. During this time he completed his membership in the Australian College of Veterinary Scientists (Pharmacology).

John has always been focused on the importance of practice management to the quality and future of veterinary practice, a concept strongly reinforced during his time with Bob Kibble, and this led him to complete a Masters in Business Administration at Macquarie University.

The MBA focused John's interest in research and education and he began teaching management studies as well as anatomy, physiology and professional practice subjects to equine studies, agriculture and business students at the University of Western Sydney.

Aligning the disciplines of veterinary medicine and management, John believes the principles of evidence-based medicine should be applied to management. He has started work on a PhD that will attempt to benchmark Australian veterinary practices using a diagnostic model developed by Michael Hagerty of the University of California Davis. He hopes this work will help practices make more informed choices about veterinary practice strategy and its implementation.

John believes, like many members of the profession, that business skills are an important component of veterinary education. He aims to ensure Professional Practice will be vital to developing these and other functional skills to complement the traditionally strong technical skills of Sydney University veterinary graduates.



KRISTEN CLARKE

FACULTY CALLS ON THE PROFESSION

More than 100 veterinary practices, Rural Lands Protection Boards (RLPB) and District Veterinarians have been visited by Faculty staff, including Professors Reuben Rose, David Hodgson and Grahame Feletti and Associate Professor Bob Ratcliffe.

Their mission has been to brief veterinarians on the Faculty's new curriculum, with particular focus on Years 4 and 5, and to seek advice about the implementation of the Extramural Studies component of the lecture-free final year.

Bob Ratcliffe, Associate Professor of Veterinary Clinical Practice, said, "The

reception we've experienced has been warm and inspiring and the advice received invaluable. We will continue our schedule of visits through to July 2003, and then we plan to visit all practices and RLPBs participating in the Extramural program each year".

The Faculty is hosting a meeting for practitioners at the Sydney campus on 27 and 28 June. Keynote speakers are Mr Andrew Geddes of FMRC Business Development (who conducts Practice Management and Development workshops for vets and other professionals), and Dr Jim Martin of ValuVet. Professor Grahame Feletti, the Faculty's Education Consultant, will conduct workshops for Extramural supervisors and Faculty clinicians will present papers on case management subjects.

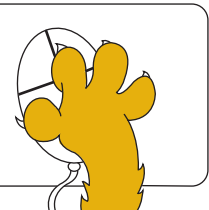
VETERINARY PUBLIC HEALTH MANAGEMENT NEW ON-LINE DEGREE

The positive response to the Faculty's new on-line postgraduate program in Veterinary Public Health Management (VPHMgt) has endorsed its recognition of the need for training focused on effective servicing of Australia's vital animal production industries.

Eighteen Australian and international students participated in the February 2003 intensive 6-day residential unit that marked the beginning of the program. Students included private, industry

and government veterinarians, scientists and health professionals. Guest lecturer was Professor Edward Mather, Interim Director of the national Food Safety and Toxicology Centre at Michigan State University.

Participant Dr Penny Cain of AQIS said, "I am very glad to be enrolled in the VPHMgt course. It's innovative and combines densely packed veterinary science subjects with more mainstream management areas. I feel it fills a



knowledge gap present in a range of veterinary careers that go beyond general practice".

The program has been made possible by funding from Meat and Livestock Australia, the Vincent Fairfax Family Foundation and the University of Sydney Innovation and Technology in Education Ventures Unit.

Website: www.vetsci.usyd.edu.au/publichealth_management/index.shtml



Dr Jody Braddock, Lecturer in Small Animal Medicine, clinician and researcher.

FOR CANINE CUSHINGS PATIENTS

Thirty dogs, patients of the University Veterinary Centre Sydney, have been part of a comprehensive 3 year clinical drug trial undertaken by Dr Jody Braddock, Lecturer in Small Animal Medicine, to investigate a new treatment for pituitary-dependent hyperadrenocorticism (PDH) or Cushing's Disease, one of the most common endocrine disorders of adult dogs. Although the disease was first recognised in dogs over 60 years ago, its management can still be difficult, frustrating, and sometimes hazardous.

PDH causes high blood cortisol levels with a broad range of symptoms including polydipsia, polyuria, polyphagia, abdominal distension, skin and coat changes (hyperpigmentation, lichenification, alopecia, calcinosis cutis), muscle wasting and weakness, lethargy and mental dullness. Most current treatment options have side effects and some are relatively ineffective.

Jody's research has been the focus of a Masters in Veterinary Clinical Studies, and the challenging and sensitive task of maintaining commitment and treatment compliance by such a large number of clients and their pets over a long period has reaped genuine benefits – the drug, Trilostane, has proved to be extremely effective and safer, with less side effects, than other drugs currently used for the medical treatment of this disease.

Trilostane is a synthetic, hormonally inactive steroid that non-selectively inhibits steroid hormone production in adrenal, gonadal and placental tissues. It has been used in human medicine to treat hyperadrenocorticism of various causes.

The clinical trial involved administering trilostane once daily for 3 months. The dogs were monitored on days 10, 30, and 90 of treatment, and thereafter every 3 months, by clinical examination, tetracosactrin stimulation testing, UCCR (urinary corticoid:creatinine ratio) measurement and a client questionnaire on the dog's general health, key symptoms and

behavioural changes. The dog's ages ranged from 5 to 14 (average 9.5 years), weights from 4 to 43 kg, and there were 5 entire and 6 castrated males, and 18 spayed and 2 entire females in the group.

