
APPENDICES

Appendix 1

Workshop Program



'Beyond Brain Drain' - Mobility, Competitiveness & Scientific Excellence

Program

Queensland Bioscience Precinct, University of Queensland, Brisbane, Australia

Saturday 21st February 2004

17.30 Registration and welcome reception at the Queensland Bioscience Precinct – opening by Professor John Hay, Vice Chancellor, The University of Queensland

Sunday 22nd February 2004

08.30 Registration

09.10 Welcome
Dr Fiona Wood, Centre for Higher Education Management and Policy
The University of New England
Opening Remarks and Introduction
Professor Peter Doherty AC, FAA, FRS
Winner of the 1996 Nobel Prize for Medicine

Session One: Mobility, Competitiveness & Scientific Excellence - Australian Perspective

Chair Professor John Mattick, Institute for Molecular Bioscience, the University of Queensland

09.30 Professor Peter Andrews, Chief Scientist, Queensland

10.00 Professor Graeme Hugo, Director of GISCA, The University of Adelaide

10.45 *Morning Tea*

Session Two: International Experiences

Proudly Sponsored by the NHMRC

Chair Dr Roland Scollay, Director Commercialisation Office, Monash University

11.15 Dr David Strangway FRAS FRSC OC
President and CEO, Canada Foundation for Innovation

12.00 Professor Luke Georghiou,
Director, Institute for Policy Research in Engineering, Science & Technology (PREST) and Chair, Institute of Innovation Research, University of Manchester

- 12.45 *Lunch*
- Session Three: Growing the National Capacity of Highly Skilled Personnel*
- Chair Professor Les Field, School of Chemistry, the University of Sydney*
- 14.00 Professor Graeme Hugo on behalf of the Department of Premier and Cabinet,
South Australian Government
- Dr Bruce Cornell, Senior Vice President and Chief Scientist Ambri Ltd and
 member of the NSW Innovation Council
- 14.50 Professor Snow Barlow for the Rural Industries Research & Development
Corporation
- 15.15 *Afternoon Tea*
- Parallel Workgroups*
- 15.30 *Workgroups 1-4*
- 17.00 *Close of day*
- 19.00 *Workshop Dinner Customs House – Dinner speaker (to confirm)*

Monday 23rd February 2004

Session Four: Promoting Mobility and Scientific Excellence

- Chair Professor Marcela Bilek, School of Chemistry the University of Sydney*
- 09.00 Professor Alan Pettigrew, Chief Executive, National Health & Medical
Research Council
- 45.45 Dr Magda Lola, CERN & Secretary General, Marie Curie Fellowship
Association
Dr Lola's proudly sponsored by DEST
- 10.30 *Morning Tea*

Session Five: Recruitment, Management and Retention - Early and Later Career

- Chair Dr Stella Clark Bio21 Australia Limited*
- 11.00 A/Professor Andrew Sinclair, President, The Australian Society for Medical
Research
- Helen Cooper, Policy and Planning Coordinator, Australian Research Council
- Mr Jeremy Wurm, Managing Director, Brooker Consulting
- 12.30 *Lunch*

Session Six: Reverse Brain Drain?

- Chair Professor Phil Lewis Centre for Labour Market Research the
University of Canberra*

30.30	Dr Robert Birrell, Director, Centre for Population and Urban Research, Monash University
<i>Final Session</i>	
Chair	Mr Shaun Coffey Chief CSIRO Livestock Industries
14.00	Workgroups report back
15.30	Final comments and close of workshop
15.45	<i>Afternoon tea</i>

Appendix 2

Workshop Registrants

Queensland Bioscience Precinct, University of Queensland, Brisbane, Australia

Dr Maurice Allen
Director Education
Engineers Australia

Ms Kerrin Anderson
Senior Associate
Francis Abourizk Lightowers

Professor Peter Andrews
Chief Scientist, Queensland
Department of Innovation & Information
Economy

Mr Phillip Bailey
Principal Research Officer
Australian Parliament Senate Legal &
Constitutional Reference Committee
Department of The Senate

Dr Michael Barber
Executive Director
Science Planning
CSIRO

Professor Snow Barlow
Professor of Horticulture & Viticulture
University of Melbourne

