



The Bulletin 364

The Royal Society of New South Wales

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Mar 2013

Future Events

Lectures in Sydney are held on the first Wednesday of the month at 6:30pm.

April

Wednesday 3 April 2013

5:30pm

**Annual General Meeting
& Fellows Lecture**

Union Club

25 Bent St Sydney

\$5 members/\$10 guests

Details at right.

Friday 19 April 2013

6:00pm for a 6:30pm start.

Annual Dinner

&

Awards Presentations

Union Club

25 Bent St Sydney

\$125

Details at right.

Southern Highlands Branch

Wednesday 3 April 2013

6:15 pm

Annual General Meeting

Performing Arts Centre

Chevalier College, Burradoo

Chaired by Hubert Regtop

3 April 2013

1208th Ordinary General Meeting

**Annual General Meeting
& Fellows Lecture**

Join the Society for the Annual General Meeting and Fellows Lecture, delivered by Prof Mike Archer.

Afterwards you are invited to stay for dinner, at a cost of \$75. Please RSVP to the office for dinner.

Mike Archer was born in Sydney, Australia, but grew up in Appalachia in the USA where, while learning to play the banjo and make moonshine, he became obsessed with fossils from the age of 11. After graduating from Princeton University he returned to Australia, did his PhD in the University of Western Australia, became Curator of Mammals at the Queensland Museum, Lecturer in the University of New South Wales, Director of the Australian Museum in Sydney, Dean of Science at the University of NSW and now a Prof. and head of the Evolution of Earth & Life Sciences Research Group at UNSW.

His research projects focus on the deep past such as the World Heritage fossil deposits at Riversleigh, the fragile present such as conservation through sustainable use of native resources including having native animals as pets, securing the future based on the wisdom of the fossil record, and trying to bring extinct species back into the world of the living. He has supervised more than 50 PhD students, produced 270 scientific publications including 15 books and received 25 awards including Fellowships in the Academy of Science and Royal Society of NSW, Eureka Prize for the Promotion of Science and Member of the Order of Australia.

For full details see separate flyer.

19 April 2013

**Annual Dinner
&
Awards Presentations**

The Society's awards presentations and annual black-tie dinner.

Dr Dawn Casey, Director of the Powerhouse Museum will present the Clarke medal, the Edgeworth David medal and the Royal Society of NSW medal.

Bookings are essential. Prices are \$125 per head or, for a table of ten, \$99 per head.

Please see separate (attached) booking form and letter from the Society's President Dr Donald Hector.

April 19

Union, Universities & Schools Club

25 Bent St, Sydney

RSVP essential

Please contact the office with enquiries

royalsoc@royalsoc.org.au

02 9036 5282.

Dress is black tie.



Patrons of The Royal Society of NSW

Her Excellency Ms Quentin Bryce AC CVO, Governor-General of the Commonwealth of Australia

Her Excellency Professor Marie Bashir AC CVO Governor of NSW

1208th Ordinary General Meeting

Wednesday, 6 March 2013



Ray Norris

Ray Norris, a senior astrophysicist with the CSIRO spoke at the 1208th OGM of the

Society on one of the Australian Square Kilometre Array Pathfinder (ASKAP) projects, Project EMU – an acronym for evolutionary map of the universe.

The ASKAP project is the first phase of the \$2 billion Square Kilometre Array project shared between South Africa and Australia. The cost of this phase is \$170 million and is being built in

Western Australia.

It consists of 36 12-m radio antennas that have extraordinarily high resolution, using devices called phased-array feeds. Project EMU is one of two high-priority projects that are currently underway. Emu will conduct a deep survey of a patch of dark sky, making deep images at several different wavelengths to create a census of all galaxies within the patch being examined.

The aim is to identify the different evolutionary tracks of galaxies and, hopefully, to identify some important but rare transitional stages. The survey is expected to be able to look back in time to the formation of the first stars around 400 million years after the big bang that took place 13.7 billion years ago. Radio telescopes are ideal for this type of survey because they are unaffected by dust. When combined with infrared and optical data, they can give a very powerful image of their field of view.

Dr Norris outlined many of the phenomena that EMU is investigating. The science goals of the EMU project are to better understand the evolution of massive black holes, to explore the large-scale structure and cosmological parameters of the universe (for example, test theories about dark energy) and to explore diffuse low-surface-brightness radio objects. The project will also add substantially to a large database of surveys that can be mined as computing capacity continues to increase.

New Members of the Society

We welcome the following new members to the Society:

- Sandra Ollington
- Christopher Bertram

For information about membership please contact the Society's office or visit the Society's website at <http://royalsoc.org.au/membership/membership.htm>

or contact Emma at royalsoc@royalsoc.org.au

We encourage members to introduce new members to the Society.

Royal Society of NSW Ties



Every purchase helps support the Society. Contact the office for an order form. royalsoc@royalsoc.org.au

Paperless Bulletin?

If you have the capability to read the Bulletin digitally please let the Society's office know by emailing Emma at royalsoc@royalsoc.org.au.



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From the President



March has been a busy month! Starting with our monthly meeting, Ray Norris, a senior astrophysicist with the CSIRO, gave some wonderful insights into the extraordinary research programme he is running as one of the first projects of the Square Kilometre Array astronomy programme in Western Australia.

