



**THE INSTITUTE FOR ADVANCED STUDY
at
LA TROBE UNIVERSITY, BUNDOORA**



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<http://www.latrobe.edu.au/ias/>

THE INSTITUTE

The overall aim of the Institute for Advanced Study [IAS] at La Trobe University is to enhance further the reputation and standing of the University as a major research institution – a place to which student and staff of the highest calibre are drawn.

To achieve this, the IAS brings to La Trobe University outstanding scholars who are leaders in their discipline and at the cutting edge of research. By encouraging productive interactions between these scholars, staff, and post graduate students, the climate for research is strengthened, as is the profile of the university as a major institution dedicated to the advancement of learning and research. Support for post graduate students is also offered in other ways, including the Institute for Advanced Study Postgraduate Writing-Up Awards [IASPWA] and Showcasing the Future series.

DIRECTOR'S REPORT 2005

It is a pleasure to present the annual report for the Institute for Advanced Study [IAS] for 2005.



Major activities for the year are presented below.

IAS Fellows and IAS Distinguished Fellows

The following Fellows spent time at the Institute during 2005:

Professor Ruth Beyth-Marom
Fellow

*Professor of Education and Psychology, the Open University of Israel, Israel.
Fellowship continues into 2006*

Professor Shirley Brice-Heath
Distinguished Fellow

Professor-at-large, Department of Education and Anthropology, Brown University, USA

Professor Gerrit Dimmendaal
Distinguished Fellow

*Professor of Afrikanistik (African languages and cultures), University of Cologne, Germany
Fellowship continues into 2006*

Professor Jan Ekman
Fellow

Professor and Chair of Population Biology, University of Uppsala, Sweden

Professor Peter Fearon
Distinguished Fellow

Professor of American Economic History and Director of the Centre of American Studies (and formerly Pro Vice-chancellor) at the University of Leicester, Leicester, UK

Professor George Grätzer
Distinguished Fellow

Professor of Mathematics, University of Manitoba, Canada

Professor Jian Leping
Fellow

Professor of Archaeology, Zhejiang Provincial Institute of Relics and Archaeology in Hangzhou, China.

Professor Volker Loeschcke
Distinguished Fellow

Professor and Chair of Evolutionary Genetics, Department of Ecology and Genetics, University of Aarhus, Denmark

Dr Richard McKnight
Fellow

Senior lecturer in the Department of Biochemistry, University of Otago, New Zealand.

Dr Boria Majumdar
Fellow

Editor-International Journal of the History of Sport and Author of Twenty-Two Yards to Freedom: A Social History of Indian Cricket.

Professor Ann Matthysee
Distinguished Fellow

Professor of Biology at the University of North Carolina at Chapel Hill USA

Professor Lisa Merrill
Fellow

Professor of Performance History, Gender, and American Studies, Department of Speech Communication, Hofstra University, New York USA

Professor Nariaki Nakazato
Distinguished Fellow

*Professor of History, Institute for Oriental Culture, University of Toyko, Japan
Fellowship continues into 2006*

Dr Sandy Oliver
Fellow

Reader in Public Policy, Deputy Director, Social Science Research Unit, Institute of Education, University of London, UK

Professor Shulamit Ramon
Distinguished Fellow

Professor of Inter-professional Health and Social Studies Anglia Polytechnic University, Cambridge, UK

Professor Michael Shott
Fellow

Professor of Archaeology University of Northern Iowa, USA.

Professor Henry Weiner
Distinguished Fellow

Professor of Biochemistry, Purdue University, Lafayette, Indiana USA

In addition to working on their own research, these scholars worked productively with staff and higher degree students at the university.