Twenty-nine of the 30 dogs were successfully treated with trilostane – one responded favourably but died of unrelated disease before full control was achieved. The initial positive finding will now need to be refined with pharmacokinetic studies of trilostane absorption, metabolism and clearance in dogs to explore the variations in dose rates required for individual animals, and the duration of drug dose effect for each dog (larger dogs tend to require a lower dose than small dogs).

The study was made possible by the generous support of a British pharmaceutical company, Stegnum Pharmaceuticals LTD, which provided the drug at no cost to support the trial. Given that trilostane has a wholesale value of £1/capsule, and the thirty dogs in the trial have required up to 3 capsules per day, every day, for the last 3 years, the company's support has been considerable (that's about \$130/week for a 20kg dog).

In the last 12 months, the drug has started to be used commercially in the United Kingdom (not yet in Australia), but the University Veterinary Centre at Sydney is the only clinic in the Asia-Pacific region with any experience using the drug, and Jody has the impressive distinction of achieving the longest follow-up times on the efficacy of the drug of any researcher world-wide. She was one of the first to publish the findings of a large clinical trial with trilostane and has now presented her work at a number of international conferences.

The University Veterinary Centre at Sydney has considerable expertise in the research and treatment of endocrine disease. This successful trial has added to this core knowledge and will hopefully lead to a new and safe drug of choice for treating pituitary-dependent hyperadrenocorticism in dogs.



SNAKE BITE IN DOGS IMPROVING THE ODDS

Dogs presented to the University Veterinary Centre at Camden with a history of snake bite are being recruited into a study by Dr Kate Bosward and her Masters student Dr Jane Heller, along with co-investigators Dr Jennifer Hodgson and Professor David Hodgson. The study, funded by a grant from the Canine Research and Veterinary Foundation with additional support from CSL, aims to develop more effective means of identifying the snake species involved in snake bite envenomation – good news for the estimated 6,200 cases reported in domestic animals in Australia each year.

Most cases occur in dogs, and their prognosis is not good - only around 30% of dogs survive without the administration of anti-venom. This is the treatment of choice, with survival in dogs receiving anti-venom increasing to between 75 - 87%. Survival rates also reflect the use of the correct anti-venom and the time taken to administer it.

Kate and Jane's study aims to better define the relationship between clinical

signs, detection of venom by the currently available Venom Detection Kit (VDK), and the response to therapy. This means for each case:

- determining whether envenomation has indeed occurred - unnecessary use of antivenom is costly for clients and increases the risk of life-threatening anaphylaxis, both at the time of treatment and if a subsequent envenomation occurs
- identifying the species of snake implicated in the suspected envenomation – this is notoriously inaccurate and includes sighting of the snake by the owners of the bitten animal or a guess based on clinical signs and the geographic area
- monitoring clinical signs - these are well documented, known to be highly variable, and may include signs in the neurological (flaccid paralysis, seizures and tremors), haematological (coagulopathy, haemolysis), or musculoskeletal systems.

The study is only in the preliminary

stages, but of the 25 dogs involved so far, 17 were bitten by snakes, and the others, while presenting with clinical signs attributable to snake bite or being seen with a snake, were not actually envenomated. As well as being treated appropriately and monitored closely to assess recovery, all the dogs have blood and urine collected for various analyses and are tested with a venom detection kit.

Kate and Jane are also undertaking an epidemiological study of veterinary practices over the next few months to attempt to quantify the number and type of snake envenomations seen across NSW and to determine the general mode of diagnosis and treatment.

The final study results should make the correct choice of anti-venom more achievable, and provide useful information for veterinarians diagnosing and managing snake bite in dogs.



Above left: One of the dogs in the trial undergoing treatment following snake bite envenomation.

Above: Dr Kate Bosward (left), Lecturer in Veterinary Pathology, and Masters student Dr Jane Heller (right), undertaking research into snake bite envenomation in dogs.



Bachelor of Science (Veterinary) students Anne Quain (right) and Erin Bell (left), with Anne's cat Mike.

NAILING FELINE INFECTIOUS PERITONITIS

Veterinary students Anne Quain and Erin Bell are undertaking their Bachelor of Science (Veterinary) projects on furthering the understanding of Feline Infectious Peritonitis (FIP) in Australia.

FIP is an invariably fatal, immune-mediated disease of cats caused by virulent strains of feline coronavirus. First reported in Australia in 1974, there have been no peer-reviewed published studies of the disease since that time, and currently there is no means of definitive diagnosis available to Australian practitioners. Since the treatment of choice for cats suffering from FIP is euthanasia, a presumptive diagnosis is unacceptable to many owners.

Anne's project will develop immunohistochemistry, already used overseas, to diagnosis FIP in Australia. The technique will be used to confirm the disease in the 42 cases previously diagnosed by histopathology over 12 years at the University Veterinary Centre Sydney and Paddington Cat Hospital. Anne will also adapt the technique for immunocytochemistry with the aim of developing a minimally-

invasive, highly specific ante-mortem diagnostic test for FIP.

"A diagnosis of FIP is like a death sentence for a cat," said Anne. "We hope that immunocytochemistry will not only give practitioners a means of confirming a diagnosis of FIP, but also a means of ruling out FIP in cats showing similar signs. If we can save the lives of these cats, and find a definitive diagnosis, it will have all been worthwhile".

