THE GLOBAL SIGNIFICANCE OF THE ANTARCTIC

7:00 pm, Monday 15th March 2010
Kings Park Administration Building, off Fraser Ave., Kings Park

Professor Patrick G Quilty AM
Former Chief Scientist, Australian Antarctic Division
Currently School of Earth Sciences, University of Tasmania

The Antarctic continent and surrounding ocean have been under sustained research effort for only some 50 years and the numbers of researchers is small compared with any equivalent area of the earth’s surface. Thus knowledge of the region is relatively minuscule. Nevertheless, the region has assumed global significance scientifically and diplomatically through the development of the Antarctic Treaty System, discovery of springtime stratospheric ozone depletion, the magnetic characteristics of the polar cusp, the record of change contained in the ice-sheet, its role as a source of global deep ocean water, the role of Antarctica as centerpiece of the supercontinent Gondwana, the world’s major repository of meteorites, and as a school for lessons to be learned from resource over-exploitation. Patrick will outline its value in many fields - oceanography, meteorites, monitoring, the idea of planet earth as a closed system, the value of the Antarctic Treaty, the role of evolution of the icesheet as a control on modern functioning of the global system.

Professor Patrick Quilty was ANARE Chief Scientist with the Australian Antarctic Division of the Department of the Environment and Heritage, and is now Honorary Research Professor in Earth Sciences at the University of Tasmania and has been Distinguished Visiting Professor at California State University. He is a geologist, with BSc (Hons.) from the University of Western Australia and PhD from the University of Tasmania. He has worked in academia at the University of Tasmania and at Macquarie University, in industry with West Australian Petroleum (WAPET). He participated in Deep Sea Drilling Project (Leg 34 East Pacific, 1973/74), Ocean Drilling Program (Leg 120, Indian Ocean, 1988; Leg 188, Prydz Bay, Antarctica, 2000) and several other marine geology cruises. Patrick has been a member of the Royal Society of Western Australia for nearly 50 years.
RSWA/ Scitech Christmas function 2009

About 50 people, comprising RSWA members, their families, invited guests, and senior Scitech staff attended the early evening joint RSWA/Scitech Christmas Function at Scitech West Perth on 8th December 2009.

There was a short welcome, introduction and explanation of the role and activities of Scitech by CEO Alan Brien, followed by a short talk by RSWA President Dr Lynne Milne, and then a tour of the extensive activities undertaken by Scitech. As a not-for-profit organisation semi-funded by the State government, Scitech’s aim is to increase interest and participation in science and technology. It does this through development of exhibits, exhibitions and programs that it delivers at its City West premises and across the State through its extensive outreach programs including Aboriginal Education, Science Careers and Roadshow.

Scitech also takes an active role in working with other organisations to raise the profile of science in the State. This includes through taking a leadership role in delivering programs such as National Science Week, Astronomy WA and ScienceNetwork WA. In doing so, it works closely with scientists to help share the science research outcomes with the general public.

The tour through Scitech was followed by refreshments and discussion between RSWA members and Scitech staff. Thanks are due to Alan Brien and Paul Nichols for making the venue available, and such an interesting expose of Scitech, "the Scitech guides” for their enthusiasm in explaining an exhibit to RSWA members, and thanks also to those RSWA Council members who organised the evening, the venue, the catering, and the clean-up.

Nominations For The Medal Of The Royal Society Of Western Australia

Nominations are called for candidates for the Medal of the Royal Society of Western Australia to be awarded in 2010. Nominations should be confidential, and information about the candidate (curriculum vitae and short biography) should be forwarded to the RSWA President Dr Lynne Milne, c/- The Western Australian Museum, Locked Bag 49, Welshpool DC 6096. Applications should reach RSWA before April 30th 2010.