Seminars by IAS Fellows' and Distinguished Fellows' held in the IAS 2005

Summaries

PROFESSOR SHIRLEY BRICE-HEATH



Professor Shirley Brice-Heath
Professor-at-large, Department of Education & Anthropology
Brown University, USA

September –October 2005

Vision, Language, and Learning: A Post-industrial Perspective on Multiple Literacies, Social Entrepreneurship, and Youth

Post-industrial societies share societal changes that have come rapidly in the past four decades: demographic changes, movement of women into the workforce, shifts in employer needs, and overloads of consumer and communicational choices. Core institutions—religious, familial, educational, judicial, and governmental—have not been able to keep up with what these changes have meant for children and youth. This presentation will examine changes in family socialization patterns that keenly affect later language development, visual focus, attention maintenance, and interactions with multiple media. Some hopeful niches of adaptation by older children and adolescents themselves will be demonstrated in two short documentary films that detail the social entrepreneurial work of young people whose goals center on environmental and community sustainability.

PROFESSOR JAN EKMAN



**Professor Jan Ekman
Professor and chair of Population Biology
University of Uppsala, Sweden**

June 2004 – April 2005

Out of Australia; the songbird origin and their family life

Songbirds trace their origin to the Australian part of the ancient Gondwanaland continent on the southern hemisphere. Australian songbirds to a large degree breed in cooperative families with more than two birds attending the nest, while cooperative breeding is rare in songbird lineages that emigrated about 30 million years ago and now have their main distribution on the northern hemisphere. I have tested if this geographical distribution of cooperative breeding reflects a response to latitude, using a phylogenetic analysis of how the breeding system correlates with distribution among the corvids (crows, jays, magpies and allied groups). The breeding system is clearly linked to latitude and its paucity on the northern hemisphere represents a response to ecological conditions. I could corroborate previous analyses identifying cooperative breeding as the ancestral state of the breeding system among corvids and thus excluded evolutionary inertia as a cause for its paucity on the northern hemisphere. The background to the loss of cooperative breeding is complex and differs between species indicating that they have responded to different selection forces.

PROFESSOR PETER FEARON



**Professor Peter Fearon
Professor of American Economic History and
Director of the Centre of American Studies
University of Leicester, UK**

October – December 2005

Presented the Bailyn Lecture for 2005

PROFESSOR GEORGE GRÄTZER



**Professor George Grätzer
Professor of Mathematics
University of Manitoba, Canada**

April – June 2005

Presented a Public Lecture “Should we Convey Mathematical Ideas in Publication?” after the Conferring Ceremony, Doctor of Science (honoris causa)

PROFESSOR JIAN LEPING



Professor Jian Leping
Professor of Archaeology
Zhejiang Provincial Institute of Relics and
Archaeology in Hangzhou, China

Origins of agriculture and sedentism – New discovery of two Neolithic sites in the Southeast coast of China

Shangshan and Kuahuqiao are early Neolithic sites recently discovered in the lower Yangzi River area near the southeast coast of China.

The Shangshan site dates to c. 10,000 BP. We have discovered many pottery and stone objects, and a house foundation composed of three layers of postholes. The stone artefacts are dominated by chipped tools, but also include a small number of ground tools. This is a characteristic of transition from Paleolithic to Neolithic technology. The most important finds are rice grains and leaves embedded in pottery pastes, identified as domesticated species. Shangshan is the earliest agricultural sedentary site in an open-air environment in China.

The Kuahuqiao site dates to 800-7000 BP. Recent excavations yielded large quantities of archaeological remains relating to agriculture, hunting, gathering and sedentism. These include symbols painted on pottery and carved on wooden objects, boiled 'herb medicine', glue used for mending pottery, wooden bowls, wooden ladders, and canoes. The site was located near the coast, and appears to have been destroyed by marine transgression. This environmental change raises important research questions on the relationship between early Neolithic culture and sea level change in the coastal area of southern China.

PROFESSOR VOLKER LOESCHCKE



Professor Volker Loeschcke
Professor and Chair of Evolutionary Genetics
University of Aarhus, Denmark

January – March 2005

Getting to the root of bacterial-plant interactions: bacteria in the rhizosphere.