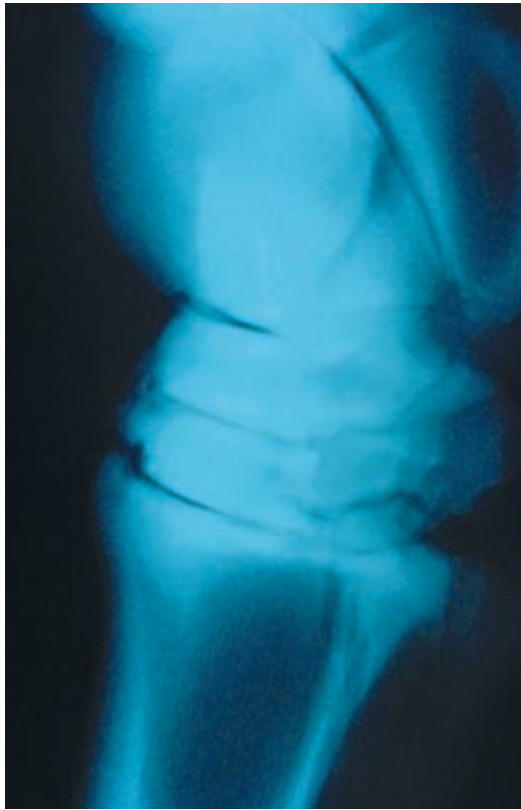
Erin's focus is on conducting a seroprevalence study within the Sydney region to determine frequency of exposure to coronavirus in different cat populations. She is comparing prevalence in pet cats, feral cats and cats raised in catteries to identify risk factors for infection and disease.

"This project will give vets an insight into patterns of coronavirus infection and epidemiology," said Erin. "And I love both cats and microbiology so it's a great way to combine the two!"

Anne and Erin's projects are supervised by Dr Jacqui Norris, Lecturer in Veterinary Microbiology and consultant in small animal medicine. Jacqui conducted the 12 year/42 case retrospective study into FIP last year at the University Veterinary Centre Sydney.

ANKYLOSING DEGENERATIVE HOCK JOINTS IN HORSES

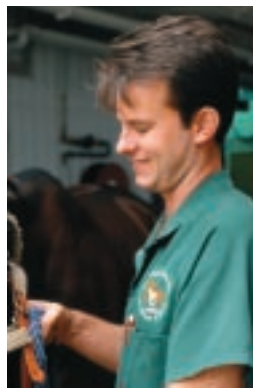
SURGERY OR CHEMICALS?



A lateral-medial radiograph demonstrating advanced degenerative joint disease of the distal tarsal joints.



Top: Associate Professor Andrew Dart, Hospital Director University Veterinary Centre Camden



Above: Dr Brad Dowling, Senior Registrar and Registered Specialist in Equine Surgery.

Degenerative joint disease of the tarsometatarsal (TMT) and distal intertarsal (DIT) joints is the most common cause of hind limb lameness in performance horses, and while medical management often results in temporary improvement, around half of all horses treated conservatively remain lame.

A more radical approach to treatment - chemical arthrodesis using sodium monoiodoacetate (MIA) - was trialled at the University Veterinary Centre at Camden in a clinical study of 104 horses. MIA is known to cause cartilage degeneration through inhibition of glycolysis and cell death, and while the results of MIA injections have been previously described, comprehensive studies detailing technique and complications were not available.

The retrospective clinical study, undertaken by Associate Professor Andrew Dart, Hospital Director at Camden, and Senior Registrar Dr Brad Dowling, involved a wide range of horse breeds, including warmbloods, thoroughbreds and standardbreds, quarter horses, and Australian stockhorses. Aged 2 to 17 years, the horses' activities included dressage, racing, endurance and jumping.

To qualify for the study, all horses underwent lameness and radiographic examination of the TMT and DIT joints and, in 61 horses, intra-articular anaesthesia of the joints.

A total of 401 joints were injected with MIA and the intra-articular injections were performed under aseptic conditions in the sedated, standing horse. Positive contrast arthrography was undertaken in all DIT joints to evaluate needle placement and the presence or absence of communication with other synovial structures. The mean intra-articular dose of MIA was 192 mg (range 50-400mg) - equivalent to a maximum of 2 ml of the drug.

Horses were monitored after injection for signs of pain and each was assigned a comfort score. The majority (64) showed a score of "mild discomfort" following injection, and the small number showing more obvious signs of pain were treated with additional analgesics and sedatives. Just over half the horses experienced a temporary swelling around the joint post injection, with a very small number experiencing more severe complications. The trial showed that good technique using an appropriate injection volume and concentration minimised complications.

Horses were allowed free exercise for the first 7 days, then graded exercise increasing to 30 to 45 minutes walking and trotting per day over the first 3 months, increasing to full work by 6 months post injection.

The study followed as many horses as possible for up to 2 years, and while the number available for follow up lameness and radiographic examinations declined over this period, examinations undertaken at 3, 6, 12 and 24 months after treatment, respectively, showed 0% (0/57), 25% (14/55), 82% (41/50), and 85% (29/30) horses were sound, while 8% (5/55), 63% (24/38), 87% (26/30) and 100% (18/18) of the horses had radiographic evidence of ankylosis of the treated joints. Twelve and 24 months following injection 82% and 85% of horses examined were sound respectively. Significantly, 90% of owners were pleased with the outcome.

