Dr Maria Kavallaris  
Congress Convener

Building on the success of the first Australian Health & Medical Research Congress (AHMRC) held in 2002, the 2nd AHMRC is shaping up as the premier medical research event of the biennium. The congress is being held at the Sydney Convention Centre, Darling Harbour, Sydney in November, 2004. An initiative of the Australian Society for Medical Research, the Congress is bringing together 28 medical research societies for an integrated research meeting. An outstanding scientific program is being offered and the congress will represent the largest gathering of medical researchers in Australia. Over 200 invited speakers (50 international and 160 national) and 780 presentations (oral and poster) over a 5 day period will ensure a vibrant atmosphere that aims to foster and promote scientific interactions.

Major highlights will include daily plenary presentations from five international speakers who are at the top of their scientific fields. One of the key drawcards is plenary speaker Professor Judah Folkman, of the Harvard Medical School in Boston. Professor Folkman's exceptional achievements have been recognised by numerous national and international awards. In 1990 he was elected to the National Academy of Sciences. He is also a member of the American Academy of Arts and Sciences, the American Philosophical Society and the Institute of Medicine. He holds honorary degrees from five universities. Dr. Folkman is the author of more than 300 peer-reviewed papers as well as many other publications. His ground-breaking work in the field of angiogenesis included the first description of how tumours require blood vessels to form and spread and the discovery of the first purified angiogenesis molecule as an inhibitor of angiogenesis. His research has therapeutic implications for a range of disease states where blood vessel formation, signalling, damage and repair are involved including cancer, diabetes and cardiovascular disease. Other distinguished plenary...continued on next page
OGTR Changes to Insect Research

Dear colleagues,

We face many obstacles in conducting research in Australia compared to our Northern hemisphere colleagues. Obviously the distance from our colleagues, cost of reagent importation and levels of funding do not favourably compare to European and North American researchers. We also must deal with higher levels of regulation of activities, in particular with regard to transgenic animal research. I speak from the experience of a Drosophila geneticist. Modern Drosophila genetics relies upon a sophisticated suite of methodologies for manipulating gene expression within transgenic Drosophila.

There are about 2,000 laboratories worldwide that conduct research with D.melanogaster, resulting in about 5,000 scientific papers each year. Research using D.melanogaster as a model for basic genetic, cell and molecular processes and for the study of human diseases, is having a huge impact on biomedical research. D.melanogaster research within Australia is supported by the National Health and Medical Research Council of Australia, the Australian Cancer Research Foundations of various states and the National Institutes of Health (USA). Overseas, the Welcome Trust (UK), the Howard Hughes Medical Institute (USA) and the US National Institutes of Health support many hundreds of laboratories and thousands of researchers studying diseases such as cancer, neurodegenerative diseases and many different types of congenital birth defects. For example, the most common form of skin cancer in Australia, Nevroid Basal Cell Carcinoma, arises from mutations in genes whose functions have been very largely elucidated using Drosophila. Possible therapies arising out of the Drosophila research will soon be tested. Genetically modified Drosophila melanogaster are not registered as agents of potential hazard to humans, agriculture or the environment in countries such as the USA, UK or Switzerland.

The OGTR is about to bring new guidelines into place for construction and use of PC2 insectaries that will make Australia the most restrictive country in the world in which to conduct research using transgenic Drosophila. As a community we can respond to these draft guidelines. Rob Saint and I have drafted a reply to the OGTR that was put together in response to various measures that we regard as restrictive to Drosophila research and also after extensive consultation by Rob with Drosophila researchers in other countries. The letter has been written in the name of the ‘Australian Insect Molecular Biology Research Group’. If any of you would like a copy of this letter or would like to assist by sending a copy on to the OGTR under your name please contact me at g.hime@unimelb.edu.au.

As a research community I believe that it is vital that we respond to every opportunity to influence levels of regulation in regard to the various aspects of our work as coping with new regulations inevitably affects our ability to conduct scientific research in a productive manner.

