



Professor Kit Pleydell-Pearce
B.Sc.(Manc.), Ph.D.(Cantab.)

Professor of Clinical Neuropsychology Education

Area of research

Neuropsychology

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Summary

My research is primarily concerned with neurophysiological correlates of human cognition, and issues associated with localisation of cognitive function. Recent work has focused upon brain mechanisms underlying autobiographical memory. In addition, I am interested in developing new mathematical and computational techniques for analysing brain activity. This research is currently focused upon the problem of measuring cognitive workload and fatigue.

Recent and current grants

- 1999-2000. Development of a Cognition Monitor, DERA, Centre for Human Sciences. In collaboration with Dr S. Whitecross (DoEP).
- 2000-2001. Further development of a Cognition Monitor. QinetiQ. Centre for Human Sciences. In collaboration with Dr S. Whitecross (DoEP).
- 2000-2001. The task taxonomy and workload implications of the pilot's role. QinetiQ, Centre for Human Sciences. In collaboration with T. Diethel (CHS).
- 1999-2002. The neurophysiology of true and false memories. BBSRC. In collaboration with Prof. Martin Conway (Co-App), Dr Helen Sharpe and Dr Sharron Whitecross.
- 2002-2003 Measurement and analysis of EEG activity. QinetiQ, Centre for Human Sciences. In collaboration with Dr Caroline Brown (DoEP).
- 2001-2004. Further support and development of Cognition Monitor. QinetiQ. Centre for Human Sciences. In collaboration with Dr Sharron Whitecross.

Biography

BSc Psychology, University of Manchester, 1983. I then completed a PhD in 1988 at the University of Cambridge in conjunction with the MRC Applied Psychology Unit. In 1990 I joined the Burden Neurological Institute which resides within Frenchay Hospital, Bristol and remained there for ten years. During that time I developed links with the Department of Experimental Psychology at Bristol University, in both a teaching and research capacity. In 2000, I joined the Department of Experimental Psychology in Bristol as a full-time member of staff.

Teaching

- Level 2 Neuropsychology (Dept. Experimental Psychology)
- Level 3 Neuropsychology (Dept. Experimental Psychology)
- Level 3 Consciousness and Psychology (Dept. Experimental Psychology)
- MSc Neuropsychology (Dept. Experimental Psychology)

PHD students supervised and co-supervised

- Caroline Brown: Investigating the role of gamma EEG as a solution to the binding problem.

- Sharron Whitecross: Slow cortical shifts and area specific activity
- Martin Bunnage: Surgical treatment of Parkinson's disease: a comparison of glial-derived neurotrophic factor infusion and deep brain stimulation.
- Guy Peryer: Optimising detection and response to auditory warning signals.

Keywords

- EEG
- Autonomic arousal
- Slow cortical potentials
- Software/hardware development

Skills

- General interest in mathematical algorithms for understanding cognitive and affective processes and disease diagnosis

Processes and functions

- Autobiographical memory
- Memory
- Attention
- Anxiety
- Alertness
- Sleep and wakefulness
- Executive function

Methodologies

- Electroencephalography (EEG)
- Autonomic measures
- Pupilometry
- Behavioural analysis

Expertise

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- slow cortical potentials
- cognitive workload
- autobiographical memory
- attention
- consciousness
- neurophysiological signals
- human cognition

Memberships

Organisations

[School of Experimental Psychology](#)

Other sites

- [Neuroscience](#)

Psychological Science staff

- [Psychological Science academic staff](#)

Research themes

- [Brain, Behaviour, and Health](#)

Research groups

- [Neuropsychology and Neuroimaging Group](#)

Links

-  [home page](#)

Recent publications

- Sinclair, LI, Pleydell-Pearce, CW & Day, IN, 2017, '[Possible positive effect of the APOE ε2 allele on cognition in early to mid-adult life](#)'. *Neurobiology of Learning and Memory*, vol 146., pp. 37-46
- Milton, A & Pleydell-Pearce, C, 2017, '[Exploring the relationship of phase and peak-frequency EEG alpha-band and beta-band activity to temporal judgments of stimulus duration](#)'. *Cognitive Neuroscience*, vol 8., pp. 193-205
- Marsh, A, Hiles, A, Frias, PR, Doody, C, Keating, O, Brooks, E, Butzbach, K, Pleydell-Pearce, K & Wright, I, 2016, '[Investigation of visuospatial memory lateralisation in temporal lobe epilepsy and healthy participants](#)'.
- Marsh, A, Hiles, A, Frias, PR, Doody, C, Keating, O, Brooks, E, Butzbach, K, Pleydell-Pearce, K & Wright, I, 2016, '[Investigation of the Mirror Memory Tasks' concurrent validity and sensitivity to temporal lobe dysfunction](#)'.
- Milton, AMC & Pleydell-Pearce, CW, 2016, '[The phase of pre-stimulus alpha oscillations influences the visual perception of stimulus timing](#)'. *NeuroImage*, vol 133., pp. 53-61
- Bowers, J & Pleydell-Pearce, C, 2012, '[Swearing, Euphemisms, and Linguistic Relativity](#)'. *PLoS ONE*, vol 6., pp. e22341 - e22341
- Peryer, G, Noyes, J, Pleydell-Pearce, C & Lieven, N, 2010, '[Auditory alerts: An Intelligent alert presentation system for civil aircraft](#)'. *International Journal of Aviation Psychology*, vol 20 (2)., pp. 183 - 196
- Androulidakis, A, Khan, S, Litvak, V, Pleydell-Pearce, C, Brown, P & Gill, S, 2008, '[Local field potential recordings from the pedunculo-pontine nucleus in a Parkinsonian patient](#)'. *Neuroreport*, vol 19., pp. 59 - 62
- Rogers, P, Smith, J, Heatherley, S & Pleydell-Pearce, C, 2008, '[Time for tea: mood, blood pressure and cognitive performance effects of caffeine and theanine administered alone and together](#)'. *Psychopharmacology*, vol 195., pp. 569 - 577
- Peryer, G, Noyes, J, Pleydell-Pearce, C & Lieven, N, 2005, '[Auditory alert characteristics: A survey of pilot views](#)'. *The International Journal of Aviation Psychology*, vol 15, No.3., pp. 233 - 250

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