The study concluded that chemical arthrodesis using sodium monoiodoacetate is an effective treatment method for degenerative joint disease of the distal tarsal joints. The technique can be performed in the sedated standing horse and requires minimal equipment, and the results are comparable to those achieved with the routine, but more invasive, technique of surgical arthrodesis.

A detailed report on this study can be obtained from Associate Professor Andrew Dart (andrewd@camden.usyd.edu.au) or Dr Brad Dowling (bradd@camden.usyd.edu.au).

THE RAT LUNGWORM AND ITS EFFECT ON DOGS



Dr Julian Lunn, clinician at the University Veterinary Centre Sydney, improving the diagnosis of Canine Neural Angiostrongylosis.

Dr Julian Lunn, a clinician at the University Veterinary Centre Sydney (UVCS), is studying a rare disease in dogs that eat slugs and snails. Canine Neural Angiostrongylosis (CNA), a form of eosinophilic meningoencephalitis, is caused by migrating larvae of the rat lungworm *Angiostrongylus cantonensis* and is well documented in humans, especially in the tropical regions of South East Asia and Australia, and Central America. Australia appears to be the only country reporting *A. cantonensis* infection in animals, and species affected other than dogs include horses and native species of birds (owls and kingfishers), possums and bats.

Julian's research, contributing to a

Masters of Veterinary Clinical Studies, aims to improve the ELISA test (enzyme linked immunosorbent assay) to make the diagnosis easier in animals. Diagnosis of CNA in dogs has always been presumptive and based on history, symptoms and the finding of eosinophilic pleocytosis in spinal fluid. Proof of the disease has only been obtained at post mortem, and given its tropical nature, most Australian cases have been reported in Queensland.

Puppies, more likely to eat snails and slugs, are more commonly affected and unlike in the rat, the normal host of *A. cantonensis*, dog tissue reacts with severe inflammation to the parasitic larvae migrating in the central nervous system (CNS),

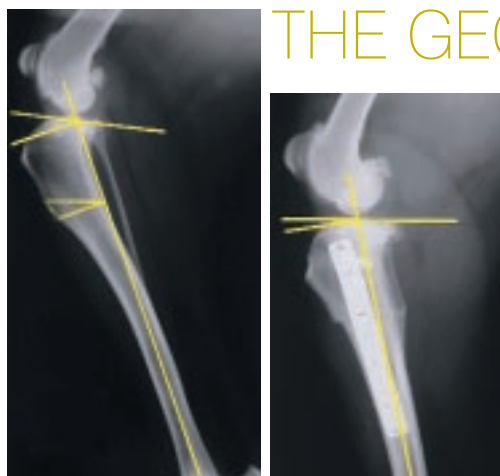
causing ascending CNS dysfunction and symptoms such as hyperaesthesia. Immunosuppressive therapy using corticosteroids is currently the most successful known therapy - anti-parasite treatment, effective in humans, only seems to worsen the disease in dogs.

Julian is working with the Westmead Pathology Labs to improve the current ELISA test so it's specific for dog serum and won't cross-react to other parasites. Once this is achieved, he plans to test all the samples available from suspected cases of CNA - from the UVCS, other veterinary clinics and pathology labs - to determine if ELISA is a worthwhile diagnostic tool for CNA.

The project will also explore treatment options other than corticosteroids; undertake random test serum samples from normal populations of dogs to establish sub-clinical infection rates; determine the effectiveness of the ELISA test in other species (such as bats) that have been diagnosed with neural angiostrongylosis at post mortem; and establish differential diagnoses for eosinophilic pleocytosis (eg *Neospora caninum*).

A final aim will be to add to the current available epidemiological data on *Angiostrongylus* host species by compiling similar data on native species that could be potential hosts to the parasite.

THE GEOMETRY OF TIBIAL WEDGE OSTEOTOMIES



Above left: An example of a pre-operative radiograph used to plan the surgery by measuring the slope of the tibial plateau and determining the size of the bone wedge to be removed.

Above right: Radiograph of the same tibia after surgery, showing where the wedge of bone has been removed and the bone stabilised with a plate. This results in a flatter slope to the tibial plateau.

Ruptured cranial cruciate ligaments are a common and often challenging injury in dogs, reflected in the number of conservative and surgical repair methods devised to treat the problem.

The Tibial Wedge Osteotomy (TWO) is one surgical technique that, anecdotally, is thought to achieve a faster return to weight bearing than other repair methods. The TWO surgery, by removing a wedge of bone from the proximal tibia, aims to reduce the forward movement of the tibia that takes place during weight bearing by decreasing the slope of the top of the tibia.

In February 2003, Dr Craig Bailey, Resident in Small Animal Surgery at the University Veterinary Centre Sydney, received the Award for Best Clinical Paper of the Veterinary Orthopaedic Society conference held in Colorado, US, for his work on technical aspects of the Tibial Wedge Osteotomy. Craig undertook his research with Dr Tony Black and Dr Bruce Smith of the Northern Sydney Veterinary Specialist Centre.

The research investigated the factors affecting the post-

operative radiographic angles created by the TWO that would lead to greater consistency of results.