On 14 March, the two Fellows appointed in 2012, Prof Brian Schmidt and Prof the Hon Barry Jones were formally invested by our patron, the Governor, at a ceremony at Government House. We were delighted that our awards advisory panel, consisting of the Deans of Science of the NSW-based universities and chaired by the Chief Scientist and Engineer of NSW were able to attend, together with a number of other distinguished guests.

We have two important events coming up in April:

- first is our **AGM on Wednesday 3 April**, immediately followed by the April monthly meeting. We are delighted this year that Professor **Mike Archer**, one of the Society's Fellows, will deliver the inaugural **Fellows Lecture**. Professor Archer is one of Australia's most distinguished palaeontologists and a particularly interesting speaker. Please make a note to attend this evening – it's important that we have as many people as possible at the AGM that starts at 5:30 pm.

As we expect a an large number of attendees on this evening, **reservations are essential**, should you wish to have dinner afterwards.

On **Friday 19 April**, we have the **annual dinner** at which the Society's 2011 awards will be presented. These are the Clarke medal, to Professor Marilyn Renfree, a distinguished zoologist, the Edgeworth David medal to Dr Margaret Whitaker, a geophysicist and the Royal society of NSW medal to John Hardie.

Planning is also well underway for the Royal Society of NSW forum 2013 that will take place in the Coles

Theatre at the Powerhouse Museum on Thursday 6 June – make sure you put it in your diary!

I look forward to seeing you at the AGM on Wednesday 3 April.



Left to right: Heinrich Hora, Brian Schmidt, Marie Bashir, Barry Jones, Donald Hector

Donald Hector

A note from the Office

You may have seen your membership invoice for 2013 pop into your mailbox.

Please don't hesitate to contact Emma in the office with any enquiry about your membership payment.

Don't forget you need to be a financial member to vote at the AGM!

Emma

Southern Highlands Branch

Report of February Meeting 2013

“Different Depressive and Bipolar Mood Disorders” Delivered by Professor Gordon Parker

Scientia Professor of Psychiatry, University of New South Wales and Executive Director of the Black Dog Institute, Sydney.

Professor Gordon Parker’s address took the form of a short introduction, followed by a long session of discussion questions from the 120 person audience. It was in essence a Depression Forum, clearly enjoyed and appreciated by those attending.

The term “depression” doesn’t really say much in and of itself. Parker made a comparison with the term “breathlessness” which is clearly not a single condition. It could result from running in to see the doctor, climbing a high mountain, and from asthma, pneumonia or a pulmonary embolism, to name a few. Similarly, the term “depression” is used to cover biologically depressive conditions, depressions caused by stress or personality predisposition, bipolar disorders, non-polar mood disorders and many others. Parker does not support use of the word “depression” as if that were all-explanatory of the huge range of conditions that he sees.

Management of the depressive condition is also problematic. If a person has depression Type X and consults a doctor, usually an antidepressant drug will be prescribed. A visit to a psychologist for the same type of depression will very likely result in cognitive behaviour therapy, while a visit to a counsellor will result in counselling as the preferred method of treatment. Parker expresses concern that when the treatment is being more dictated by the background training or discipline of the practitioner, then it is not consistent with a classical medical approach. Medicine would say for example in the case of breathlessness, “Is it asthma or is it a pulmonary embolism or is it pneumonia?” and would rightly in turn give a bronchodilator or an anticoagulant or an antibiotic.

The consequences of using the general term “depression” for a huge range of conditions, and then treatment of these conditions according to the background of the practitioner results in both over-treatment and under-treatment, according to Parker. People who would benefit from medication, having biological disorders, often do not get medication, and conversely people who do not need medication often receive it.

Patients presenting with melancholic depression typically show main symptoms of a loss of ‘light’ in the eyes, inability to get out of bed and impaired concentration. Psychotic depression sufferers have similar symptoms, but also delusions and/or hallucinations. Bi-polar disorders are characterized by mania and melancholy. Of the two types of bi-polar, Type I and Type II, Type II is a ‘lite’ version of Type I. In recent decades, the term bipolar disorder has replaced the older diagnosis of manic-depressive illness, with bipolar I disorder involving alternating states of mania and depression, and bipolar II disorder essentially comprising non-psychotic episodes of hypomania and melancholic depression.

While less symptomatically severe than bipolar I disorder, bipolar II disorder involves comparable impairment levels and suicide risk. Those with a bipolar II disorder experience oscillations (often brief) of mood and energy. In hypomanic phases, individuals feel energised, wired, “buzzy”, playful, creative and often “bullet-proof”. They need less sleep and do not feel tired, and can be verbally and behaviourally indiscreet. They may spend more money, and increased libido can create predictable problems. They often take stimulant drugs or consume alcohol to induce or maintain a high. The depressed state is a mirror-image state of low mood and low energy, associated with a non-reactive, anhedonic and morbid mood, with mood and energy levels generally worse in the mornings, and with “atypical” depressive features of hypersomnia and overeating being common. Bipolar II disorder is far more common than bipolar I disorder, with a 6% risk in adolescents and young adults resulting in high suicide rates.

Professor Parker has published his research widely in journals as well as in his books, “Journeys with the Black Dog”, “Bipolar II Disorder”, “Managing Depression Growing Older” and others. His books on display at the lecture were keenly sought by the enthusiastic audience. It was a very successful evening for the Royal Society, with people responding from a large area of the Southern Highlands and the Illawarra.

A nne Wood

Contact your office bearers

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