Yours sincerely,
Dr Gary Hime, University of Melbourne

Apology
Western Australia
Awards and Prizes

Andrea Paun, winner of one of the two Western Australian Department of Health Prizes at the ASMR Medical Research Week® Student Symposium

Inadvertently omitted from Page 5 of the ASMR Newsletter, August Edition.
President’s Report

Assoc. Professor Andrew Sinclair
President

ASMR has been involved in a two-year strategic effort to increase funding for health and medical research. The Access Economics Report clearly established the value of investing in health and medical research and was widely disseminated to stakeholders and politicians. The call for another doubling of funding was formalised in ASMR’s 2004-2005 Pre-Budget Submission to Treasury. Feedback from government sources was that we had made an outstanding case to support the increase. However, Federal Budget outcomes for 2004-2005 were disappointing. It was felt the increase for H&M could become part of the government’s platform for re-election.

In the background, the Howard Government’s own Investment Review of Health and Medical Research had been commissioned to look at the outcomes of the Wills doubling. We believe the Review to be glowing and may recommend more than the doubling outlined in ASMR’s submission to Treasury. It is our information that the report was printed and ready for release at the discretion of the Prime Minister and that a release might still have taken place, even up to one week prior to the election being called.

Despite the preparation of an excellent case, its wide dissemination and acceptance of the value of such an investment, health and medical research did not register as a vote catching election issue. Both major parties effectively ignored medical research during the campaign. ASMR, in conjunction with Research Australia and Australian Association of Medical Research Institutes (AAMRI) initiated an open letter to John Howard and Mark Latham (see page 4). The letter called on both major parties to present their policy vision and forward financial commitments for Australia’s health and medical research. Signed by many eminent Australians and with the support of ASMR, Research Australia and AAMRI, the letter was published in The Australian on Friday October 1st. The content of the letter was leaked earlier and reported on the front page of the Sydney Morning Herald. Mark Metherell, the journalist involved, quotes the Prime Minister as saying “if you have already adequately resourced something, then you have adequately resourced it.”

Given this outcome, we believe the way forward is to involve and engage patient support and similar groups. With the health and economic case established and being consolidated, it is clear we need to mobilise a vast number of Australians to speak with one voice and deliver one message to our political leaders prior to the next federal election. ASMR will work with Research Australia, AAMRI and Medicines Australia to bring these patient organizations together into a powerful electoral lobbying force which cannot be ignored! A working group has been established to move this plan forward.

Election Results — ASMR Board of Directors

Eight nominations were received to fill the five vacancies occurring in November 2004.

Directors to be appointed or re-appointed to the Board of The Australian Society for Medical Research following the Annual General Meeting on Tuesday, 23rd of November, 2004 for a period of two years (until November, 2006):

- Dr Rohan Baker (ACT)
- Dr Maria Kavallaris (NSW)
- Associate Professor Leon Khachigian (NSW)
- Dr Sarah Meachem (VIC)
- Dr Sandra Nicholson (VIC)

Directors incumbent until November 2005:

- Dr Alaina Ammit (NSW)
- Dr Lisa Butler (SA)
- Dr Bronwyn Kingwell (VIC)
- Associate Professor Michael McGuckin (QLD)
- Dr Moira O’Bryan (VIC)
- Dr Jacqueline Phillips (WA)

Events

- The Australian Health and Medical Research Congress 2004
  November 21–26, 2004
  Darling Harbour, Sydney, NSW
  www.ahmrcongress.org.au

- 5th International Breast Cancer Conference
  November 10–14, 2004
  Darling Harbour, Sydney, NSW
  www.tourhosts.com.au

- Stem Cells: From Biology to Therapy
  November 19–21, 2004
  www.hansoninstitute.sa.gov.au

- Australian Neurosciences Society 25th “Silver Jubilee” Meeting
  Jan 30–Feb 2, 2005
  Perth Convention & Exhibition Centre
  www.sallyjayconferences.com.au/ans/

- Australian International Society of Thrombosis & Haemostasis XXth Congress
  August 6–12, 2005
  Darling Harbour, Sydney
  www.isth2005.com
We the undersigned call on both major parties to present their policy vision and forward financial commitments for Australia’s health and medical research.