Craig reviewed the records and radiographs of 35 consecutive TWO cases performed at the Northern Sydney Veterinary Specialist Centre, measuring the pre and post-surgical tibial plateau slopes and the forward shift of the tibial long axis. A post-surgical slope of 6.5 degrees is ideal.

Before surgery, the average tibial plateau slope of dogs with cranial cruciate ligament injuries was 23.5 degrees (range 16.0 - 34.0). Following surgery, the average slope was 9.0 degrees (range 0.0 - 15.0). To achieve the desired 6.5 degrees, Craig found two factors were significant: aligning the cranial cortices (front of the tibia), and performing the osteotomy in the upper tibia rather than removing a wedge of bone in the lower tibia.

While biomedical studies haven't yet been undertaken, Craig's preliminary study demonstrated these two factors are important if consistent results are to be achieved by surgeons performing the tibial wedge osteotomy.



Dr Craig Bailey, Resident in Small Animal Surgery at the University Veterinary Centre Sydney.

CLOSE UP



KRISTEN CLARKE

STUDENT PROFILE
SANDRA BARNARD

What prompted your move from agricultural science to veterinary science?

I always wanted to be a vet (I designed my first vet practice in primary school), but I was offered a scholarship for Agricultural Science at Sydney University and started in 1998, completing 2 years of the 4 year degree.

I loved agricultural science – the degree program was rewarding, and the Faculty supportive. When I was offered a place in veterinary science it was very difficult. I had to question why I wanted to do the vet degree and vet Faculty members Dr Michelle Hyde and Professor Frank Nicholas helped me through that decision (both are agricultural scientists).

Has the decision to move to vet science been a good one?

Now I'm in fourth year vet science and I wouldn't change a thing – the first two years in "Ag" taught me an enormous amount, both academically and socially, but veterinary science is where I want to be.

What are you planning to do after graduation?

This changes depending on the prac work I'm doing – I tend to be motivated by enthusiastic people! Ideally, I would like to go into mixed practice, then work overseas, work with wildlife, undertake a PhD (not sure in what yet) and experience research, manage my own practice, and then perhaps back to academia to teach.

I've won a Fellowship, with 25 other international vet students, to join the Cornell University Leadership Program in June/July this year, in New York State. This involves a research project (mine is on Herpes virus latency) and leadership development. This will give me a feeling for research.

You're the President of the student Veterinary Society – how do you manage this and study?

With difficulty! Study does sometimes take a back seat, but I feel that being involved in other activities is important, for both professional development, and sanity! I was Year 3 rep, and on the vets@work committee the past 2 years, and found this a great opportunity for students to interact with clients and the industry before graduation, when you get thrown in the deep end.

I would rather regret something that I have done than something I haven't!

What do you do in your spare time?

I work as a part time vet nurse at Canley Heights and Austral Veterinary Clinics, putting into practice what I learn at uni, and we do a lot of clinical wildlife work (for Wires and AWARE), which I love.

To relax, I'm a Waratahs fan (made, not born) and have tickets to a couple of World Cup games this year. I also love theatre – a favourite Christmas present was season tickets to Belvoir Street Theatre.

Who inspires you and why?

My Mum is my first source of inspiration – she is a very strong person, and managed to bring my sister and me up by herself. Her love and unconditional support have helped me to where I am – I have a lot to thank her for.

camden campus



KRISTEN CLARKE

MAJOR UPGRADE FOR THE J L SHUTE BUILDING

Above: Senior Technical Officer Mr Craig Kristo, the Camden staff member responsible for managing the Shute Building renovation.

The J L Shute Building on the Faculty's Camden campus has seen extraordinary developments in veterinary education and world first research since its construction in 1959. Now it is undergoing a \$2.1 million refurbishment to internal laboratories and office spaces, funded by the University of Sydney and the FH Loxton Bequest.

Professor Chis Maxwell, Chair of the Camden Management Committee, said, "The Shute Building's many staff have risen to the challenges of temporary accommodation with minimal disruption to research and teaching. This is largely due to the excellent coordination and endless patience of Mr Craig Kristo, Senior Technical Officer on the Camden campus, who is responsible for overseeing the work with the University's Facilities Management Office".

The major renovations include bringing three laboratories up to the stringent standards required for the cutting edge research undertaken by the ever-expanding team of scientists at Camden. Other upgrades include:

- a cell culture complex designed to ensure high quality work flow practices
- two research centres with capacity for a large number of postgraduate, post doctoral and other research students and staff
- an upgraded wet-lab teaching facility for practical demonstrations

The Faculty's Canine Desexing Clinic, part of the undergraduate surgical program, will have its own purpose-designed facility incorporating an animal holding room, a preparation area, and surgery. This will provide a dedicated teaching environment separate from the Camden University Veterinary Centre.

Craig Kristo said, "When they're completed, the new facilities will play a crucial role in securing high level

industry funding, and will significantly enhance both the student learning experience and the staff work environment".

EQUINE DENTIST VISITS CAMDEN



Professor Leon Scrutchfield and international intern Dr Arun Ramachandram performing a dental procedure on a horse at the University Veterinary Centre Camden.

Distinguished scholar Professor Leon Scrutchfield from the College of Veterinary Medicine at Texas A and M University spent the last three months of 2002 at the University Veterinary Centre Camden.