Many different kinds of bacteria associate with the roots of plants. The bacteria may derive nutrition from the plant. Many of them also provide advantageous materials to the plant: They may aid in the uptake of minerals, they may make plant hormones and stimulate plant growth, in a symbiotic interaction with the plant they may convert atmospheric nitrogen gas to ammonia usable by the plant, they may make antibacterial and fungal compounds to help the plant fight disease, or they may simply occupy a site (niche) which would otherwise be accessible to a pathogen. Some bacteria may interact with the plant without conferring any benefit or detrimental effect to the plant as far as we know. These include some human pathogens which cause food poisoning. Other bacteria are pathogenic to the plant and may cause tumours or rotting diseases.

The seminar will consider some of these interactions and examine the mechanisms involved. Particular attention will be paid to the role of polysaccharides (molecules made of strings of sugars) in the recognition of, and binding to, the plant by the bacteria.

DR RICHARD MCKNIGHT



Dr Richard McKnight
Senior lecturer in the Department of Biochemistry
University of Otago, New Zealand

January – June 2005

How do plants know when to flower?

How various genes function to control the flowering time of *Arabidopsis thaliana* and ryegrass is illustrated in this seminar.

DR BORIA MAJUMDAR



Dr Boria Majumdar
Editor-International Journal of the History of Sport

August – September 2005

When North-South Fight-The Nation is out of Sight.: The politics of sport in post-colonial India.

By the early 1970s in India, the Southern states had emerged as major players in the nations' political scene. Central to this ascendancy was the success of the DMK (a South Indian political party) in the General Elections of 1967. Yet, when it came to sport, and in the case of the countries' leading international sport, hockey, the South was still subservient to the stranglehold exerted by the north. As a result, Southern sports administrators were soon determined to challenge the well entrenched northern supremacy even if that entailed the sacrificing of national interest in the long run. In the fight with the North for the control of Indian hockey, the South Block led by MAM Ramaswamy enlisted the support of the International Hockey Federation. In doing so, they pre-empted possibilities of a strong Indian protest when the shift to artificial turf was proposed in the mid 1970s. As a close ally of the International Hockey Federation and its President, Rene Frank, MAM Ramaswamy, having assumed Presidency of the Indian Federation in 1975, had little choice but to offer tacit consent in the move to Astroturf. A fight for supremacy between the North and the South Blocks, this presentation will demonstrate, was at the root of the Indian apathy to stem the move to Astroturf, central to the subsequent decline of Indian hockey. It follows that more than the shift to Astroturf, it was regional power play provoked by the peculiar nature of sport as a cultural practice that resulted in the disappearance of hockey from its position of centrality in the Indian sporting scenario.

PROFESSOR ANN MATTHYSEE



Professor Ann Matthysee
Professor of Biology
University of North Carolina
at Chapel Hill, USA

February - July 2005

Getting to the root of bacterial-plant interactions: bacteria in the rhizosphere.

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plant they may convert atmospheric nitrogen gas to ammonia usable by the plant, they may make antibacterial and fungal compounds to help the plant fight disease, or they may simply occupy a site (niche) which would otherwise be accessible to a pathogen. Some bacteria may interact with the plant without conferring any benefit or detrimental effect to the plant as far as we know. These include some human pathogens which cause food poisoning. Other bacteria are pathogenic to the plant and may cause tumours or rotting diseases.

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PROFESSOR LISA MERRILL



Professor Lisa Merrill
Department of Speech Communication
Hofstra University
New York, USA.

February - April 2005

Spectatorship and the Reading of Nineteenth-Century Bodies

Nineteenth-century discourses of phrenology, physiognomy, and the development of photography shaped and changed perceptions of theatrical performers and other celebrated personages in the United States and Britain at the same time that images of celebrated persons were deployed to buttress pseudoscientific “truth claims” about race, gender, sexuality, and nationality. Examining how these “ways of seeing” contributed to historically specific spectatorial practices, Professor Merrill will focus on theatrical portraits as complex sites of disguise and display in which iconic notions of nineteenth century bodies were represented and contested

DR SANDY OLIVER



Dr Sandy Oliver
Reader in Public Policy
Deputy Director
Social Science Research Unit
Institute of Education
University of London UK

October - December 2005

Evidence-informed health care, action research and patient/ public empowerment

Three social movements sharing a common purpose of improving public health have evolved in very different ways: evidence-informed health care; practitioner-led action research; and patient/ public participation in research, policy and personal decision making. All three challenge conventional authority and aim to empower individuals; yet they all attract considerable criticism from each others’ proponents.

