anzccart
HUMANE SCIENCE

NEWS

Volume 24 Number 2 2011

ANZCCART Honours Lifetime Achievements

Inside this issue:

As ANZCCART looks ahead towards its 25th Anniversary in 2012, the Board considered it important to also look back on our history and recognise the outstanding contributions that a number of individuals have made to help set up ANZCCART and make it the organization it is today.

Accordingly, for the second successive year ANZCCART has taken steps to formally recognise the extraordinary contributions made by members of the ANZCCART family to both the organization itself and to animal welfare within the research and teaching sector. These individuals are to be awarded Honorary Life Membership of ANZCCART – which is the highest award we can offer.

In announcing the recipients of these awards at the Rotorua conference, the CEO of ANZCCART, Dr Geoff Dandie noted that a number of people have worked tirelessly for us since the founding of ACCART in 1987 and the subsequent joining with our New Zealand colleagues to form ANZCCART in 1993. The Board of ANZCCART also acknowledges that having only instituted these awards fairly recently, we are to some extent, still catching up in our effort to acknowledge the enormous contributions of those individuals that have played key roles in establishing ANZCCART and bringing it to its current position. For this reason, we have once again decided to recognise more than one person this year and in fact have made the decision to celebrate the hard work of three people with Honorary Life Membership.

While ANZCCART was proud to appoint these three long-standing supporters as Honorary Life Members, it was unfortunate that circumstances had conspired to mean not all the inductees were able to be present to receive this award as the recent eruption of the Mt Puyehue Cordon Caulle volcano in Chile, had brought havoc to air travel between Australia and New Zealand during the past week. Geoff, who himself had only just arrived in Rotorua moments before the presentation of these awards, was delighted to be able

to formally acknowledge the outstanding services offered by our three new Honorary Life members, Mrs Elizabeth Grant, Professor David Mellor and Dr AC David Bayvel and on behalf of the ANZCCART Board, thank them sincerely for all their hard work.

Mrs Elizabeth Grant AM has provided outstanding service to both ANZCCART and the wider animal welfare community for well over a decade in a voluntary capacity.

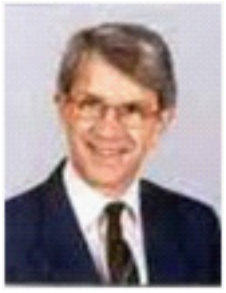
Elizabeth began her association with ANZCCART fifteen years ago as a proxy Board representative for the NHMRC nominee on the Board, Warwick Anderson. As a serving Category D (Lay person) member of the NHMRC Animal Welfare Committee (AWC), she occasionally acted as proxy for the AWC Chair, who was the nominee member of the ANZCCART Board. When Elizabeth took on the role as interim chair of the AWC in 2000, she also joined the ANZCCART Board in her own right and continued to represent the NHMRC in this role until she formally retired from the Board in 2010, shortly after her term as NHMRC AWC Chair came to an end. During her tenure on the Board, Elizabeth worked very hard to ensure that ANZCCART and the NHMRC worked collaboratively. She also strongly encouraged our work with members of AECs around the region, helping to identify AEC members – particularly the external Category C (Animal welfare) and Category D (Lay person) members of these committees as key people that we should be making an extra effort to assist wherever possible.

As indicated above, as well as providing outstanding service to ANZCCART as a key advisor and Board member she has also played even greater roles in the Australian animal welfare sector though her activities on the NHMRC Animal Welfare Committee (which span around 25 years and include serving as Chair of this committee for ten years), and through her role on the Code Liaison Committee (Responsible for reviewing and regularly updating *the Australian Code of Practice for the Care and use of Animals for Scientific Purposes*) – including chairing this committee for ten years. During Elizabeth's tenure as Chair of the CLC, she has also worked hard to ensure that the Australian Code has become widely accepted by the international community. This acceptance has now seen the Australian Code adopted by a number of other Countries around the World as the Model on which they have based their own Code of Practice, something I think she is justifiably proud to have helped Australia achieve.

Even when it is summarised as briefly as this, it is clear that Elizabeth has made a huge contribution – not only to ANZCCART, but to the welfare of animals that are used in research and teaching, which also includes her role as Chair of the Australian Animal Welfare Strategy (AAWS) Sectoral working group for the use of animals in Research and Teaching.