Journal of the Royal Society of Western Australia

EDITOR’S REPORT
February 2010
K Meney
Email address: < rswa_ed@iinet.net.au>

Manuscripts Accepted:

Diatoms in wetlands in south-west of Western Australia: community structure in relation to pH:
E J Thomas & J John

Spatial and temporal variations in the trapped vertebrate fauna of the Hamersley Range, Western Australia:
G G Thompson, S A Thompson, G R Finlayson

Teleosts, agnathans, and macroinvertebrates as bioindicators of ecological health in a Southwestern Australian river:
S J Beatty & D L Morgan

Philosophical perspectives on Evolutionary Theory: A Tapper

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Email: RSWA@museum.wa.gov.au
Phone: 9212 3771
Facsimile: 9212 3882

Online catalogue at:
Burswood Convention Centre,  
Wed. 24th - Friday 26th Nov. 2010

2010 IASP-ASPA Joint Conference on  
Science and Technology Parks.

The theme, highly relevant in today's  
challenging, ever-changing world, is The Asia-  
Pacific Region's Innovation Hot Spots -  
Opportunities for Sustainable Collaboration.

The Western Australian Government, as host, is  
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Physics Around the Country February
This bulletin includes information on:
AIP events across the country,
AIP Women in Physics Lecturer for 2010
International Conference of Nanoscience and Nanotechnology,
Astronomy storybook
Space Science Program – updates,
StatPhys24 - update and extension of early bird deadline,
Registrations for CSIRO ATNF teacher workshops in 2010,
Science prizes,
Physics activities across the country.
More details are available at
<http://www.ausnano.net/iconn2010/>

Across the Himalayas from Kathmandu to Lhasa: geology, scenery and people  
- An illustrated talk by Jenny Bevan

Sun, 21 Feb 2010, 12:30 –  
Woolnough Lecture Theatre, UWA

Jenny Bevan, Senior Curator of the Earth Science Museum at UWA and geologist enjoyed a recent trip by Landcruiser across the Himalayas. She will deliver an illustrated talk which will include highlights of the varied and interesting things she saw on her journey through Nepal and Tibet. She will also include a basic appreciation of the geological history and importance of the Himalayas, the home of the world's highest mountain.

For more information:
Jenny Bevan 64882681
Jenny.Bevan@uwa.edu.au

This event can be viewed on the web at:
http://events.uwa.edu.au/event/20100118T042656Z  
-1359 27196@events.uwa.edu.au/whatson/events

The Royal Society of NSW, in association with Sydney University Press, has released the publication: Archibald Liversidge: Imperial Science under the Southern Cross by Professor Roy Macleod. This is a superb book that details the history of science in early colonial history.

An order form (enclosed) has been provided to invite the Royal Society of Western Australia, and members, to purchase a copy of this publication.
### RSWA Events Calendar 2010

This space will be updated each month in order to provide RSWA members and guests with a calendar of up-coming events which will include ordinary monthly meetings, and special events such as Public Forums, Symposia, and excursions. *Watch this space!*