Professor Scrutchfield is Chief of Field Services at his University's Veterinary Teaching Hospital and a world leader in his field. During his stay at Camden he provided small group tutorials for final year and postgraduate students and clinicians, and was the final year invited external examiner in Horse Medicine and Surgery. He also conducted a 2-day practical equine dental workshop in Grafton for practitioners from around Australia.



Country Lifestyles Program

Year 4 student Eloise Koelmeyer during the visit to the Western Plains Zoo.

AVA Central West Division veterinarians from Dubbo, Orange, Warren and Molong joined with Department of State and Regional Development (DSRD) Country Lifestyles Program to give twenty-four Year 4 veterinary students a feel, not only for country practice, but for life outside the city.

The DSRD and AVA funded the trip, with contribution from the students. The Veterinary Science Foundation facilitated the funding agreement with DSRD, and Year 4 student Sandra Barnard, veterinarians Drs Mark Carter and Andrew Litchfield, and DSRD's Fiona Holmwood and Richard Beach organised the April visit.

undergraduate activities

Vet students met rural practitioners (and potential future employers) on a social basis, visited practices, and saw the countryside and lifestyle opportunities of the Central West. The itinerary included Western Plains Zoo, the Orange Regional Veterinary Laboratories, general sightseeing, and an introduction to local food and wine at the Warren Vineyard, owned by local vet Dr Charles Tilley.



Spending summer at ANU

Final year student Kate Patterson, second from right, with fellow Summer Research Project students on Australia Day 2003.

"I spunt summa in Canberra" T-shirts are reminders for 170 Australian and New Zealand students of their participation in the 2002 Australian National University

Summer Scholar Program, working on research projects ranging from astrophysics to linguistics, neuroscience to geochemistry.

Vet student Kate Patterson's scholarship was to the John Curtin School of Medical Research. She worked with a post-doctorate investigating an autoimmune disease in mice, fine mapping genetic codes to investigate immune system changes.

"The School undertakes medical research, but I could appreciate the close relationship to immune mediated diseases in domestic animals," Kate said. "Techniques like PCR, ELISA and FACS analysis became everyday activities. The project was often quite demanding, but if I could have the summer again, I would be back in a flash."

Kate strongly recommends the program to other veterinary students. "I never thought I would be interested in a research career but this has opened up whole new career opportunities," she said.



Centaur resurrected

Until current Year 5 students Kate Patterson and Hadley Willsallen took on the challenge last year, the student magazine Centaur was last published in 1998.

As Hadley said, "We thought the years below us may not have seen or heard of Centaur and it would have been such a shame to see it forgotten."

Kate continued, "We were thrilled with the huge amount of support we received in submissions and sponsors, including major sponsorship by Provet NSW - we produced 1,000 copies of a 100-page jam packed mag!"

TEACHING AWARDS



KRISTEN CLARKE

Three Faculty members received warm praise from both students and staff to be chosen as the recipients of the Faculty of Veterinary Science 2002 Teaching Awards.

Ten students nominated Senior Lecturer Dr Glenn Shea (left): "Dr Shea's meticulous attention to detail and his impressively comprehensive anatomical knowledge have set a benchmark for professionalism and academic excellence that many of his students

now aspire to. Dr Shea is a gifted communicator with students". The students praised Glenn's willingness to provide voluntary additional teaching and his "creative and interactive learning environment".

Mr Greg Hogan (above right), Supervisor of the Horse Unit at the University Veterinary Centre Camden, was commended by a visiting senior academic: "In my 27 years in academia, I have never seen a technical staff member



who was more interested and effective in helping veterinary students to learn". Thirteen students also gave Greg accolades for his wealth of practical experience, absolute commitment to the safety of both students and horses, concern for the well-being of the horses, and ability to instill confidence in the most inexperienced students.

Senior Technical Officer and head of the Faculty's Thyne Reid Veterinary Education Innovations Unit, Ms Irene van Ekris (right), also has a Graduate Certificate in Higher Education and teaches units of study in Agriculture and Veterinary Science. Irene was commended for being: "consistently willing to be involved in activities related to teaching, and her involvement is active and enthusiastic and a great inspiration to other members of staff...(she is) well loved by both students and staff, and ensures students receive an enriching experience under her guidance".



FACULTY STAFF NEWS



Associate Professor David Emery is the Faculty's new Principal Research Fellow in Farm Animal Health.

Associate Professor David Emery has joined the farm animal health team at Camden as Principal Research Fellow in Farm Animal Health. His outstanding expertise in immunology is currently focused on the new Ovine Johne's Disease pathogenesis research program, funded by Meat and Livestock Australia. David has a distinguished international record in animal health research, most recently in immunoprophylaxis of sheep internal parasites, as well as experience in international animal health issues through Biosecurity Australia.

PhD student **Fiona Hollinshead** was runner-up in the strong international competition for best junior scientist at the International Embryo Transfer Society meeting in Auckland late last year.

Dr Craig Bailey, Resident in Small Animal Surgery at the University Veterinary Centre Sydney, won the Award for the Best Clinical Paper of the Veterinary Orthopedic Society conference held in the US in early 2003 for his presentation on Tibial Wedge Osteotomy as a treatment for cranial cruciate injuries in dogs.