Sandy Oliver will consider what she sees as key characteristics of these three movements and how they challenge and complement each other. She will reflect on her own experience of national research programmes, conducting systematic literature reviews, and national policy implementation to explore the value of these three movements and how, if used in a mutually supportive way, they can maximise the rigour and relevance of research and lead to national policies that are evidence-informed and sensitive to people’s diverse circumstances.

PROFESSOR SHULAMIT RAMON



Professor Sulamit Ramon
Professor of Inter-professional Health and Social Studies
Anglia Polytechnic University
Cambridge UK

July – August 2005

Consumer/user participation in social work education and research

Consumers active participation in education and research is a major challenge for anyone interested in promoting social inclusion and in preventing social exclusion.

It is particularly a challenge for the helping professions, such as social work, nursing, occupational therapy, psychiatry, clinical and educational psychology as the values base of these professions has incorporated the ideal of a genuine partnership between professionals and their clients. Such a partnership calls for an active part to be taken up by all partners, and for the recognition of strengths in the service consumer which entails a move away from the traditional portrayal of the user as a bundle of weaknesses.

Prof. Ramon will look at the recent systematic attempt in British social work education to engage and involve service users and their informal carers in the teaching of the new three year degree in social work, in place since September 2003. She will demonstrate through the project in operation at her own faculty which has been systematically evaluated over the last two years what are the advantages and disadvantages of such an approach, its highs and lows, the views that students, faculty members, users and carers have of this project to date.

She will also share with the seminar participants the not less challenging attempts to involve service consumers as researchers in both social work and mental health, the strengths and weaknesses of this bold step, the necessary conditions for its success, and what can be learned from such participatory projects thus far.

PROFESSOR MICHAEL SHOTT



Professor Michael Shott
Professor of Archaeology
University of Northern Iowa, USA

June - July 2005

Technology and Reduction in Stone-tool Analysis

Australia's is the third Western tradition of lithic analysis, its origin and nature owing mostly to European Paleolithic practice. In recent years, the typological thought that dominated all for decades or longer gave way to two somewhat distinct approaches: technological and reduction analyses. The first draws attention to lithic assemblages in their entirety, not just the formal tools they contained. It concerns how formal tools were made but also the use of flake and core tools, and how technological modes relate to broader cultural context. In the study of hunter-gatherers, that context mostly involves land-use patterns and the nature of work performed with stone, although it needn't be so restricted. The second approach demonstrates that some formal tools, recognized by recurring modes in size, shape and retouch pattern, were not desired products fashioned before use, merely by-products of use.

Because Professor Shott's current research involves reduction analysis, mostly he will discuss that approach. Professor Shott will try to summarize major developments in North American reduction analysis, even if they do not always involve North American assemblages. But reduction analyses are more than just cautionary tales that merely tell us we didn't know what we thought we knew (i.e., that some tool types aren't formal or valid). They provide their own form of positive knowledge, of both rates of curation and the systematic factors that govern how the archaeological record formed.

The common challenge now is to integrate technological and reduction approaches, even if the Koongine assemblage defeated his poor first efforts. Australian practice is at the forefront of some technological analyses that Americans and others should emulate, yet even Australians might consider how better to characterize lithic assemblages in technological terms. All of us might consider how to analyse and explain, not merely describe, pattern and degree of reduction. Then the separate strands of modern lithic analysis--technology and reduction--can be joined to improve our understanding of a past revealed in large measure by stone tools.

PROFESSOR HENRY WEINER



Professor Henry Weiner
Professor of Biochemistry
Purdue University
Lafayette, Indiana USA

January - July 2005

An Enzymologist's approach to protect the Cell from the Cytotoxic effects of a Cyclophosphamide Chemotherapeutic Agent.