An investment in health and medical research will ensure Australia’s future health and well-being by:

- Targeting chronic diseases: asthma, arthritis, diabetes, dementia, cardiovascular disease and cancer
- Keeping an aging population healthier and more productive in the workforce
- Addressing threats to our children’s health such as obesity, depression and indigenous health inequalities
- Reducing health costs and improving outcomes by implementing the latest research into health practice
- Safeguarding our nation by control of global threats such as: AIDS, SARS, Bird Flu, Bio-terrorism
- Building a globally competitive knowledge economy, creating new biotechnology businesses and jobs.

Australian health and medical researchers are world leaders

Significant increases in health and medical research funding over the last 5 years brought a much-needed boost to Australian researchers. We are recognised world leaders in many areas including immunology, cancer, diabetes, asthma, neuroscience, malaria, stem cells, public health research and medical devices such as the Bionic Ear. Our research has been crucial in preventing disease, injury and providing better health for all Australians. We are currently riding on a wave of knowledge and opportunity.

Australia trails behind the world in research funding

While funding in the last five years allowed Australia to “catch-up,” other countries have since doubled their funding again. Currently we are at the lower end of the OECD spectrum on medical research expenditure. Australia’s future health, education and intellectual capital are under threat without proper investment.

Health and Medical Research generates exceptional returns on investment

The rate of return from health research is so extraordinarily high that the benefit from any strategic investment is enormous. According to a recent Access Economics report1 every dollar spent on health research and development returns at least $5 in national economic benefit! Health and medical research that reduced cancer deaths by just 20% would be worth $184 billion to Australians.

Australians call for greater investment in Health and Medical Research

A recent survey has shown that 87% of Australians would like to see increased spending on health and medical research; 64% would like to see it more than doubled.2

Any long-term policy vision for a healthy Australian future will require a substantial increase in the investment on health and medical research.

Patenting, Commercialisation and The Researcher

David Smith, Partner and Rachel Garland, Senior Associate, Corrs Chambers Westgarth

Taking the time to consider the issues below at the beginning of any research project can save a lot of time and money when it comes time to patent and commercialise any resulting invention.

Ownership of developed intellectual property rights —
While this may seem like a relatively simple issue, there can be significant problems in attracting investment in your technology if it is unclear who owns it. Ownership of developed intellectual property rights (including patentable inventions) can be uncertain because many projects involve the collaboration of employees and contractors of a number of different organisations like universities, research institutes and hospitals. Therefore, at the beginning of any research project, agreement should be reached in writing between the various relevant institutions on who will be the owner of any intellectual property rights (e.g. patents, copyright and know-how) that are created during the course of the project. The institutions should also have appropriate employment and engagement contracts in place with their staff covering, amongst other things, ownership of intellectual property.

Confidentiality —
So that the confidentiality of any potential invention is maintained until it is patented, it is essential that appropriate confidentiality agreements and processes (e.g. secure storage of laboratory notebooks overnight; password protection of computer files) are put in place at the beginning of a research project and that they are adhered to during the course of the project. The confidentiality regime will involve restrictions on publication of results, at least until decisions about patenting have been made.

Education programmes —
Research personnel will be much more supportive of efforts to commercialise intellectual property if they understand the basics of the legal reasons for adopting certain practices, e.g. confidentiality regimes which restrict publication of results, and the benefits to them and their colleagues if commercialisation occurs.

Keeping of detailed laboratory notebooks —
From a legal point of view as well as a scientific one, detailed laboratory notebooks should be kept relating to ongoing research during a project. This is particularly important where it is possible that any resulting inventions will be patented in the USA (which is very likely if a valuable technology is involved) as the USA has a "first to invent" patenting regime.

The above list is not intended to be exhaustive, but consideration of these issues may make the road to patenting and commercialisation of intellectual property much smoother.

This article should not be relied on in place of legal advice. You should seek advice from a lawyer about your organisation’s particular situation. You can contact the authors at david.smith@corrs.com.au or rachel.garland@corrs.com.au

Congratulations — 2004 Science Prize Winners

Professor Graeme Clark
The Prime Minister’s Prize for Science.
For discoveries which lead to the first routinely used, successful and safe electro-neural interface with the central nervous system. His bionic ear enables deaf people to participate in a world of sound.

