WHO SHOULD ATTEND?
People currently working in neurology, psychiatry, neurosurgery, radiology, neurorehabilitation or other health services. The course will be particularly useful to advanced trainees, new or emergent clinical researchers, allied health and clinical trial coordinators. More experienced clinical researchers, scientists or those working in the pharmaceutical industry are also welcome.

These courses have been developed by the NHMRC Centre of Clinical Research Excellence in Neurosciences in partnership with the Brain Research Institute and the Faculty of Medicine, Dentistry and Health Sciences.
### CLINICAL NEUROSCIENCE RESEARCH:
#### WEEK 1: JUNE 15 - 19, 2009

**On completion you will:**
- Have developed a high level of competency in clinical research methodologies applicable to neurological disorders
- Demonstrate an understanding of the current research questions in neuroscience and be able to discuss any clinical research topic or idea
- Have gained the essential skills to be able to formulate good research hypotheses and pose the ‘right’ questions in order to answer them appropriately
- Be able to read, understand and interpret the research literature critically
- Be able to generate new ideas and interact with experienced clinical researchers, as well as basic neuroscientists and research peers from other health disciplines
- Be able to communicate your research findings effectively

**DAY 1**
- Frontiers in clinical neuroscience research
- Stroke: The current clinical research questions
- Clinical trials methods
- Of mice and men: meta-analysis and the interplay of basic and clinical research
- Critical appraisal and research literature review

**DAY 2**
- Epilepsy: The current clinical research questions
- Genetics in clinical neurological research
- Interface of basic science with clinical research: from basic scientist perspective
- Clinical neuropharmacology research methodology
- Neurorehabilitation research methodology

**DAY 3**
- Neuro-epidemiology: disease burden and measures
- Neuro-epidemiology: study types
- Neuro-epidemiology: disease causation and prevention
- An introduction to health economics
- Translating clinical research findings into practice

**DAY 4**
- Multiple sclerosis: The current clinical research questions
- Research methods of neuromuscular disorders
- Clinical research applications of TMS
- Current clinical research questions and methodology of autism and intellectual disability
- Group presentations

Includes Searching Electronic Databases Tutorial & Endnote Reference Management Tutorial (Half day, b/w Day 2 & 3)

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### NEUROIMAGING FOR CLINICAL RESEARCH:
#### WEEK 2: JUNE 22 - 25, 2009

**On completion you will:**
- Achieve a high level of competency enabling you to create and conduct quality clinical research from the original concept through to submission of competitive research proposals in a neuroscience area
- Demonstrate a high level of understanding of advanced clinical research techniques in neuroimaging and neurophysiology, with broad applications in neuroscience
- Be able to design research projects using cutting-edge brain imaging techniques as a research tool or other advanced techniques
- Have developed the skills to write research proposals and prepare grant applications
- Be able to establish multi-disciplinary collaborations with experts in the field of clinical neuroscience to conduct innovative clinical research

**DAY 1**
- Frontiers of Neuroimaging
- How does MRI work?
- What can we see with MRI?
- Quantitative imaging in neuroscience research
- EEG/MEG and clinical research applications

**DAY 2**
- Neurodegenerative diseases: The current clinical research questions
- Cognitive functioning and behavioural research methods
- Principles of MRI: How can we image brain function?
- Designing functional Neuroimaging paradigms and interpretation (cognitive perspective)
- Designing functional MRI studies for allied health research

**DAY 3**
- Clinical research methodology and applications of PET/SPECT imaging
- Schizophrenia and bipolar disorders: The current clinical research questions
- Simultaneous electrophysiology and Neuroimaging
- Using Ultrasound methodologies in clinical research
- Practical MR demonstration: MR safety, Language fMRI & MR demonstration questions

**DAY 4**
- Diffusion imaging – How does it work and what can it tell us?
- Measuring tracts with diffusion fibre tracking
- Measuring blood perfusion through brain tissue
- Interactive Functional MRI workshop
- Research design group activity
- Grantmanship workshop

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The course can be taken with or without assessment; either as one 10-day course or each week separately as a 4-day course. Visit our website for details.