

THE CENTRE OF CLINICAL RESEARCH EXCELLENCE IN NEUROSCIENCES

The Centre of Clinical Research Excellence in Neurosciences is an NHMRC-funded national research centre based at Austin Health in Melbourne. It focuses on innovative patient-centred research into stroke, epilepsy and other neurological disorders.

A new clinical research model has been developed, which integrates the entire spectrum of health disciplines from medicine to nursing and allied health, together with basic science disciplines, ultimately leading to high quality research and improved efficiency in translation of findings. The Centre provides a dynamic multi-disciplinary clinical research environment with a strong focus on training and research career development. It is at the forefront of clinical research education and training in Clinical Neuroscience.

Established in 2003, the Centre is headed by a multi-disciplinary team of chief investigators under the leadership of Professor Geoff Donnan, Director of the National Stroke Research Institute; Professor Sam Berkovic, Director of the Epilepsy Research Centre; Professor Mary Galea, Director of the Rehabilitation Sciences Research Centre; and Professor Judy Parker, former Head of the School of Nursing at The University of Melbourne. The Centre is administered by the Department of Medicine Austin Health, The University of Melbourne.

FOR MORE INFORMATION CONTACT

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www.soe.unimelb.edu.au/clinicalresearch
www.soe.unimelb.edu.au/neuroscience

Clinical Research

Key Dates for 2006 and 2007

Ethics and Responsibilities of Clinical Research:
October 6 & 7 and November 3 & 4 2006

Immunisation Clinical Research:
October 16, 17, 19, 20, 2006

Infectious Diseases Clinical Research:
November 10 & 11 and December 8 & 9 2006

Clinical Research Context and Practices:
February 16 & 17 and March 16 & 17 2007

Clinical Neuroscience Research, Methodology and Disease Applications (Part 1):
March 19, 20, 22 and 23 2007

Biomedical Research Management (Part 1):
April 16, 17, 19, 20 2007 (TBC)

Managing Clinical Research Projects & Teams:
April 30, May 1 & May 3, 4 2007

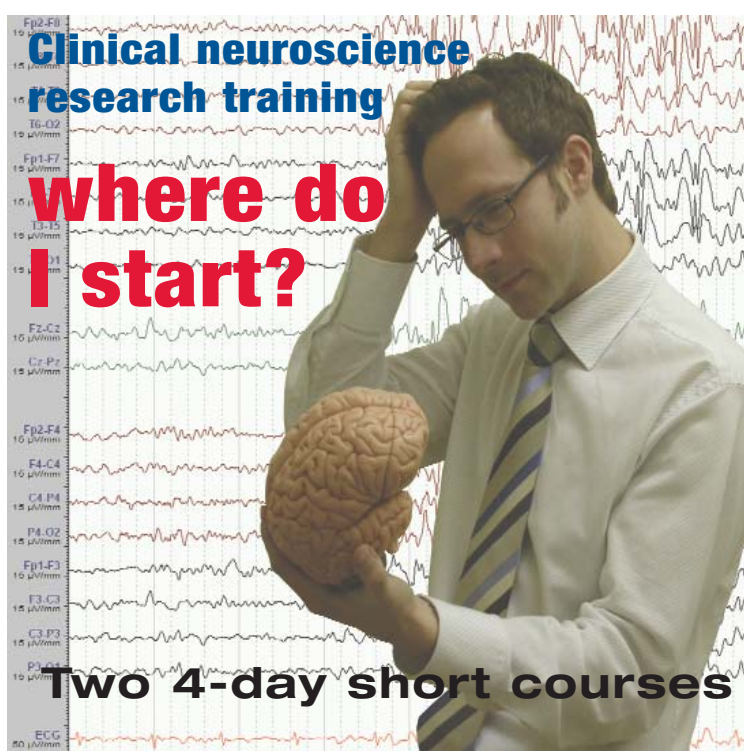
Biomedical Research Management (Part 2):
May 21, 22, 24, 25 2007 (TBC)

Basic Clinical Research Tools:
June 1, 2 and 29, 30 2007

Clinical Neuroscience Research, Methodology and Disease Applications (Part 2):
August 20, 21, 22 and 24 2007

Clinical Oncology Research (Part 1):
August 20, 21, 22 and 24 2007

Clinical Oncology Research (Part 2):
October 22, 23, 24 & 26 2007



Clinical neuroscience research training where do I start?