Professor Marcela Bilek
Professor of Applied Physics
School of Physics
University of Sydney

A/Professor Bob Birrell
Director
Centre for Population and Urban Research
Monash University

Dr Michael Borgas
CSIRO Atmospheric Research

Ms Faye Burton
Acting Executive Director
Department of Innovation, Industry and
Regional Development
VIC

Dr Anne Campbell
Executive Manager
Cooperative Research Centre Association

Professor Julie Campbell
Council Member
Council of The Academy Of Science
University of Queensland

A/Professor Stuart Carr
Associate Professor of Psychology
Massey University

Dr Stella Clark
CEO Bio21 Australia Ltd

Mr Shaun Coffey
Chief
CSIRO Livestock Industries
Queensland Bioscience Precinct

Ms Helen Cooper
Director
External Relations
Australian Research Council

Dr Bruce Cornell
Chief Scientist and Senior Vice President
AMBRI Pty Ltd

Ms Anne Cronin
Director – Operations
Murdoch Children’s Research Institute
VIC

Mrs Janet Dibb-Smith
Director, Research & Policy Support
University of Adelaide

Professor Peter Doherty AC FAA FRS
Laureate Professor
University of Melbourne

Professor Leslie Field
Professor of Organic Chemistry
University of Sydney

Professor David Finlay
President, Australian Council of Deans of
Science
Faculty Science, Technology & Engineering
La Trobe University

Ms Helen Fullgrabe
Principal Executive Officer
National Health and Medical Research
Council

Dr Pauline Gallagher
Assistant Secretary
CSIRO Staff Association

Professor Luke Georghiou
Director, Institute for Policy Research in
Engineering, Science & Technology
University of Manchester

Dr Jane Glatz
Research Australia

Dr Peter Greenwood
Immediate Past National President
Engineers Australia

Dr Karen Haines
Acting Director
The Interactive Virtual
Environments Centre
WA

Dr Vicki Harriott
Associate Professor
School of Environmental Science and
Management
Southern Cross University

Mrs Joanna Hill
Authorised Representative
Lands Kirwan Tong Stockbrokers Pty Ltd
Melbourne

Professor Graeme Hugo
Federation Fellow
Dept of Geographical & Environmental
Studies
University of Adelaide

Lynne Hunter
Adviser
Delegation of the European Commission to
Australia and NZ

Professor Kerr Inkson
Professor of Management
Massey University
New Zealand

Ms Tania Kearsley
Senior Associate
Francis Abourizk Lightowlers

A/Professor Levon Khachigian
Centre for Thrombosis &
Vascular Research
School of Medical Sciences
University of New South Wales

Professor Phil Lewis
Director
Centre for Labour Market Research
University of Canberra

Dr Rob Lewis
Executive Director, Plant Research Centre
South Australian Research and Development
Institute (SARDI)

Dr Stephen Livesey
Chief Scientific Officer
National Stem Cell Centre Ltd
Melbourne

Mr Brett Logan
International Science & Technology Relations
Department of Education, Science & Training

Dr Magda Lola
Secretary General
Marie Curie Fellowship Association and
Deputy Group Leader of the CERN-HR Team,
Geneva

Dr Kate Loveland
Institute of Reproduction and Development
Monash University

Professor William MacGillivray
Dean of Sciences
University of Southern Queensland

Professor Helene Marsh
Professor of Environmental Studies
James Cook University
Convenor, Australian Council for Deans and
Directors of Graduate Studies

Jan Massey
Director
Office of Research & Postgraduate Studies,
University of Queensland

Professor John Mattick
Professor of Molecular Biology
Institute for Molecular Bioscience
University of Queensland

Professor Fred Medelsohn
Director, Howard Florey Institute
University of Melbourne

Mr Neil Mullenger
Director, Research and Statistics
Department of Immigration, Multicultural &
Indigenous Affairs

Mr Tim Murphy
Executive Director
BioMelbourne Network

Professor Robert Norris
Dean of Science
Monash University

Dr Sianna Panagiotopoulos
President, ARMS
c/- Austin Health
University of Melbourne

Mr Michael Parker
Executive Manager
FEAST

Professor Alan Pettigrew
Chief Executive Officer
National Health & Medical Research Council

