



2010 Comparative Oncology Symposium



THE UNIVERSITY OF
SYDNEY

A joint presentation with speakers from the National Cancer Institute, US National Institute of Health (Chand Khanna), The Australian National University ANU (Julio Licinio, Simon Bain, Chris Goodnow), and the University of Sydney Faculty of Veterinary Science (Rosanne Taylor, Vanessa Barrs, Claire Wade, Stephen Page, Amanda Craig)

When: Tuesday 30th November, 2010

Where: The Finkel Theatre
The John Curtin School of Medical research
The Australian National University
Canberra, ACT

www.jcsmr.anu.edu.au

Further information and program available inside

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Comparative Clinical Science

Comparative Clinical Science is the idea that naturally occurring disease research in animals and in people should be more closely linked to allow the understanding gained to be applied for the benefit of both animals and humans. The Comparative Clinical Research Foundation explains as:

“We know that at cell level, animals and humans are the same; our cells work in the same way. The human genome map has now been completed, and a comparison with mapping for dogs, cats and horses shows a huge overlap between humans and animals. And yet, to date there has been very little exploration of these similarities. As recently as fifty years ago there was a much closer link between human and animal medicine. Now is the time to forge those links again.”

This furthers the concept of ‘One Medicine,’ that acknowledges human and animal health relies on a common pool of medical and scientific knowledge and is supported by overlapping technologies and discoveries that could both benefit from improved translational opportunities. There are areas where this is best optimized including immune (IBD), metabolic (obesity, diabetes), neurologic (epilepsy), neoplastic and some degenerative (arthritis, dementia, stroke) and genetic diseases. There are advancing technologies such as stem cell therapy and gene therapy already in use in companion animal diseases.

Comparative Oncology

Comparative Oncology focuses on the similarities between animals and people in the epidemiology, pathology, diagnosis and treatment of cancer; as well as research in this area. Dogs suffer many of the same cancers as humans, for example, melanoma, osteosarcoma, mammary (breast) cancer and cancers of the brain and prostate, often in a shorter time frame. The disease process and treatment for cancers in dogs are often similar to cancers in humans and so can be used as models for human cancers. Comparative Oncology uses this similarity to develop advanced treatment options for animals and people based on the research already carried out in the other species groups. The goal is to discover better treatments and cures for cancer, which can then be applied to both animals and people.

Funding (a few overseas examples)

UK: “Investigators undertaking comparative research will also have to provide strong arguments why research in their animal patients has added value over, for example, similar studies in human patients. Moreover, strong collaborations of veterinarians and clinicians will be expected for Comparative Clinical Study research.... The standards and criteria are high, however the challenge of becoming involved in high quality comparative clinical research provides not only personal or professional rewards, but has a clear opportunity to further our knowledge and translate into tangible benefits for human and animal health.” (Letter to the Veterinary record, April 2010, Dr Jana Voigt and Sir Leszek Borysiewicz, **Medical Research Council**, London, UK). **LUPA (Dog genetics to understand human diseases)** This project puts together 20 veterinary schools from 12 European countries that have been working since January 2008 to collect DNA samples from purebred dogs that are healthy or affected by similar diseases as humans. Studying dogs will help improve our understanding of the genetic origin of diseases such as cancer, epilepsy, cardiovascular troubles and diabetes. This project is particularly interesting in the context of personalized medicine. Coordination is provided by the University of Liège in Belgium, with other members of the consortium from Germany, Denmark, Spain, France, **Ireland**, Finland, Netherlands, Sweden, UK, Norway and Switzerland. EU funding: €12 million. More Information:

<http://www.eurolupa.org/>

US: 2.1million US is being sort into the **NCI Comparative Oncology and Genomics Pfizer Bio-repository**: an essential resource a well-described repository of tissues from tumour bearing dogs that have naturally developed cancers that are not only major problems in the dog population, but which are also have comparative value in human cancer investigation. A goal of collecting tissues and fluids from 3,000 dogs with specific cancer types, 600 samples each from dogs with lymphoma, osteosarcoma and melanoma and four other histologies (300 each) to be named. Universal and cancer specific standard operative procedures have been defined for the collections. A caBIG complaint web-based relational database has been implemented to track sample collection and shipment from 7 institutional collection sites across the United States, to describe sample characteristics and clinical annotation of pet dog patients, and to allow review of bank assets. This bank has included investment and participation of a gift of 1.1 Million was from Pfizer; \$250k from The American Kennel Club Canine Health Foundation AKC-CHF; \$250k the Morris Animal Foundation MAF, and is housed at the National Cancer Institute.

Speakers

Chand Khanna DVM, PhD received specialty training in the fields of veterinary internal medicine and oncology first at the Ontario Veterinary College, University of Guelph and then the University of Minnesota. Dr. Khanna is a board-certified diplomate of the American College of Veterinary Internal Medicine (Oncology). Dr. Khanna received a PhD in Pathobiology and then post-doctoral fellowship at the National Cancer Institute in Bethesda Maryland. Dr. Khanna is currently Head of Pediatric Oncology Branch's Tumor and Metastasis Biology Section, and Director of the Center for Cancer Research, Comparative Oncology Program at the National Cancer Institute. His research interests and responsibilities are focused on the problem of cancer metastasis and the development of new options to treat patients with metastasis. Dr. Khanna has published over 100 manuscripts and text book chapters in the field of cancer biology and veterinary oncology. He is the President Elect of the American College of Veterinary Internal Medicine in Oncology, an associate editor for the Journal of Veterinary Internal Medicine and the Journal of Veterinary and Comparative Oncology. Dr. Khanna is the chair of the Children's Oncology Groups Bone Biology Subcommittee and the Comparative Models Subcommittee. Dr. Khanna is a founding member of the Canine Comparative Oncology and Genomics Consortium.

Chris Goodnow: After a BSc(Vet) and Veterinary degree at the University of Sydney, Goodnow trained in molecular and cellular immunology at Stanford University with Mark M Davis, at the Walter and Eliza Hall Institute with Sir Gustav Nossal, and at the University of Sydney with Antony Basten. From 1990-1997, Goodnow headed a laboratory at Stanford University Medical School as an Assistant Investigator of the Howard Hughes Medical Institute. Since 1997, he has been Professor of Immunology and Genetics at The John Curtin School of Medical Research at ANU, where he is currently Division Head. Goodnow was the Founding Director of the Australian Phenomics Facility - a major national research facility for mouse molecular genetics. In translating his scientific expertise, Goodnow served on the founding scientific advisory board of Illumina Inc - now a leading genetic analysis technology company - and was founder and chief scientific officer for Phenomix Corp, a private biotechnology company with treatments for diabetes and infection in clinical development.

Stephen Page BSc(Vet)(Hons) BVSc(Hons) DipVetClinStud MVetClinStud MAppSc(EnvTox) MACVSc (Pharmacol) Stephen is Director of Advanced Veterinary Therapeutics providing investigative and analytical skills in the areas of clinical pharmacology, toxicology, risk assessment, and public health. He has had a longstanding interest in the appropriate use of veterinary medicines and vaccines and has participated in conferences and training programmes on this subject in Australia, North America, Europe and Asia. He is chair of the AVA Therapeutics Advisory Committee. He teaches in DE for the University of Sydney MVPHMgt, and an executive member of the Veterinary Clinical Pharmacology Network (VCPN) as well as a variety of projects for pharmaceutical companies, MLA, AWI, FAO and OIE.