Other staff news includes: Sub-Dean for Staff and Students **Dr Chis Maxwell's** promotion to Professor; **Dr Rosanne Taylor's** promotion to Associate Professor; **Professor Alan Husband** is now Associate Dean for Research; **Dr Sanaa Zaki**, Lecturer in Veterinary Anaesthesia; **Dr Jeff Downing**, Lecturer in Animal Science; **Dr Simon Pearce**, Director of Veterinary Clinical Trials Unit; and specialist surgeon **Dr Brigitte Brisson** has joined the Faculty from Canada.

Associate Professor Tony English has been appointed, on nomination by the AVA, to the Game Council of NSW for a period of 3 years by State Government (set up under the new Game and Feral Animal Control Act 2002).

Five members of the Faculty were recognised in November 2002 by the Vice-Chancellor for long service to the University – **Mr Richard Borg** (25 Years), **Dr Robert Dixon**, **Ms Dorothy Lewis** and **Mr George Tsoukalas** (all 20 years) and **Dr Richard Malik** (15 years).

NEW INITIATIVE

Veterinary Clinical Trials Unit

The Faculty has identified the need to increase opportunities for research interaction with veterinary drug and equipment companies and biomedical researchers through its teaching hospitals at Sydney and Camden.

Australian veterinarian Dr Simon Pearce has returned from Canada to take on the role of Director of a new Veterinary Clinical Trials Unit. The unit will integrate areas of Faculty strength into clinical trials work with the aim of securing academic and financial outcomes. Simon has a strong background in clinical trials, having co-founded the Comparative Medicine and Experimental Surgery group at the University of Guelph in Canada in 2001.

A Melbourne graduate, he completed his PhD at Massey University in New Zealand, studying nutritional aspects of Developmental Orthopaedic Diseases of New Zealand Thoroughbreds, before commencing at the Ontario Veterinary College, University of Guelph. Here he held the positions of surgical resident, postdoctoral fellow, and Assistant Professor in large animal surgery. He is a Diplomate of the American College of Veterinary Surgeons.



Dr Simon Pearce, Director of the Veterinary Clinical Trials Unit, a new Faculty initiative created to develop collaboration with industry and biomedical researchers.

Simon has already made contact with many veterinary pharmaceutical companies, and is working on a funding proposal to develop biomedical research in collaboration with research institutions in Sydney including the Universities of Sydney and NSW, the Heart Research Institute, the Centenary Institute, and the Institute of Bone and Joint Research.

Simon can be contacted by email: simonp@vetc.usyd.edu.au or phone (02) 9351 5380.



Dr Paul McGreevy (left) and Dr John Black (right) during a handling procedures session with staff from the Guide Dogs Association of NSW and the ACT.

KEEPING GUIDE DOGS (and their owners) HEALTHY AND HAPPY

Dr John Black, Client Services Manager for the Guide Dogs Association of NSW and the ACT (GDA), says the Association has always enjoyed "five star service from the Faculty of Veterinary Science and very professional support from the University Veterinary Centre Sydney, where we refer many of our clients".

Each year John delivers a presentation to third year veterinary science students as part of Dr Paul McGreevy's Animal Behaviour and Animal Welfare Science unit of study, providing real life applications of the unit's principles.

In 2002 GDA invited Paul, a Senior Lecturer, author and animal behaviour specialist, to provide modular training for key Association staff, including kennel and administrative staff and dog trainers. These individuals are often the closest contacts to new and developing Guide Dogs, and knowledge of dogs, their health, welfare and behaviour, is essential to ensure the staff complement

and reinforce the dogs' specialist training.

The module, which caters for 10 participants and a willing canine helper, is one of twelve designed to prepare staff to take on the work of training Guide Dogs as well as training people to use a Guide Dog. It covers basic health care such as nutrition, vaccination, internal and external parasites, common diseases, zoonoses, handling, and the process of ageing. The course also explores the key inherited disorders of Labradors and Golden Retrievers.

One of the key objectives of the modular training is to provide GDA staff with the ability to communicate this knowledge to the new owners of Guide Dogs.

John said, "While the course was hard work it was also fun and totally rewarding. Paul's infectious enthusiasm ensured participants got more than content on vet care. They shared ideas and achievements as well as a little anxiety. It was just great staff training!"

THE HARTLEY COLLECTION

Eminent veterinary pathologist Professor Bill Hartley has generously donated his extraordinary pictorial livestock pathology collection to the Faculty's image database OLIVER.

Dr Hartley has gathered together the images since the 1960s, from cases seen in Australia and overseas. They include both gross pathology and histopathology and will provide an invaluable resource for students and staff. Associate Professor Peter Windsor, who facilitated the donation of the collection, is undertaking the huge task of describing each image.

CLOSE UP



SARAH SEYMOUR

What are your current positions and qualifications?

Veterinary Anaesthesia Technician and Head Nurse at the University Veterinary Centre in Sydney (UVCS). I have been a Vet Nurse since 1988 with a break or two exploring other careers (I also have a Diploma in Cookery and Food Service).

What's been your career path?

In 1996 I came to Australia from England and worked for the UVCS as a surgery nurse until my visa expired. Back in England, my partner and I realised how much we loved the Australian lifestyle and came back. So I called the UVCS and asked if I could have my job back. In 1999 I became an Anaesthesia Technician, later also becoming Head Nurse. I'm still here, after a maternity leave break to have my son, Connor, in 2001.

What does your role encompass?