Dr Deborah Rathjen
CEO and Managing Director
Bionomics Limited

Dr Anna Robinson
National Convenor
Women In Science & Engineering Network
(WISENET)

Dr Roland Scollay
Director, Commercialisation
Monash University

Dr Bill Silvey
Manager
Department of Innovation & Information
Economy Collaborative R&D Centres
Coordination
Queensland Government

A/Professor Andrew Sinclair
Unit Head
Murdoch Children's Research Institute
Royal Children's Hospital

Professor T Fred Smith
DVC-Research
La Trobe University

Dr David Strangway
President & CEO
Canada Foundation for Innovation

Dr Massa Miliand Tani
School of Business, ADFA
University of NSW

Professor Phyllis Tharenou
Professor of Psychology
Monash University

Ms Jan Thomas
Executive Officer
Australian Math And Sciences Institute

Dr Greg Trainor
Executive Director
VESKI

Mr Dennis Trewin
Australian Statistician
Australian Bureau of Statistics

Mr Paul White
Director, Collaboration Unit
Higher Education Group
Department of Education, Science & Training

Dr Gene Wijffels
Acting Executive Officer
CSIRO Livestock Industries
Queensland Bioscience Precinct

Dr Fiona Wood
Centre for Higher Education Management
and Policy
University Of New England

Mr Jeremy Wurm
Managing Director
Brooker Consulting

Dr Brian Yates
Chair
Tasmanian Science and Technology Council

Appendix 3

Extracts from workgroups issues document

1. How can young people be encouraged to view Science, Engineering and Technology as a worthwhile career? What are the impediments to this?
2. What are the key issues in recruiting SET personnel from overseas (expats and other nationals). E.g. salary packages; taxation; portability of superannuation; work visas; research infrastructure; reputation of institution/organisation; availability of research funds; technology transfer policies and incentives; intellectual property considerations; climate; lifestyle etc. Are there different sets of recruitment issues with different countries – e.g. the US vs China?
3. Where are our SET personnel going overseas (countries and organizations). How do we keep track of this information? What do we know about their motivations for leaving Australia and any intentions to return? Does a background in working in institutions overseas enhance potential earning power in Australia?
4. Are private sector organisations better at recruiting, rewarding and retaining highly trained SET personnel than the public sector organisations?
5. Do issues regarding mobility and recruitment, particularly internationally, vary depending on stage of career development? E.g. Early career versus later career? Are there additional challenges for women and those with partners/families? Are there differences in mobility opportunities between scientists and engineers/technologists?
6. What are the real Expat ‘connectors’ and how can these be utilised to ensure expatriates remain linked to Aus?
7. Are our SET personnel (particularly Early Career Researchers) acquiring sufficient experience in their Australian work contexts regarding working in teams; collaborating with those in other disciplines; presenting in different forums and dealing effectively with the media; preparing business plans and budgets; project management; and being able to move readily between business and government sectors?
8. Are we maximising sufficiently on the opportunities provided by high performance computing to establish interactive virtual environments (such as the Western Australian Interactive Virtual Environments Centre) for linking organisations nationally and internationally?
9. What policies, strategies and initiatives are needed to ensure that Australia has the skills base and career development opportunities it needs for a globally competitive environment for highly skilled scientists, engineers and technologists?
10. Do we need to change the terminology regarding mobility of skilled labour – e.g. move away from terms such as ‘drain’ to ‘circulation’?

Appendix 4

Workshop Submissions to the Prime Minister's Science, Engineering and Innovation Council

'Beyond Brain Drain' Mobility, Competitiveness & Scientific Excellence¹

<http://www.une.edu.au/sat/chemp/arms/>

This invitational workshop was a joint initiative of the Australasian Research Management Society and the Centre for Higher Education Management and Policy. The workshop was held on 23-24 February 2004 at the Queensland Bioscience Precinct.