Two 4-day short courses

As a clinician in neuroscience you now have the opportunity for formal training in clinical research.

The new Specialist Certificate, led by Professor Sam Berkovic, draws on the dynamic multi-disciplinary expertise of the NHMRC funded Centre of Clinical Research Excellence (CCRE) in Neurosciences.

Part 1: Clinical Neuroscience Research Methodology and Disease Applications: March 19, 20, 22 and 23 2007

Part 2: Clinical Neuroscience Research Methodology and Disease Applications: August 20, 21, 22 and 24 2007

These are a full fee-paying award courses (GST is applicable if attended as non-award courses).

Places are strictly limited to a maximum of 20. Contact us to register your interest in a place for 2007

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THE UNIVERSITY OF MELBOURNE

2006

School of Enterprise
Bulletin

Neurosciences Special Edition >

Experts spell out need to nurture clinical research By Rebecca Scott

World experts in epilepsy, peptic ulcer disease and malaria met at the University of Melbourne's Bio21 Molecular Science and Biotechnology Institute recently for a Melbourne School of Enterprise symposium on Nurturing Clinical Research in Australia.

The symposium was held as part of a new Graduate Programs in Clinical Research qualification offered by the University - the Specialist Certificate in Clinical Research (Neuroscience), by which graduates can gain accreditation to the Master of Clinical Research.

Governor of Victoria Professor David de Kretser presented the symposium's keynote address - Nurturing Clinical Research: Issues and Examples. Guest speakers included Nobel Laureate Professor Barry Marshall; Professor Sam Berkovic, Head of the University of Melbourne's Epilepsy Research Centre; Professor Graham Brown, Head of Medicine at the Royal Melbourne Hospital; and Professor James Best, Deputy Dean, Faculty of Medicine.

Professor Berkovic, Coordinator of the Graduate Programs in Clinical Research, says they offer a unique postgraduate medical professional development experience which integrates teaching by experts with intensive delivery designed to suit busy professionals.

He says Melbourne leads the way in providing up-to-date, specialised training for medical professionals, which will ultimately improve translational research "from laboratory to bedside".

"When Australian doctors return to the country after gaining overseas experience, they can find a less than nurturing environment to enhance their specialist skills. We hope to address this issue and inspire the next generation of clinical scientists," he says.

A graduate student of the Specialist Certificate in Clinical Research (Neuroscience) Dr Saul Mullen, reports the course provided him with the opportunity to focus on neuroscience research methods.

"Functional MRI is becoming a dominant force in the future of clinical neuroscience research and knowledge of this technique is essential," he says.

The University of Melbourne's School of Enterprise is a multidisciplinary provider of consultancy and professional education services for and in partnership with government and corporate clients.



Graduate program: Graduate student of the new Specialist Certificate in Clinical Research (Neuroscience) Dr Saul Mullen (centre) with Melbourne School of Enterprise symposium speaker (from left) Professor Barry Marshall, Professor Graham Brown, Professor Sam Berkovic, and State Governor Professor David de Kretser. The focus of attention was Professor Marshall's Nobel Prize medallion. Photo: Mark Wilson.

New training in Clinical Research in Neurosciences successfully delivered

In late August, a capacity group of clinical research professionals and students were welcomed to the Austin Repatriation Campus for Part 2 of the Clinical Neuroscience Research: Methodology and Disease Applications course. Nineteen leading presenters in all, including researchers from the Brain Research Institute, the Epilepsy Research Centre, and the Department of Nuclear Medicine & Centre for PET at the Austin Hospital, the School of Behavioural Science at the University of Melbourne, the Melbourne Neuropsychiatry Centre, the Van Cleeef Roet Centre for Nervous Disease at the Alfred Hospital, and the Royal Children's Hospital took part in delivering the program.

Read more inside.



NEUROSCIENCES

Centre of Clinical Research Excellence

The Neuroscience short courses (Parts 1 and 2) were developed by the Centre of Clinical Research Excellence (CCRE) in Neurosciences, under the academic leadership of Professor Sam Berkovic. Both courses, taken with assessment, form the Specialist Certificate in Clinical Research (Neuroscience), which can be taken either as a stand alone or as elective in the Master of Clinical Research (by coursework or research) or the Graduate Diploma in Clinical Research. These courses are offered by the University of Melbourne's School of Enterprise in conjunction with the Faculty of Medicine, Dentistry and Health Sciences.