As one of two Anaesthesia Technicians, I'm responsible for supporting 3 anaesthetists and Year 4 vet students on the clinic floor - teaching them a wide range of clinical and nursing skills. Our Intensive Care Unit (ICU) Nurses, who give 24-hour support to ICU patients, also play a major teaching role.

I enjoy working closely with each nurse. They have different strengths and weaknesses, and I try to encourage them into further education and the provision of a high standard of nursing care to our animals. Two of our nurses, Charmaine Piggott and Jasmine Feeny, are the first nurses in NSW to complete a Diploma in Emergency and Critical care nursing.

What are your current key projects?

Our nursing team is setting up a nurse's website so that nurses from private practices can read about specialised cases at the UVCS, and communicate via a Q and A feedback page.

I am also encouraging nurses to speak at practice meetings and seminars to inform work colleagues and students of their achievements. It's important vet students see how valuable a well-trained veterinary nurse is in private practice.

What makes working for a University Teaching Hospital different to a private practice?

I appreciate the high standard of care we can give to our patients, and I especially like interacting with students and contributing to their veterinary training. Nurses are often a vet's best friend and they don't realise this until they qualify as new graduates.

What are you most passionate about in this role?

I love anaesthesia and passing that on to students. It's so satisfying to see the students improve their technical skills over the year and know that I helped. I'm equally passionate about the role of the vet nurse in veterinary medicine and the contribution we make by continuing to provide a high standard of nursing for the animals under our care.

What do you do in your spare time?

As a working mum I spend all my spare time with my two-year-old son and family. All our family is in England, so I'm kept busy hosting a large number of visitors each year.

Who inspires you and why?

Day-to-day, I draw inspiration from my family, and the values they instilled in me. I'm also inspired by seeing animals receive high standards of veterinary care and knowing that as a nurse, I can play a significant role in that care.



New Editor-in-Chief of the International Journal for Parasitology, Associate Professor Nick Sangster.

FACULTY EDITOR-IN-CHIEF OF INTERNATIONAL JOURNAL FOR PARASITOLOGY

Launched in 1971 as the official Journal of the Australian Society for Parasitology, the IJP is now the most highly cited journal publishing primary research papers in the field of parasitology.

Around 450 papers are submitted each year, with articles on significant diseases in domestic animals and humans, as well as papers on

plant nematodes, parasites of wildlife and even of insects. Topics cover basic biology and ecology right through to molecular and immunological science, and parasites as diverse as microscopic protozoa, worms and arthropods.

Dr Sangster edits the IJP from an office in the McMaster building, with editorial assistant

Ms Maria Meuleman. He has an editorial board of specialists from 13 countries.

He said, "This association with the IJP provides the Faculty with considerable exposure, and it also places the University at the centre of the distribution of knowledge in science - and that's one of the important roles of all Universities".

ALUMNUS WINS US AWARD

Dr David Dodd, a 1946 graduate of the Sydney University Faculty of Veterinary Science, has received the Olafsen Medal for his contribution to veterinary pathology. Dr Dodd, who has spent much of his professional life in the United States, received the prestigious medal from the American College of Veterinary Pathology in December 2002.



HONOUR FOR DR ARTHUR WEBSTER

In December 2002, Dr Arthur Webster presented the Graduation Address in the University's Great Hall and on the same day was conferred the title Honorary Fellow of the University of Sydney.

The Webster family has enjoyed a long and illustrious association with the national and international veterinary communities and Dr Webster, one of Australia's most distinguished veterinarians, has supported veterinary science at the University of Sydney for 30 years. A Council member of the Post Graduate Foundation in Veterinary Science for more than 15 years (including a period as President), for the past 4 years he has also been a member of the Veterinary Science Foundation Executive Committee, playing a significant role in the Foundation's strategies and fundraising.

Dr Webster is also chair of the Faculty Veterinary Clinics Advisory Board. To all these groups, he has provided critical expertise in business administration and strategic development, as well

as a focus on continuing education and achieving key academic outcomes of teaching and research.

Graduating from the University of Queensland Faculty of Veterinary Science in 1968, Dr Webster studied at the School of Hygiene and Tropical Medicine in London, returning with a Diploma of Bacteriology (1970) to be the key player in commercial vaccine development in Arthur Webster Pty Ltd, the company founded by his father (his son is also a veterinarian). The company made major contributions to the health and productivity of Australia's farm animal and poultry sectors and to the health of companion animals, including developing the world's first parvovirus vaccine. He is currently on the board of CSL, one of Australia's major international companies.

Dr Webster has been an outstanding contributor to veterinary science, education and the broader community.

VEIN

www.library.usyd.edu.au/VEIN/

VEIN (Veterinary Education and Information Network) is the leading information service for veterinarians and animal scientists in Australasia. Pages attracting high hits include the VEIN Uni and Community homepages; Research Databases access page; and Links pages including Employment and Career, Horses, Animal Behaviour, Cattle, Marine Mammals, Dogs and OJD. Two new Links pages are Surgery, and Teaching and Learning.

New members include a large number of recent graduates, and Jane Barton from VEIN Community will be attending the 2003 AVA conference to assist with enquiries and membership.

VEIN is a partnership between the Sydney University Library, Post Graduate Foundation in Veterinary Science, and the Veterinary Science Faculty and Foundation.

For further information, contact Su Hanfling, Coordinator Library Services (Life Sciences), on (02) 9351 5426 or email S.Hanfling@library.usyd.edu.au.

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