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Venue</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 15th</td>
<td>7 pm</td>
<td>Kings Park</td>
<td>The global significance of the Antarctic: Prof Pat Quilty</td>
</tr>
<tr>
<td>April 11th</td>
<td>9 am</td>
<td>Cottesloe</td>
<td>Joint RSWA/Naturalist Club Excursion: Modern and Pleistocene rocky shore ecology</td>
</tr>
<tr>
<td>May 17th</td>
<td>7 pm</td>
<td>Kings Park</td>
<td>Dr Patrick Armstrong – launch of RSWA Special Issue on Evolutionary Biology, and talk on Darwin in Australia</td>
</tr>
<tr>
<td>June 21st</td>
<td>7 pm</td>
<td>Scitech</td>
<td>Alec Coles: new CEO of WAM (provisional)– A vision for the Western Australian Museum</td>
</tr>
<tr>
<td>July 19th</td>
<td>7 pm</td>
<td>Woolnough Theatre</td>
<td>AGM and Medal presentation</td>
</tr>
<tr>
<td>August 14-22nd</td>
<td>TBA</td>
<td>Scitech 16th August, Bunbury 18th August, Karratha 20th August, Pt Hedland 21st August</td>
<td>Science Week Event Biodiversity and climate change Biodiversity of Leschenault Peninsula and Inlet Biodiversity in the Pilbara region Mangroves of Port Hedland</td>
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<tr>
<td>September</td>
<td>TBA</td>
<td>TBA</td>
<td>Post-graduate Symposium</td>
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<tr>
<td>October 18th</td>
<td>7 pm</td>
<td>TBA</td>
<td>TBA</td>
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<tr>
<td>November 15th</td>
<td>7 pm</td>
<td>Kings Park</td>
<td>Dr Phil Playford: The Devonian Reef Complexes</td>
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<tr>
<td>December TBA</td>
<td>TBA</td>
<td>Herdsman Lake</td>
<td>Joint RSWA/ Naturalists Club Xmas function</td>
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Emeritus Professor Jack Frederick Loneragan
7 May 1926 to 11 August 2009

By Emeritus Professor Jenny McComb of Murdoch University

Jack Frederick Loneragan was born in Guildford WA and received his secondary schooling at Wesley College. He served with the RAAF as a radar operator in the latter phase of World War II. His first degree was in Botany from the University of Western Australia. He received two prizes and was awarded first class honours in 1950. Supported by a Hackett scholarship and later a CSIRO studentship he and his wife Mona set off for the University of California, Berkley where his research in plant nutrition earned him a PhD, and he formed many international links that were continue throughout his career.

On returning to Australia in 1953 he worked as a research officer, subsequently senior research officer, in the Plant Nutrition Section of the Division of Plant Industry in Canberra. In 1961 he returned to Perth as a Senior Lecturer in Soil Science at the University of WA. There he further consolidated his reputation as a leader in plant nutrition research. He rose to be a Reader and Dean of Agriculture in which role his skills as an administrator were appreciated.

When Murdoch University was established in 1974 he was one of the foundation professors who shaped the philosophy and structure of the Murdoch degrees. Many of the key aspects such as flexibility, delaying specialization, early consolidation of learning skills and interdisciplinary studies were revolutionary at the time and only now being picked up by some other universities. His skills as an administrator were much appreciated and he was twice called on to be Dean of the School of Biological and Environmental Sciences (1974-77 and 1981-1984), and served terms as chairman of the Board of Research and Postgraduate Studies, chairman of the Academic Staff Promotions Committee, was an elected member of Senate, and first elected chairman of Academic Council and Pro-Vice-Chancellor (Academic). In the last year of his Murdoch service he became Pro-Vice-Chancellor (Research) and for 3 1/2 months Acting Vice-Chancellor.

Jack was an innovator in the science of plant nutrition and its applications. He proposed the concept of functional nutrient requirements, developed flowing solution culture systems for studying nutrient uptake at realistic external concentrations, proposed the concept of variable nutrient mobility, developed biochemical indicators of copper deficiency and developed lime pelleting for the establishment of legume pastures on acid soils. The main themes of his research, on which he wrote timely and insightful critical reviews, were: the...
nutrition of symbiotic nitrogen fixation by legumes, especially on acid soils; factors affecting nutrient uptake, particularly micronutrients and cations; nutrient distribution in plants and its relation to phloem mobility; the physiological basis of plant analysis, and; understanding the nature of nutrient interactions. Later in his research career he turned his formidable skills to nutrition of tropical legumes through collaboration with Thailand and made significant contributions to boron nutrition. His research on nutrient distribution and nutrient mobility are the foundation of modern plant analysis which is used throughout agriculture, forestry and horticulture in Australia to manage crop nutrient supply. His work with Alf Anderson on lime pelleting was the basis for the massive expansion of subterranean clover pastures onto acid soils in southern Australia. Throughout the almost 30 years of his career as an academic Jack guided numerous PhD students and mentored many post doctoral fellows in plant nutrition, many of whom went on to become outstanding scientists. Through the international and national network of plant nutritionists that he nurtured, Jack was instrumental in a series of landmark international symposia on copper (1981), manganese (1988), zinc (1993), and boron (1997) in plants and soils. The proceedings from each of these became classic works in plant nutrition. He was a Member of the International Council of Plant Nutrition, serving as its President 1989-93 and hosting the 1993 International Colloquium in Perth, and was the keynote speaker at the 1997 Colloquium held in Tokyo.