Neurosciences Research Methodology and Disease Applications Part 1

DAY 1

- Subject overview and participant introductions, Sam Berkovic
- Frontiers in clinical neuroscience research, Fred Mendelsohn
- Epilepsy: The current clinical research questions, Sam Berkovic
- Genetics in clinical neurological research, Sam Berkovic
- Interface of basic science with clinical research, Steven Petrou
- Clinical Neuropharmacology Research Methodology, Frank Vajda
- Group presentation information for all participants (award course & non-award short courses) and assessment 1 information: critical appraisal of a paper.

DAY 2

- Multiple Sclerosis: The current clinical research questions, Trevor Kilpatrick
- Neuro - rehabilitation research methodology, Mary Galea
- Human brain development: recent clinical research approaches, Richard Leventer
- Neuroplasticity and neurotrophic factors: experimental research questions, David Howells
- Of mice and men: meta-analysis and the interplay of basic and clinical research, David Howells
- Group work (all participants) and assessment 2 information: literature review.

DAY 3

Optional 'hands-on' computer tutorials @ Austin campus:
Searching electronic databases and Endnote referencing

DAY 4

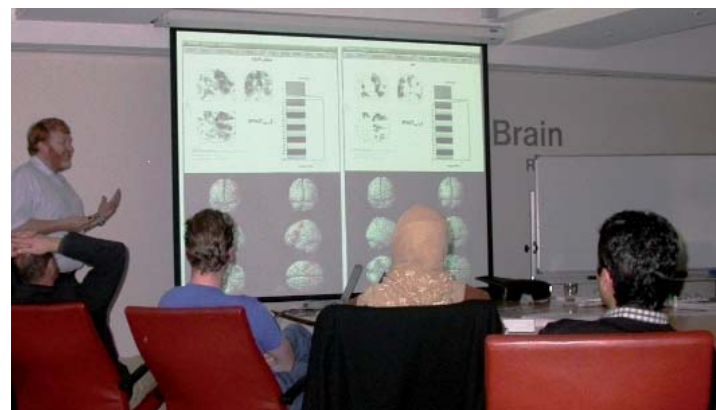
- Stroke: The current clinical research questions, Geoff Donnan
- Clinical trials methods - Part 1, Geoff Donnan
- Clinical trials methods - Part 2, Geoff Donnan
- An introduction to health economics, Helen Dewey
- Neuro-epidemiology: disease burden and measures, Helen Dewey
- Neuro-epidemiology: study types, Helen Dewey
- Neuro-epidemiology: disease causation and prevention, Helen Dewey
- Group work

DAY 5

- Translating clinical research findings into practice, Dominique Cadilhac
- Research methods of neuromuscular disorders, Richard Macdonell
- Clinical research applications of TMS/EMG, Richard Macdonell
- Group Presentations (20+10 min. discussion) - Groups 1,2,3, Sam Berkovic
- Group Presentations (continued)- Groups 4,5,6, Sam Berkovic
- General discussion + assignment questions, Sam Berkovic

"The course has exposed me to some of the best neuroscience researchers in the country. There is an excellent overview of cutting edge research in areas of epilepsy, stroke, neuroimaging. The opportunities to meet with a range of students from different areas of health background have provided interesting interaction of experience and ideas. The concept of multidisciplinary collaboration in clinical research is very appealing."

CL, Rehabilitation Physician



Graeme Jackson lecture

Participants were enthused by the great overviews of current clinical (and basic) research questions, complex methodologies made simple, discussions on how to switch between clinical and basic science, the insights into building effective research collaborations and the common pitfalls of clinical trials and neuroimaging techniques. The hands-on computer sessions on literature search and reference management were reportedly very useful, in particular in view of the literature review required to be completed within 3 months after an intensive week.

"I really enjoyed this course because it gave me lots of new ideas about how to begin a good neuroscience research project using the newest neuroscience techniques."

DYH, Neurology Research Fellow

The small group interactive teaching (maximum 20) allowed for questions of the presenters, both formally and informally over lunch or morning or afternoon tea breaks.

"The environment was definitely friendly and was a good chance to meet with other researchers from all over Australia and from abroad as well. Complicated physics were explained in a very simple way for a clinician like myself to understand...[he] kept all students attention and interest. I left his lectures interested, stimulated and grateful, wanting more and more!"

