**Health Sciences Complex, Flinders University**

4 and 5 August 2011

**From Research to Reality**

- translating biodiversity research outcomes through biotechnology

### Day 1 – Thursday 4 August 2011

**8:00am**

Registration (Tea and coffee served). 8:45am seated.

**9:00am**

Vice Chancellor, Flinders University

Forum opens

**Key Note address:** Biodiscovery and its importance to science and industry

**Dr Paul Willis**

Director, Royal Institute of Australia

Discussion Panel: “Big Questions in Biodiscovery”

**10.30 – 11.00am**

Morning Tea

**11.00 – 12.15pm**

**Session 1: Biodiversity and bio-products discovery**

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<tr>
<th>A/Prof Jim Mitchell</th>
<th>Introduction to panel – Session Chair</th>
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<tr>
<td>Prof Peter Fairweather</td>
<td>South Australia’s marine biodiversity</td>
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<td>Our state has been underexplored in terms of biodiscovery, what is out there?</td>
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<td>Dr Belinda Glasby</td>
<td>Bioprospecting in Northern Territory waters</td>
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<td>Australia is renowned for its biodiversity, but there is much to be discovered. How has bioprospecting increased our knowledge of Australia’s marine biodiversity?</td>
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<td>Prof Wei Zhang</td>
<td>Marine bioprocessing</td>
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<td>The biggest hurdle for the translation of biodiscoveries into products is in cost-effective processing methods: how can we create a network of capabilities in Australia?</td>
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<td>Prof Chris Franco</td>
<td>Actinobacteria, agriculture’s unsung heroes</td>
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<td>A huge abundance of actinomycetes inhabit the land and sea. What are the beneficial applications of novel bioactives from this phyla?</td>
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<td>Prof Allan Cooper</td>
<td>3rd generation gene sequencer – pathways for the future</td>
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</table>
Taking advantage of increased sequencing power to perform rapid analyses of biologically complex, trace-level samples, extracting genetic information from existing collections. What will this mean for the utilisation of Australia’s collections for biodiscovery?

Panel discussion and audience participation

12:15 – 1:30pm Lunch (buffet)

1:30 – 2:45pm Session 2: Pathways for biodiscovery in Australia

Mr Mark Taylor
Assistant Secretary, Parks Australia, Dept. of Sustainability, Environment, Water, Population and Communities

Mr Geoff Burton
Adjunct Senior Fellow, United Nations University, Institute of Advanced Studies

Mr Ben Phillips
JUSCANZ Bureau Representative for the Intergovernmental Committee on the Nagoya Protocol

Ms Libby Evans-Illidge
Manager, Bioresources Library, Australian Institute of Marine Science

Dr Susan Blackburn
CSIRO Hobart
Head, Australian National Algae Culture Collection

Dr Andrew Young
Director, Centre for Australian National and Biodiversity Research

Prof Andy Ball
Flinders University

Genetic data – new ways to apply the results of biodiscovery

The global scene – and Australia’s place in it

After many years international negotiations have finally resulted in rules to enable access to and exchange of genetic resources – what does this mean for Australia?

Micro-organisms in bioremediation technologies

Developing molecular methods to monitor microbial communities in the natural environment - the latest developments and applications.

Panel discussion and audience participation

2:45 – 3:15pm Afternoon Tea

3:15 – 4:45pm Session 3: Industrial applications of biodiscovery

Prof Andy Ball
Raymond Tham and
Prof Wei Zhang
Flinders University

Introduction to panel – Session Chair

Biorefinery and Bio-Hydrogen

Technology is changing the business model for the biofuels industry. Where do the latest developments place us? How do concepts like the biorefinery, and technologies for alternative fuels like bio-hydrogen present opportunities for Australia?

Industrial outcomes from bio-mining

Biomining holds many promises of commercial benefits. What are current developments and how can we improve the industrial pathway?

Using microalgae for bioremediation and energy production

Industrial applications of Environmental Biotechnology

A/Prof Elizabeth Watkin
Curtin University

Dr David Batten
CSIRO Energy Transformed Flagship

Prof Megharaj Mallaparavu
University of South Australia
Bioremediation is growing in importance as industries transition to better corporate practices on environmental impact management. Examples of natural attenuation of hydrocarbons in groundwater, bio-degradation of PAHs will be highlighted.