Dr Jamie Rossjohn
The Science Minister’s Prize for Life Scientist of the Year
For his leadership in structural biology and X-ray crystallography.

Professor Ben Eggleton
The Malcolm McIntosh Prize for Physical Scientist of the Year
For pioneering research in photonics, for leadership in optical physics connecting science and industry and for the invention and development of optical devices that will change our lives in decades to come.

Mr Alwyn Powell
The Prime Minister’s Prize for Excellence in Science Teaching in Primary Schools
For leadership in advancing science education in his school and throughout the wider Toowoomba and Darling Downs area.

Dr Mark Butler
The Prime Minister’s Prize for Excellence in Science Teaching in Secondary Schools.
For excellence in the practice and leadership of secondary science education.

ASMR through its core membership and affiliations with some 48 specialist societies/medical colleges and 15 foundation/patient support groups, represents 118,000 Australians
Are your kids killing your career?

Elizabeth Johnson

The issue of parental responsibility and work is significant in the sciences, particularly as success in obtaining funding, often including furnishing the researcher's own salary, is dependent on research performance measured through publications and grants. For researchers to maintain productivity they may be forced to forego time with their families and to work full-time, as well as filling in extra hours on weekends. Such work patterns can become unsustainable and undesirable from the point of view of life balance and the psychological wellbeing of all concerned.

While both men and women are affected as parents, the majority of the burden of family responsibility still falls on women. There persists in the scientific society at large, tacit acceptance of career sacrifice to family responsibility by women, where the same sacrifice by men is seen as unusual. The demoralisation and devaluing women experience when they see their careers dwindle is understandable, particularly as women frequently delay having children until their late 30s or early 40s in order to establish scientific careers and may have reached relatively senior levels and been used to a significant degree of autonomy and professional respect.

One suggested initiative to partly accommodate family responsibilities is to establish a targeted fellowship scheme that provides an independent part-time salary and some contribution to laboratory costs. With independent funding, the Fellow may be able to undertake retraining or updating of skills, which may be needed after a prolonged absence from the field, or even to change fields. In order to establish whether there is a case for such a scheme in Australia, the ASMR wishes to canvass opinion from its membership and other scientific societies.

In the coming months, a survey of ASMR members will be conducted to determine the experiences of the membership in combining research careers and family and to gauge the necessity for a family sensitive career fellowship scheme in Australia. Responses will be used to determine whether establishment of a fellowship scheme is the appropriate course and if so, to design the eligibility criteria, elements and benefits offered. Alternatively, the membership may identify other support mechanisms that may be developed. Responses to the questionnaire will be compiled to support the case for funding any identified initiative.

Why Join ASMR?

Assoc. Professor Mike McGuckin
Membership Convener

Medical research scientists are typically members of one or more specialist scientific or clinical societies — so why join the ASMR? The ASMR has evolved to be a unique and important voice for Australian medical research scientists across a broad range of sub-disciplines. Like all sectors of society, we as professional medical research scientists need to band together to ensure that our sector fares well with all the competing interests confronting government and the community.

Key roles of the ASMR include:
Representing the health and medical research sector to Governments. ASMR has extensive and carefully planned interactions with Government. Due to continuous efforts and building relationships with key individuals, the ASMR is recognised by government as the peak organisation representing this sector. The recognition and impact of the ASMR-commissioned Access Economics Report, "Exceptional Returns, the Value of investing in Health R&D in Australia" is testimony to the role the Society plays. Promoting the benefits of medical research to the public. Increasingly, communication with the public is becoming an integral component of the life of medical research scientists. Individual research institutions are becoming more professional at promoting their activities. ASMR represents the whole health and medical research effort and has a responsibility to inform and educate the community on the benefits of health and medical research. ASMR needs your involvement in these activities.

Scientific Advocacy. ASMR is particularly involved in organising scientific meetings involving young researchers, often providing the first opportunity for young scientists to speak at a conference. The bi-annual Australian Health and Medical Research Congress (AHMRC), an initiative of ASMR, fulfils the need in Australia for a large multi-disciplinary medical research conference consistent with the importance of cross-disciplinary research in the post-genomic era.