It is important to remember that in all these roles, Elizabeth's contribution has not only been made in her spare time, but also as a Lay person. Starting with her role as a Category D (Lay member) on an AEC and extending to these various other roles she has played, Elizabeth has started out without the benefit of any professional affiliations to research or teaching or to the institutions that host these committees. It must also be remembered that she has taken time out of her regular working day helping to run the family business, so that she can undertake these various roles as well as a number of others that are outside the sphere of animal welfare. In doing this, Elizabeth has also made an important contribution by showing how much an individual can achieve in this area if she is prepared to devote the time and work within the system we have in place. As a part of this, Elizabeth has also championed the idea of having independent chairs of AECs, something we now accept as 'normal' across Australia and has been formally endorsed by the Code itself as a desirable attribute in an AEC Chair.

ANZCCART would like to congratulate and sincerely thank Elizabeth for her devotion to our organization and our common goals over many years.



Professor David Mellor is probably one of the most prominent names in animal welfare among the ranks of University Academics and identified as New Zealand's best know Academic in this area, even though he is actually an Australian. David was born and educated in Melbourne before he went on to complete his undergraduate studies at the University of New England and then his Ph.D. at the University of Edinburgh in Scotland. After completing his studies, David returned to Australia and did a brief stint working as a stockman in outback NSW and then taught Physiology at the New England University before heading home to Melbourne where he worked as Biology Master at his old school and taught in the Physiology Department at Monash University. He later returned to Scotland and took up a position as Head of the Physiology Department at the Moredun Research Institute. After almost 20 years in this post, David moved to New Zealand to head up the Department of Physiology and Anatomy at Massey University and has remained there ever since in one position or another. It is fair to say that his position description has changed a number of times during the years. David seems to have generally held more than one position during his time at Massey University and is currently Professor of Applied Physiology and Bioethics and Co-Director, Animal Welfare Science & Bioethics Centre. The fact that he has frequently held multiple related positions, may possibly be one of the clearer testaments to David's work ethic. This tremendous wealth of experience ranging from agriculture, right through to academia in its various forms has given David a broad and fairly unique perspective of human : animal interactions and one that he has been able to utilize in both his career and his work with organizations like ANZCCART.

Importantly, throughout his academic career and particularly during his time at Massey University, David has put into practice what most of us can only preach about. His work has not only focused on animal ethics and welfare, but he has endeavoured to provide rigorous scientific validation of the underlying principles. It has been this scientific validation of those principles that has guaranteed credibility and ensured that academics and researchers have recognised his work as valid and important to their own work. Another vital aspect of David's work has been the dynastic approach he has taken since attaining more senior positions. His work at Massey University has seen the establishment of the Animal Welfare Science and Bioethics Centre and even virtual institutions in association with colleagues in both Australia and New Zealand. An important aspect of these developments has been the recruitment and training of additional staff in a way that has set them on a path of scientific investigation and validation of animal welfare standards.

David has also been a long and dedicated supporter of ANZCCART. He has the distinction of being a member of both the Australian and New Zealand Boards of ANZCCART in his own right. He served on the Board of ANZCCART as the New Zealand representative from 1993 to1999 and was a member of the New Zealand Board for the same period and was also the interim Chair of the New Zealand Board in 1993 and then remained as Vice Chair until he stepped down in 1999. As with his professional career, David has always been prepared to put in additional effort working with ANZCCART and this has meant that he has taken on many roles including authoring a number of key ANZCCART documents. One such document has been the *Ethical Guidelines for Students Using Animals or Animal Tissues for Educational Purposes* which has been published by ANZCCART and outlines the standards that should be adopted by University students in practical classes that involve the use of animals or animal tissues. The fact that this document has been so widely adopted and is now part of most laboratory manuals for such courses is not only a testament to the advice it contains, but yet another example of how David's leadership has helped to set the standards of animal welfare required for generations of students in the biological sciences.

ANZCCART would like to congratulate David and we offer our sincerely thanks for all the work he has done for and on behalf of ANZCCART on both sides of the Tasman.

Dr David Bayvel gained his Veterinary qualifications in Scotland and worked as a vet for a couple of years in the UK before heading to Zambia for five years that included 12 months acting as the Chief Veterinary Officer. After

another brief stint practising in the UK, David spent the next 15 years or so of his career working with industry in South Africa, Australia and New Zealand before he joined the Ministry of Agriculture and Forestry (MAF) in 1989 as the National Manager of Animal Welfare. By 1999, David had attained the position of Director, Animal Welfare, MAF, Biosecurity New Zealand – a position he still holds.

During his tenure at MAF, David has worked to ensure that animal welfare has become a major policy focus in New Zealand that not only helps to ensure that animal welfare standards are a priority within New Zealand, but also remain a focus for animal-based export industries and even a strategic marketing tool for New Zealand's export industries, including their live export industries.