A/Prof Richard Bentham
Flinders University

Rhizoremediation of hydrocarbon and pesticide contaminated soils
How can Australia use crops and native plants to enable sustainable agricultural and industrial land use?

Dr Sasi Nayar
SARDI Aquatic Sciences

Biofuel systems
Transforming Australia’s biodiscoversies into viable production systems. What next for the industry?

Panel discussion and audience participation

Technical Summary of Day 1 outcomes

5:15pm – 5:45pm  Networking drinks and tours of facilities at Flinders University

Day 2 – Friday 5 August 2011

8:00 – 9:30am  Department of Sustainability, Environment, Water, Population and Communities working groups breakfast workshop (by invitation only)

9:00am  Registration, for 0940 seated (Tea and coffee served)
9:45am  Forum Day 2 opens

Nagoya Protocol workshop:
Implications for researchers and industry

Julieane Bull
Dept. of Sustainability, Environment, Water, Population and Communities

Introduction to the Nagoya Protocol
The Nagoya Protocol was agreed in late 2010 and outlines the international rules for providing access to genetic resources and sharing the benefits from their use. It will come into effect after 50 countries ratify it. The workshop will outline the protocol and discuss the implications for Australian researchers, managers of biological collections and the biotechnology industry.

The Nagoya Protocol – An Indigenous perspective
Panel discussion and audience participation

12:30 – 1:30pm  Lunch

Concurrent Workshops
(Please indicate your workshop preferences during registration)

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<tr>
<th>Time</th>
<th>Workshop 1: Marine Biotech</th>
<th>Workshop 2: Bioremediation</th>
<th>Workshop 3: Access &amp; benefit-sharing</th>
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<td>1:30 – 2:00 pm</td>
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<td>3:30 – 5:00 pm</td>
<td>Tours / Networking</td>
<td>Working Group</td>
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Version: 20 June 2011.  4-5 August 2011, Health Sciences Complex, Flinders University
1:30 – 2:15pm  
**Workshop 1 – Marine biotechnology in Australia**

**Prof Ron Quinn**  
*Griffith University*

**Dr John Hooper**  
*Queensland Museum*

**Mr Howard Shawcross**  
*Department of Commerce, WA*

Marine biotechnology is a rapidly growing field of industry and science with global leadership and market opportunities for Australia. Participants will discuss the capability of R&D across Australia and pathways for the growth of industry in Australia.

*Facilitator: Prof Wei Zhang*

2:15 – 3:00pm  
**Workshop 2 – Bioremediation: A synergy between research and industry**

**A/Prof Albert Juhasz**  
*University of South Australia*

**Prof Megharaj Mallaparavu**  
*University of South Australia*

**Prof Andy Ball**  
*Flinders University*

Leading practitioners in bioremediation across Australia will present the latest developments in solutions for industry, discuss wider applications of these technologies and the direction for R&D in the near future based on market needs and Australia’s capability. This workshop will look into three case studies on the natural attenuation of hydrocarbons in groundwater, bio-degradation of PAHs and bioremediation of chlorinated hydrocarbons.

*Facilitator: Prof Andy Ball*

1:30 – 2:30pm  
**Workshop 3 – Access to genetic resources and benefit-sharing in Commonwealth areas, Queensland and the Northern Territory**

*Facilitator: Rodney Harvey*  
*Dept. of Sustainability, Environment, Water, Population and Communities*

Representatives from the Commonwealth, Queensland and Northern Territory governments will outline their biodiscovery legislation and seek input into how to improve their benefit-sharing arrangements.

12:30 – 1:30pm  
**Sponge Taxonomy Working Group meeting**

**Facilitator: Shirley Sorokin**  
*SARDI Aquatic Sciences*

1530 - 1700  
**Concurrent Working Groups - Marine Biotechnology and Bioremediation**

1430 - 1530  
Afternoon Tea and networking
Tours of facilities at Flinders University
Various project discussion sessions in meeting rooms (please book beforehand)

*We look forward to your participation*