SA, Paediatric Neurology Fellow

Part 1, discussed research methodologies with a major focus on epilepsy (day 1) and stroke (day 3), but also included research methods used in developmental, autoimmune and neuromuscular disorders. Several disciplines and approaches were reviewed such as genetics, mechanisms of disease, neuro-pharmacology, rehabilitation, epidemiology, clinical trials, health economics and public health.

Part 2 discussed research methodologies with a major focus on imaging (day 2 and day 3) but also included research methods used in neurodegenerative diseases, autism and intellectual disability, cognition and memory, and schizophrenia and bipolar disorders (day 1). A highlight was the Nurturing Clinical Research in Australia symposium on day 4 held at Bio21 with both the Governor of Victoria, David de Kretser and the Nobel Prize winner Barry Marshall having lunch with the course students.

"I enjoyed both parts of the course and especially felt part 2 to be most relevant to me at this stage in my career. Being immersed in a centre of research excellence is in itself inspiring, and we heard from some world leaders in their fields, giving us up to the minute research in neuroimaging techniques and research applications."

PJ, Paediatric Neurologist

Most course participants were advanced trainees either wanting to start clinical research, or considering starting a postgraduate research degree, with some already involved in a PhD attending the course without taking the assessment. The CCRE-associated postgraduates and research fellows completed the course as a mandatory part of their training. Participants' backgrounds were very diverse ranging from Neurology, Paediatric Neurology, Neurosurgery, Psychiatry, Rehabilitation Medicine and General Medicine, to Neuropsychology, Basic Science and Epidemiology. This promoted many multi-disciplinary exchanges.

"I had chosen to do the course because I was keen to learn about research methodologies and wanted to hear about the current research questions, particularly in relation to epilepsy. I was also looking for inspiration in general. I certainly came away feeling 'fired up' about clinical research and convinced that it's not too late to get started!"

PC, Paediatric Neurologist

The program was pulled together by Dr Kathy Lefevere, CCRE Coordinator, who had previously been involved with the pilot delivery of the course. "Coordinating the efforts of such a huge team of presenters, who are all really busy people, was a major challenge" she said, "but in the end it was worth it. There was a real buzz at the Austin (Repatriation), with all the people who work here networking with the course participants during breaks". The course was fully catered, with a fabulous menu provided during the week by an outside caterer. Interstate and overseas participants enjoyed staying at a well-appointed nearby hotel, which offered special deals for course participants.

"Thanks for organising a very successful course. I felt I learned a lot!!!" **E. v. A., Basic Neuroscientist**



Nobel Laureate Professor Barry Marshall with students from the course.

Neurosciences Research Methodology and Disease Applications Part 2

DAY 1

- Part 2 course overview and participant introductions, Sam Berkovic
- Schizophrenia and bipolar disorders: The current clinical research questions, Dennis Velakoulis
- Symposium info; Part 2 groups and assessment info (1) written examination
- Clinical research methodology & applications of EEG and MEG, Simon Harvey
- Cognition/memory: neuropsychological research methodology and application, Michael Saling
- Neurodegenerative diseases: The current clinical research questions, Elsdon Storey
- The current clinical research questions and methodology of autism and intellectual disability, Ingrid Scheffer

DAY 2

- Frontiers of Neuroimaging, Graeme Jackson
- How does MRI work?, Gaby Pell
- What can we see with MRI?, Alan Connelly
- How can we image brain function? - Introduction to functional MRI, David Abbott
- Award students only: Part 2 Assignment information (2): research proposal and assessment questions
- MR safety talk & video, plus Mock scanner, Leasha Lillywhite
- Real life fMRI language demonstration -Heather Ducie
- Designing functional neuroimaging paradigms, Leasha Lillywhite
- Quantitative imaging in neuroscience research, Heath Pardoe

DAY 3

- Clinical research methodology and applications of PET/SPECT, imaging, Chris Rowe
- Ultrasound technologies and application to Stroke, Richard Gerraty
- Simultaneous electrophysiology and Neuroimaging, Danny Flanagan
- Measuring brain networks using functional MRI, Tony Waites
- Diffusion imaging - How does it work and what can it tell us?, Alan Connelly
- Measuring tracts with diffusion fibre tracking, Donald Tournier
- Measuring blood perfusion through brain tissue, Fernando Calamante

DAY 4

- Lunch at Bio21 Molecular Science and Biotechnology Institute, 30 Flemington Road, Parkville.
- Nurturing Clinical Research in Australia - Symposium

DAY 5

- Written examination of Part 2 course at Austin Towers Education Precinct