As a part of his strategy to improve animal welfare standards across New Zealand, David has been quick to seize upon international opportunities as well. Part of this strategy saw David work with what was then ACCART in Australia as well as the Royal Society of New Zealand, the New Zealand Vice Chancellors Committee and local Universities to push for the formation of ANZCCART in New Zealand and most importantly, to ensure that this was done in partnership with ANZCCART in Australia. Having helped to establish ANZCCART in New Zealand, David served as a member of the New Zealand Board from 1992 to 1995 during the formative period leading up to and immediately after the formation of ANZCCART Ltd in 1993.

Since that time, David's role in ensuring the improvement of international animal welfare standards has extended to his roles on the trans-Tasman Animal Welfare Committee and perhaps most notably, within the World Organisation for Animal Health (OIE). In this sphere, he has served as chair of the OIE Permanent Animal Welfare Working Group since 2002 and Chair of the OIE Laboratory Animal ad-hoc Group since 2007. It has been through his role in the OIE that David has undoubtedly had the greatest effect on Animal Welfare standards within our region and the way that we are perceived by the rest of the World.

ANZCCART would like to congratulate David and we express our sincere gratitude for the guidance he has provided and the benefits of his insight that have helped ANZCCART to grow and flourish.

Professor David Mellor accepting his award from Dr Geoff Dandie, CEO of ANZCCART. June 2011

Mrs Linda Carson, proxy for Dr David Bayvel, accepting his award from Dr Geoff Dandie, CEO of ANZCCART. June 2011

Recent Article of Interest:

Animal Models: Inside the minds of mice and men
The use of animal models in work relating to areas such as mental health, and behavioral research is still a relatively new area but it is refreshing to see that it is still an area where the 3Rs are being considered and applied as this article shows:

http://www.nature.com/nature/journal/v475/n7354/full/475123a.html?WT.ec_id=NATURE-20110707

2011 ANZCCART AEC Member of the Year Announced

The winner of the 2011 ANZCCART AEC Member of the year award was announced on Monday 27th of June at the ANZCCART Conference dinner in Rotorua, New Zealand. This year we were delighted to be able to recognize the amazing contributions made by Mr Des Boyland of Queensland. Des is a Category C (Animal Welfare) member of three AECs and a number of State Government Ministerial Advisory Committees in Queensland. When he announced the winner of this year's award at the dinner, the CEO of ANZCCART, Dr Geoff Dandie, regrettably also has to register apologies on behalf of Des, whose flights to New Zealand had been cancelled as a result of the volcanic ash clouds that had created havoc with the travel plans of a number of delegates.

When he retired in 2000, Des became an active member of Wildlife Queensland (Wildlife Preservation Society of Queensland) and saw that the work of animal ethics committees was an important form of scrutiny for all animal–based research. Eager to do something worthwhile in this area in addition to his work with Wildlife Queensland, he joined the Griffith University AEC, in 2003 (as a Category C member), on the recommendation of WPSQ and later joined both the Army Malaria Institute AEC and the CSIRO Brisbane AEC.

On joining Griffith AEC, Des advocated animal welfare and the Code with characteristic enthusiasm. He also recognised how difficult it can be for some committees to recruit suitable members, particularly those with a strong animal welfare background and so to help recruit others he wrote a newsletter article about the benefits of AEC membership. His personable style, political skills and ability to identify and act on critical issues, fearlessly independent whether championing animal welfare or rigor in procedure, draw on his valuable experience in the Queensland Public Service at executive management level where he had previously worked for nature conservation.

With genuine artful humility, "as a mere botanist", Des has developed a reputation for often raising critical issues and leading discussion on how these might be resolved and what action should be taken. From 2005 he volunteered as a Community Representative to participate in the AEC Monitoring Programme administered by the Queensland Government. The AECs on which he serves, all benefit enormously from his careful, critical thought and attention to detail.

During Des's earlier career, he also received an award for his outstanding service. After entering the Queensland Public Service in 1959 to work in the Botany Branch of Department of Agriculture & Stock, he went on to work in Development and Planning before joining the Queensland National Parks and Wildlife Service in 1984. Originally a plant taxonomist and vegetation mapper, he has authored over 30 published articles. In 1994 he was awarded the Public Service Medal for Meritorious Service to Nature Conservation.

ANZCCART believes that the outstanding service Des has provided to the AEC system and the animals it protects is an example worthy of recognition. We would therefore like to both thank and congratulate Des on his eight years of highly effective voluntary work for animal ethics and his eleven years of service to animal welfare and we hope that he will continue in these roles for years to come.