Workshop Speakers Included:

Professor Peter Doherty

Winner of the 1996 Nobel Prize for Medicine

Professor Peter Andrews

Chief Scientist, Queensland

Professor Graeme Hugo

The University of Adelaide

Professor Alan Pettigrew

Chief Executive, National Health & Medical Research Council

A/Professor Andrew Sinclair

President, The Australian Society for Medical Research

Dr Bruce Cornell

Senior Vice President and Chief Scientist Ambri Ltd and member of the NSW Innovation Council

Dr David Strangway

President and CEO, Canada Foundation for Innovation

Professor Luke Georghiou

Director, Institute for Policy Research in Engineering, Science & Technology (PREST) and Chair, Institute of Innovation Research, University of Manchester

Dr Magda Lola

CERN
Secretary General
Marie Curie Fellowship Association

Background

It is well recognised that to be globally competitive, national economies need ongoing access to highly skilled labour, particularly in the Science, Engineering and Technology (SET) areas. In meeting this need, many countries have been actively developing recruitment, management and retention policies regarding these highly-trained professionals.

Although Australia has a well-developed but comparatively small science base it is also a long way from the world's main R&D performers. Therefore it is important to monitor patterns of immigration/emigration of highly skilled workers in relation to the needs of knowledge-based industries. The Intergenerational Report (Costello 2002) has also drawn attention to the manpower implications of the impending retirement of the baby boomer generation.

In regard to Australia's capacity to meet the demands for skilled-labour, Queensland's Chief Scientist recently stated that Australia will need 75 000 additional scientists by the end of the decade to build biotechnology businesses and other knowledge-based industries to enable Australia to remain internationally competitive in areas of strategic advantage. This compares with the European Union's documented need for an increase of 500 000 – 700 000 scientists by 2010 and the USA's need for 2.2 million by 2010.

A key question discussed at the Workshop was whether there needs to be a more strategic approach to managing Australia's SET diaspora for national benefit and if so how this might be developed.

Australia has a large diaspora relative to population with approximately 900 000 citizens (4.3 per cent of the national population) living in other countries. Australian Immigration data for 2001-02 show that emigration has more than doubled over the past 15 years with about 120 000 citizens leaving permanently or long term per year. Young families featured predominantly among the emigrants, with managers, administrators and professionals making up more than half.

Diaspora policies have long existed in traditional emigration nations such as Italy and the Philippines and their development has been an increasing focus of bodies such as UNESCO and the World Bank. Significantly, different surveys of the Australian diaspora indicate that expatriates are well-disposed to Australia and wish to remain connected and help – even if they do not plan to return permanently.

A report of a survey of resident Australians also showed positive attitudes to Australian expatriates (Lowy Institute 2004). This report stressed that these expatriates 'represent a valuable resource: a market, a sales force, an ambassadorial corps and a constituency' and that it would be appropriate to develop 'some modest but intelligent policies to encourage Australian institutions to harness this great national asset'. This view was certainly shared by participants at the Workshop but it is also very clearly reflected in the operations of expatriate organisations such as the *Southern Cross Group* (and its linkage with the *AIC Expatriate Connect* initiative), *Advance – Australian Professionals in America* and the *Victorian Endowment for Science, Knowledge and Innovation*. The potential to access the knowledge, expertise and networks of expatriates for the national benefit is well-recognised in the aims, scope, directions and structure of the proposed *Network for Expatriate Australian Researcher* (<http://near.chem.usyd.edu.au>)²

Policies and initiatives aimed at maximising the valuable resources offered by Australia's SET Diaspora are clearly of direct relevance to the Federal Government's *Backing Australia's Ability I and II* initiatives.

In this regard it is suggested that it would be appropriate for the PMSEIC's Standing Committee to consider establishing a working group to address the issue of how best to maximise on the valuable resources offered by Australian expatriates for the national benefit.

Possible Terms of Reference for PMSEIC could include the following questions:

1. How can the Australian SET diaspora be best profiled in terms of its expertise and skills base?
2. What are the most effective ways for Australia to maximise its engagement with highly skilled and trained expatriates and are there any impediments to this?
3. Can existing expatriate organisations be better supported to ensure maximum engagement with highly skilled and trained expatriates?

References:

Costello, Peter The Hon. 2002-03 Budget Paper No. 5 *Intergenerational Report 2002-03*, May 2002.

Lowy Institute for International Policy (2004), *Australians' Attitudes to Expatriates*.

Footnotes

¹ The proceedings from the Workshop will be available early July 2004.

² An initiative which has had the active involvement of 1999 Young Australian of the Year Bryan Gaensler of Harvard University.