A commonly used cyclophosphamide drug is converted in the cell to an aldehyde-mustard that can bind to DNA and lead to the death of the tumor cell. Unfortunately, the compound will also enter bone marrow cells and since these cells do not have aldehyde dehydrogenase activity they are not protected from the cytotoxic effects of the drug as are cells that have the enzyme. Our goal is to make human aldehyde dehydrogenase become a better enzyme so that it will have the ability to rapidly destroy the compound in marrow before it binds to the bone marrow's DNA.

We have yet to accomplish this lofty goal, but we have learned a great deal about human aldehyde dehydrogenase and have found ways to change some of its properties. I will discuss work going on in my laboratory at Purdue University where we are using a mutational approach to generate enzymes with altered properties as we search for a "better enzyme".

Evaluation and feedback

On completion of the IAS Fellowship, Fellows submit a brief report to describe their activities during their stay at the University. Thus Fellows' feedback has been obtained since the inception of the scheme.

The first evaluation of the scheme from the nominators' perspective was carried out at the end of 2003 and repeated at the end of 2005. Feedback provided included:

- Ongoing research collaborations
- Increased publication output
- Strengthening of international links – research and collaborations; visits from other scholars facilitated/inspired by Fellows' positive reports
- Joint submission of research applications
- Exchange visits (both to and from La Trobe University) for staff, graduate students and postdoctoral fellows
- Post doctoral position for La Trobe University graduate at Fellow's institutions
- Availability of specialized (research) assistance to students and staff
- Access to research expertise not otherwise available in the Department
- Improved communications and exchange of research techniques and findings
- New contacts for staff and students
- Cutting edge seminars for staff, students, and the wider academic community
- Commissioning of new publications for staff from this university
- Return visits by Fellows (not at the expense of this university)
- Ongoing collaborations well beyond the tenure of the Fellowship

Inspection of the detailed reports confirms that most Schools/Departments gained considerable immediate and on-going benefits from the visits. However, in some cases more careful planning - e.g., in terms timing of seminar(s), timely interactions with other staff and with post graduate students, visit(s) to regional campus(es), and follow-up activities - would have yielded further benefits.

The Research Centre for Linguistic Typology [RCLT]

For details of the activities of the RCLT see <http://www.latrobe.edu.au/rclt/Newsletters/2006.pdf>

IAS Administration Building Seminars, Workshops and Special Function in 2005



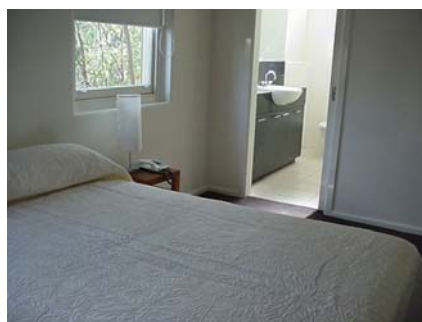
Well over 100 Seminars/Workshops/Meetings were held in the IAS during 2005. For the majority, the IAS facilities were used on a fee recovery basis. Special functions included:

- Conferring Ceremony, Doctor of Science (honoris causa) on Professor George Grätzer, Mathematician, University of Manitoba, Canada and IAS Distinguished Fellow
- Baily Lecture given by Professor Peter Fearon, Historian, University of Leicester, UK, and IAS Distinguished Fellow
- Seminar by Professor David Vaux, Federation Fellow, “Cell Death Research – Past, Present, Future” presented by the IAS together with the Department of Biochemistry.
- Show Casing The Future - Conference for Microbiology
- Seminar by Professor Keith Nugent, Federation fellow, University of Melbourne, - “The Marriage of physics and biology: will the double helix be an only child?” presented by the IAS together with CXS ARC Centre of Excellence in Coherent X-Ray Science.

It is noteworthy that each of the special functions attracted support beyond that offered by the IAS.