National Animal Ethics Advisory Committee (NAEAC) ran an essay competition for secondary school students in 2010 and the title was "Describe and analyse the use of animals in research in New Zealand, including examples of how and why animals are used, and how their use is regulated and controlled". The winning essay is below.

'In Vivo' to 'In Vitro'

The Future of Animal Based Research in New Zealand

Himanshu Wadhwa
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Introduction

This essay provides a brief overview of animal based research (ABR) in New Zealand. I explore the need of using animals in research and how their use is controlled and regulated. People have different views about animal based research, ranging from completely opposing it to completely supporting it. I investigate this opinion spectrum with a view to seeking a pragmatic

future course of direction for ABR in New Zealand.

ABR in New Zealand

Animals are used for research in many different fields in New Zealand, such as general biological enquiry, conservation, agriculture and medicine. For example, animals are being used to find connections between diet and health. Scientists at the Liggins Institute in Auckland have been using Wistar rats to try and find a relationship between maternal diet during pregnancy and health of offspring.[1]

Research animals are also used in animal conservation - in the development of pest control techniques or in the development of non-embryonic cell cloning methods. A team led by Dr Bernie McLeod at AgResearch is trying to develop new toxins to kill bushtail possums and developing "methods of sterilizing possums as a means of population control."[2] Cloning by nuclear transfer was used to produce a genetic duplicate of the last surviving cow of the rare Enderby Island cattle breed. "This result represents the first demonstration of the use of adult cloning in animal conservation."[3]

These adult cloning methods now also allow for the production of livestock with known desired phenotypes. Traditionally, farmers improved the quality of their herds by selective breeding techniques, which were relatively slow and unpredictable. "Cloning has facilitated the rapid production of genetically superior stock."[4] Similarly, ABR has led to the development of methods which allow DNA from one species to be inserted into another. Molecular biologists are altering the genomes of livestock to try and enhance the production of desired traits in them. For example, "developing sheep [are injected] with the genes for the enzymes that generate cysteine [to] produce woollier sheep."[5]

Similarly, the research of Dr Jenny Juengel's team at AgResearch is dual purpose. While their work is "aimed at increasing reproductive efficiency of farmed animals", they also learn about biological processes like "how the development of the egg influences pregnancy outcomes." They hope to apply their findings to devise strategies to "maximise lifetime reproductive performance, develop maternal lines with increased mammary capacity and establish management systems to improve outcomes from twin and triplet lambs."[6]

The use of animals is very important in medicine too. Their uses include: the investigation of diseases, the development of surgical and medical treatments, to insure the safety of medical products[7], and the development of methods to be able to use farmed animals to produce therapeutic human proteins. Other research was conducted at the Liggins Institute to examine the effects of intrauterine infections on preterm related brain injuries using fetal sheep.[8] "At AgResearch, they've generated cows that produce human myelin basic protein. Treatment with human myelin basic protein may help reduce the symptoms of multiple sclerosis."[9] Similarly, "transgenic sheep carrying the human gene for a protein α-1-antitrypsin produce the protein in their milk. The antitrypsin is extracted from the milk and used to treat hereditary emphysema."[10]

Looking at the history of the long list of medical achievements in the 20th Century across the globe, one can easily see that many of the treatments, vaccines and surgical methods available today would not have been possible without the animal-based research behind their discoveries and development. One specific example is anaesthesia. "The understanding of how anaesthetics work, the discovery and testing of new and better anaesthetics and the continuing refinements of the methods of giving anaesthetics to make them safer have all relied heavily on animal based studies."[11]

Regulation and Control

The application of the 'Three Rs Principle' ensures that animal use is properly regulated in New Zealand. The three components of this principle are replacement (animals that might suffer are only used when necessary), reduction (no more and no fewer animals are used than required to achieve the objectives of the work) and refinement (any noxiousness is kept as low as possible).[12] Also, an independent assessment is carried out every five years to ensure that institutions are following recommended guidelines.[13]

According to the Animal Welfare Act 1999, "our 'duty of care' can be partially suspended during research, testing and teaching, but only when very stringent conditions are met."[14] All institutions which are using animals for research, testing or teaching have a current Code of Ethical Conduct, which has been approved by the National Animal Ethics Advisory Committee (NAEAC) and the Ministry of Agriculture and Forestry (MAF). They have Animal Ethics Committees (AECs),

which conduct cost-benefit analyses to ensure maximum benefit from minimum harm to animals and ensure that animal use is controlled.[15] In addition to granting approvals for animal use, AECs also carry out various types of monitoring to ensure that studies are conducted in the approved manner.