After his retirement he became from 1995-2000 WA coordinator of the Crawford Fund for International Agricultural Research. During this period there were 35 trainees and 18 workshops with a total of over 300 participants, a level of activity that has not been equalled.

Jack was one of the first West Australian’s elected to the Australian Academy of Technological Sciences and Engineering, being made a Fellow in 1977. He was also a Fellow of the Australian Institute of Agricultural Science and Technology and received their medal in 1985. He was President, Royal Society of Western Australia (1981-82), awarded the honorary degree of Doctor of the University from Murdoch in 1989, and appointed member of the Order of Australia in 1991. In 1993 Murdoch University asked if the new Biological Sciences building could be named after him, but he insisted that the honour be shared by Mona who ably supported him throughout his career, and worked tirelessly in the early days of Murdoch’s establishment to help new arrivals and their families settle into Perth.

Jack was quietly proud of the achievements of his four children and took great pleasure from the development and activities of his 11 grandchildren. He loved music enjoying singing in choirs, and kept fit playing and coaching hockey, and in later years gardening and golf.
Albert Russell Main, Emeritus Professor of Zoology at The University of Western Australia, had a most distinguished career as a scientist and public figure.

Bert grew up in the Swan Valley with easy access to the then undeveloped bush nearby. Almost every weekend he enjoyed accompanying his grandfather on walks through the bush. Undoubtedly these early experiences prepared the base on which his later interests developed.

Bert began his working life as a clerk in the State Public Service. Before World War II he joined the army reserve and after the outbreak of war moved to the Australian Army. Bored with an Australian-based army life he ‘deserted’ to the RAAF, where his mathematical skills were appreciated, and was trained as a navigator. Transferred to Britain, he became a Warrant Officer Navigator on Lancaster bombers, where he survived several sorties before being shot down over Germany early in 1945. The privations of prison camp life were such that at liberation he weighed only 43 kg.

On returning to Australia Bert matriculated at night school and, in 1947, entered The University of Western Australia. Graduating with First Class Honours in Zoology in 1950, he won a Fullbright Scholarship to the University of Chicago during 1950-51, where his interest in the new science of ecology was further stimulated. On return to UWA, he was appointed Lecturer in Zoology in 1952. In the same year he married Barbara York, well known for her research on spiders.

From the 1950s, Bert conducted and published seminal research on the evolution and ecology of Australian animals. He is probably best known for his work on frogs and marsupials, but his interests and expertise were widely spread, encompassing terrestrial molluscs, reptiles, plants, freshwater fish, crustacea, spiders, insects and many other groups. Indeed, his interests were not so much in particular groups of species as in the whole fauna and flora and their relationships with their environments.

Bert was awarded a Ph.D. in 1956 and became Reader in Zoology in 1961. In 1967 he was appointed to a personal Chair in Zoology at The University of Western Australia, retaining this position until his retirement at the end of 1983. Many honours came in recognition of his contributions to science. These included election as Fellow of the Australian Academy of Science in 1969, the Britannica Australia Award for Science in 1970 (with Professor H. Waring), Honorary Membership of the Royal Society of Western Australia in 1982 and medallist in 1995, Honorary Doctor of Science from the University of Western Australia in 1987, the Ecological Society of Australia Medal in 1988, Fellow of the Australian and New Zealand Association for the Advancement of Science in 1985 and the von Mueller medal in 1990.