La Trobe House

Occupancy rates at La Trobe House continue to be satisfactory, with demand at times well exceeding availability. The refurbishment of the 3 bedroom apartment into one 2 bedroom and one 1 bedroom apartment has increased the number of apartments available for use by IAS Distinguished Fellows/Fellows, and – when available - by others connected to the University. La Trobe House now comprises three 2 bedroom apartments and three 1 bedroom apartments.



The Housing Limited continued to manage La Trobe House – an arrangement which proved mostly satisfactory.

Other developments

The Institute for Advanced Study Postgraduate Writing-Up Awards [IASPWA]

This scheme is designed to support doctoral candidates who, having submitted their thesis, wish to write up some of their research findings for publication while they await the result of their examination. The award is competitive and targeted at La Trobe University research degree candidates whose thesis is under examination. Five IASPWA have been awarded at the time of writing, with three more calls for applications envisaged for 2006.

New Board

Plans to enlarge the IAS Board are expected to be put in place early in 2006.

Nomination form

A copy of the nomination form for IAS Fellows and IAS Distinguished Fellows is attached to this report (see Appendix A). The form can be downloaded from the IAS Website.

A final comment

The IAS Fellows have invariably expressed their grateful thanks for the support and help provided by the Executive Officer, Julia Anderson. I, too, want to express my appreciation to Julia for her unfailing support and flexibility in carrying out an increasingly diverse range of tasks. The growth in the use of facilities in the IAS by groups within and outside the university has more than justified conversion of her appointment to full time. Julia's meticulous attention to details has been critical for the smooth functioning of activities in the IAS.



Gilah Leder (Director)
March 2006

NOMINATION FOR IAS DISTINGUISHED FELLOWS

The program for IAS Distinguished Fellows is designed to bring to La Trobe University outstanding scholars who are leaders in their discipline and at the cutting edge of research. In addition to working on their own project, Fellows are expected to interact with staff and post graduate students from the university, and thus promote research and learning at the highest levels. There are two categories of Fellows: IAS Distinguished Fellow and IAS Fellow

Normal tenure: 2 to 6 months

An IAS Distinguished Fellow is normally eligible for

- ❖ Office with appropriate facilities in the IAS administration building.
- ❖ Reimbursement of travel costs (economy return airfare)
- ❖ Accommodation at La Trobe House, subject to availability
- ❖ Medical insurance (if needed)

An IAS Fellow is normally eligible for

- ❖ Office with appropriate facilities in the IAS administration building.
- ❖ Reimbursement of travel costs (economy return airfare)
- ❖ Medical insurance (if needed)

Nominations should include the following

- ❖ A full Curriculum Vitae for the proposed Fellow
- ❖ Name and address details of two referees
- ❖ The preferred length and timing of the visit (determined after informal consultations with the proposed Fellow)
- ❖ (1) A brief outline of the project to be undertaken by the Fellow, (2) whether this work falls within one of the university's research strengths, (3) an indication of the consultative /collaborative work to be undertaken, and (4) a short description of the research project in language available to an informed lay reader
- ❖ Support for the visit from other individuals or groups (optional)

Expectations of IAS Distinguished Fellows and IAS Fellows

- ❖ Presence at La Trobe University during the working visit
- ❖ Delivery of at least one lecture or seminar for a more general audience, on behalf of the Institute for Advanced Study and in the IAS building
- ❖ Completion of, or substantial progress on, Fellow's own project – with appropriate acknowledgement to the IAS in publications and presentations resulting from this project
- ❖ A consultative/collaborative contribution to the relevant department or school's research activities
- ❖ Participation in the relevant department or school's seminar program
- ❖ On completion of the visit: Submission of a report of activities undertaken and publications produced during the visit, with subsequent updates if appropriate

Nominator's responsibilities

- ❖ Meet Fellows at the airport or arrange transportation to and from La Trobe University, Bundoora
- ❖ Ensure key availability for the La Trobe House apartment (if applicable)
- ❖ Inform interested staff (including staff on regional campuses) of the Fellow's visit and relevant activities

For further information contact Professor Gilah Leder or Julia Anderson
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