Ethics of ABR

Use of animals in research is a controversial issue. The opposers argue that "animals should never be experimented on whatever the potential gain for humanity."[16] Supporters argue for ABR on grounds that we should alleviate human suffering at any cost. To me, ABR is acceptable provided that the 'Three Rs Principle' is adhered to. This is also where New Zealand law currently stands.

Animals have life and therefore, have a right to not be used for research, especially as they can not willingly consent or make informed decisions on the matter like humans. But this should not result in any dilemma. Caring adults do take decisions for their adolescents. Similarly, caring pet owners also take decisions for the well-being of their pets. As humans, we have a responsibility to care for our lives, as well as for the lives of other animals. ABR provides benefits that achieve both these outcomes, as it benefits not only humans but also animals (as can be seen in some examples cited above).

Even though alternative research techniques and animal substitutes are continually being designed and used wherever possible, animal models are also needed in some cases. For example, scientists at the Liggins Institute wanted to find out if increased levels of autocrine hGH were linked to the development of breast cancer. "To find this out they used cultured human breast cells"[17] rather than introducing cancer in animal models, as is done in some countries abroad. Cells grown outside a living organism are said to be 'in vitro,' literally meaning 'in glass.' Cells grown outside an organism are said to be grown 'in vivo' or 'in life.' We currently only have partial substitutes to the use of animal models in scientific process. Hence, I think that ABR should not be banned.

Animal models are necessary in some cases for example:

- In whole-organisms studies when the holistic effects on organisms need to be monitored, as in the case of Sarah Morgan's aging study. Gene expression in individual cells had already been monitored. Research now needed "to be scaled up into a whole organism or animal model so that the effect of other tissues and cells on the biochemical processes [could] be studied."[18]
- Where our knowledge is insufficient to create digital models, and studies of human populations would be impractical such as in the Liggins' scientists' search for correlations between maternal diet and offspring health. Here, human populations had already been studied, but quick-breeding animal models that could be kept in controlled environments were needed to confirm formulated theories.[19] Arbitrary computer models would not be useful.
- To study diseases where occurrence and survival of spontaneous patients is rare. For example, scientists researching hair growth needed to also investigate patients with Congenital Hypertrichosis Lanuginosa, in which scalp-like hair growth covers the face, to seek which genes activate terminal hair growth. "Only about 50 [such] cases [have been] reported worldwide since the Middle Ages."[20] So there isn't a sufficient sample size. At this rate, the secrets to hair growth may never be discovered.

Some animals like mice, possums and flies are considered pests, and so are ruthlessly killed by the mouse trap, rifle or fly swatter. What harm is there then, in allowing them to be used for research, in which their deaths will have at least some meaningful use? Why not allow death to serve a useful purpose? Donated human organs are also used for teaching medical students. "Human skin left over from surgical procedures or donated cadavers can be used to measure the rate at which a chemical is able to penetrate the skin."[21]

Wastage and unnecessary usage are bad. Animal use should be carefully planned to obtain maximum benefit. Application of the 'Three Rs Principle' will help ensure that this can be more consistently achieved. Systems are already in place to ensure this happens. In New Zealand, research is approved on the basis that "the greater the harm or noxiousness, the greater must be the expected benefits before a procedure can be approved."[22] It allows scientists to use animals for research, while pacifying people who oppose the idea because they see this as cruelty to animals.

New alternative research methods are constantly being developed, and New Zealand should continue to implement those that can increase efficiency and accuracy, and minimise animal use. We should continue to move forward into the future with the approach to develop replacements to animal models using available knowledge and technology. Let New Zealand lead the world in transiting from 'in vivo' methods to 'in vitro.'

Conclusion

ABR has been a foundation stone for advancement in the expansion of our scientific knowledge and health related industries. In New Zealand, sufficient legislation is in place to protect the welfare of research animals, and authorities ensure that research institutions consistently aim to replace, reduce, and refine their animal usage. However, when alternatives for remaining animal use models are developed, they should be encouraged. We do not currently have complete substitutes for animals in research and testing. While we should strive to find substitutes so that animal use in research can be minimised further, ABR should be supported.

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It is a publication for researchers and teachers; members of Animal Ethics Committees; staff of organisations concerned with research, teaching and funding; and parliamentarians and members of the public with interests in the conduct of animal-based research and teaching and the welfare of animals used.

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ISSN 1039-9089