In 1981, in recognition of both his public service and his scientific research, Bert was made a Commander in the Civil Division of the Order of the British Empire. Perhaps one of Bert’s greatest contributions to Australian science has been through his students. Many hold or have held positions in Australian and overseas universities, in State conservation departments and in CSIRO.

From his earliest days Bert believed in taking science to the public. He was a member of the Western Australian Naturalists’ Club for many years and was very active in club affairs in the
1950s. His commitment to enthusing others about natural history and ecology is reflected in the publication, in 1954, of two of the early WA Naturalists’ Club Handbooks.

Bert’s first involvement with Government was as a member of the Fauna Protection Advisory Committee (FPAC). He combined his knowledge of ecology with a profound understanding of how Government departments and politicians operate to make numerous effective contributions to the conservation of wildlife. The FPAC, under his guidance, was able to convince Government that the key to wildlife conservation was the reservation of habitat and the number of nature reserves began to grow.

In 1958, the Australian Academy of Science, concerned that Australia was not taking adequate steps to create National Parks and Nature Reserves, set up a National Parks Committee. Bert became a driving force in the Western Australian Sub-Committee. Many of the areas recommended for reservation as a result of its 1962 report are now some of the State's best known national parks and nature reserves – Prince Regent Nature Reserve, Karajini (Hamersley Range) National Park, Great Victoria Desert Nature Reserve, Nuytsland Nature Reserve and Drysdale River National Park.

In 1968, the FPAC was replaced by the Western Australian Wildlife Authority and Bert became a founding member, continuing in this role until the Authority was superseded under the Conservation and Land Management Act in 1985. Bert's reputation on the FPAC and Wildlife Authority led to other appointments: he became a member at its inception of the Western Fisheries Research Committee, and was also a member of the Zoological Gardens Board (President 1979 to 1985), and a member of the National Parks Authority (President 1980 to 1985). He served several years on the Council of the Australian Institute of Marine Science in Townsville and was a member of the Australian Universities Commission (1971 – 1977).

Western Australians probably owe their greatest debt to Bert for his work on the Environmental Protection Authority (EPA). He was a member of the Authority from its creation in 1972, becoming Deputy Chairman in 1981 and Chairman from 1982 until his retirement in 1985. One of the EPA's first decisions was to set up a Conservation Through Reserves Committee. Protected areas that resulted from the CTRC Reports include Rudall River, Peak Charles, D'Entrecasteaux, Shannon and Millstream-Chichester National Parks, Ningaloo Marine Park and the enlargement of the Leeuwin-Naturaliste National Park.

His retirement was far from inactive and he continued to conduct and publish research, and write review papers and conference contributions covering a wide range of subjects. His love of field work was unabated: in 1988 he participated in an expedition to document the biota of rainforests in the Kimberley, helping Barbara collect spiders and writing the foreword to the resulting book. Field work continued to the turn of the century and one of his last publications (in 2002) concerned a moth in the wheatbelt and its association with fire.

Bert is survived by Barbara and their three children Rebecca, Gilbert and Monica, and three grandchildren Eleanor, Marjorie and Harold.

Andrew Burbidge
This superb book is being published by the Royal Society of New South Wales and Sydney University Press. The price is $59.95AUD collected, or $72AUD* including postage. Collections can be organised by appointment from the office of the Society- telephone: 02 9036 5282.

(*postage within Australia only- please see below for international postage)

Further details and order forms are available at: http://nsw.royalsoc.org.au/books/

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Imperial Science under the Southern Cross

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The Antarctic region has assumed global significance both scientifically and diplomatically, Patrick will outline its value in many scientific fields including oceanography, ozone depletion, meteorites, and planet Earth as a closed system.

FREE event, and no need to RSVP
Members and non-members welcome.

Visit the Royal Society of WA Website at http://www.rswa.org.au