Support for Career Development. ASMR is intensively involved in lobbying for improved career structures for medical research scientists and in providing career advice to young researchers.

ASMR needs your involvement as a member, if not your direct participation. We urge you to encourage your fellow researchers to join ASMR.
Atherosclerosis is a complex chronic arterial disease with life-threatening complications including unstable angina, myocardial infarction and stroke. This disease remains the leading cause of morbidity, mortality and a burden on health care costs in Australia.

Vascular smooth muscle cell (SMC) proliferation and apoptosis are intimately coupled events that occur in all stages of atherogenesis. The balance between these two processes can be an influential factor linking vessel remodelling and disease progression. For example, SMC apoptosis may be beneficial by inducing regression of the thickened arterial wall during hypertension and restenosis. In contrast, accelerated apoptosis of SMCs within vulnerable regions of atherosclerotic plaques could typically weaken the atherosclerotic cap, rendering the advanced plaque unstable.

During my 6 week research stint (March-April 2004), I was under the supervision of Professor Martin Bennett, at Addenbrookes Hospital, University of Cambridge, UK. Professor Bennett’s research has provided important insights into the regulation of vascular cell proliferation and apoptosis in the development of atherosclerosis. In particular, his team has demonstrated that plaque vascular SMCs isolated from human carotid endarterectomies, have a defect in insulin-like growth factor (IGF-1)-mediated survival compared to normal vascular SMCs. More recently, this defect was identified due to a reduction in receptor expression in plaque SMCs, results in reduced activation of signalling pathways (an effect that requires PI3-K and Akt phosphorylation) in response to IGF-1, and subsequent reduction in the survival signal of this cell type. The overall aim of my study was to (i) define a role for PI3-K and Akt in apoptosis of normal and diseased vascular SMCs and (ii) to identify downstream targets of IGF-1 signalling (including Akt).

During my stay, I specifically looked at spontaneous apoptosis of vascular SMCs expressing Akt (IGF-1) by video microscopy. I also performed many Western blots to look at downstream signalling events in plaque and normal SMCs following IGF-1 stimulation. IGF-1 signalling can mediate the downstream activation of a number of kinases including protein kinase C-ζ (PKCζ). This overseas research experience extends into my current work in Associate Professor Khachigian’s laboratory, on identifying the role of PKCζ in vascular SMC apoptosis and advanced atherosclerosis. In order to control inappropriate cell death, it is therefore essential to fully understand the regulation of these processes during disease.

I am grateful to the ASMR for providing me with the opportunity to work overseas, broaden my knowledge of methodologies, meet fantastic people in science and increase my scientific prospect. In particular, my short stay at Cambridge has opened many avenues, including bringing together the expertise of two leading laboratories in the field of vascular apoptosis. These studies will further our understanding of molecular pathways underlying vascular SMC apoptosis, and may potentially lead to novel approaches in the prevention and/or treatment of complications associated with advanced atherosclerosis and unstable plaque.
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Genetic basis for health and human performance

Roger David  USA
Signal transduction by stress activated MAP kinases

Judah Folkman  USA
Angiogenesis

Matthias Mann  Denmark
Recent development in proteomic strategies

Jeffrey Robbins  USA
Modeling human cardiomyopathies via genetic manipulation in animal models

Maria Kavallaris
Convener
m.kavallaris@unsw.edu.au

Levon Khachigian
Scientific Program Convener
l.khachigian@unsw.edu.au

ASN Events, Secretariat,
03 5983 2400
congress@asnevents.net.au

Animal Resources Centre
P.O. Box 1380 Concord Vale, Western Australia 6970
Telephone: 08/9322 9833 Fax: 08/9322 9834
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Australian Society for Medical Research
145 Macquarie Street, Sydney NSW 2000
ACN 000599235
ABN 18000599235
Ph: 02 9256 5450
Fax: 02 9252 0294
Email: asmr@world.net
Web: www.asmr.org.au

Newsletter Editor-in-Chief, Dr Moira O’Byran