Amanda Craig BVSc, M Vet Clin Stud, MACVS (Canine Medicine)

Amanda completed specialty training through a residency in Small Animal Internal Medicine from the University of Sydney. After which she was in Canberra for 11 years, before taking up research again at the Veterinary School of Toulouse, France and then as the Director of the Clinical Investigation Centre at the Royal Veterinary College (RVC) London, she directed the development, set up and initiation of a Phase II clinical trials unit to VICH GCP. She sat on the RVC Animal Ethics Committee. She continues in this field as the Managing Director of Companion Medicine and as an honorary senior lecturer at the University of Sydney Veterinary Faculty. Her research interests lie in pharmacogenomics and primary practice evidence based medicine. Amanda is an executive member of the Veterinary Clinical Pharmacology Network (VCPN) and councillor for the Centre for Veterinary Education (CVE).

Simon Bain BVSc (Syd) MACVSc (Animal Welfare)

Dr Simon Bain joined ANU in 1982, employed in a veterinary capacity, and based in JCSMR. He has had associations with the ANU Animal Experimentation Ethics Committee since he joined the university and has been its Executive Officer since 1993. In 2005 Dr Bain became Director of the newly formed ANU Office of Research Integrity with that office having responsibility for human research ethics, animal ethics, recombinant DNA ethics and the responsible conduct of research. He has a strong interest in the latter and coordinated the 2008 review of the ANU policy, Responsible Practice of Research. He delivers regular animal ethics seminars and runs responsible conduct of research workshops for PhD scholars on a frequent basis.

Vanessa Barrs BVSc(hons) MVetClinStud FACVSc(Feline Medicine) GradCertEd(Higher Ed)

Vanessa is Associate Professor of Small Animal Medicine at the University of Sydney Veterinary Faculty and a specialist in feline medicine. She is Head of the Small Animal Medicine Department. Her research areas of interest are selected Genetic Diseases of the Cat, Infectious Diseases of the Cat and Feline alimentary lymphoma. She has been President of the Feline Medicine Chapter of the Australian College of Veterinary Scientists 2002 – 2006, Feline Health Research Fund – Trustee, Journal of Feline Medicine & Surgery – Editorial Board Member and is a regular speaker at international symposium in areas of her research, clinical and teaching specialties.

See over

Claire Wade: is Professor of Animal Genetics and Computational Biology at the University of Sydney, Veterinary Faculty. In recent years her canine focus has included playing key roles in the analysis leading to the Canine Genome Sequence (Nature, December 2005), and Equine Genome (Science Nov 2009), the development of three canine gene mapping arrays (Two for Affymetrix and one for Illumina), and the mapping of several genes for canine diseases leading thus far to three commercially available genetic tests for genetic diseases (Parathyroid tumors in Keeshonden, Rod-cone dystrophy in the Wire-haired dachshund, and Degenerative myelopathy in many breeds). She has current projects exploring the genetics of separation-related distress disorder, aggression, deafness, congenital birth defects, and pigmentation in the dog.

Program (30th November 2010):

9:30 -10:00	Introduction and Welcome Professor Julio Licinio	Director, The John Curtin School of Medical Research, ANU College of Medicine, Biology and Environment at The Australian National University.
10:00 - 11:00	Dr Chand Khanna	Guiding the Optimal Translation of New Cancer Treatments From Canine to Human Cancer Patients (45 minute talk with 15 minutes for questions)
11:00 - 11:30	Morning Tea/Coffee and discussion	
11:30 - 1:00	Dr Amanda Craig	UK perspective Comparative Clinical Science Australian Veterinary Oncology overview
	Dr Simon Bain	Ethics and regulatory hurdles for research in Companion Animals as it currently stands and where it fits the 3Rs
	Dr Stephen Page	Potential for value adding industry, research, evidence based medicine and the regulatory process
	Dr Vanessa Barrs	Feline Lymphoma: an interesting immunological disease
	Prof Claire Wade	Companion Animal Genetic resources at the University of Sydney
1:00 -2.:00	Lunch and Discussion	
2:00 -2:30	Prof Chris Goodnow	Improving translational outcomes from a basic scientist perspective-wish list! Linking up with naturally occurring animal disease models are there possibilities?
2:30 - 3:00	Closing Comments Professor Rosanne Taylor	Dean of the Faculty of Veterinary Science, University of Sydney