Michael D. Rugg, Ph. D.

Name: Michael Derek Rugg University of Texas at Dallas, USA mrugg@utdallas.edu

Academic Qualifications

BSc (1st class Hons) Psychology, University of Leicester, 1976 PhD Psychology, University of Leicester, 1979

Employment History

Oct 1978 - Sept 1979. Postdoctoral Research Fellow, Department of Psychology, University of York.

Oct 1979 - Sep 1988. University Lecturer, Department of Psychology, University of St Andrews.

Oct 1988 - Sep 1992. Reader in Psychology, Department of Psychology, University of St Andrews.

Oct 1992 - Sep 1994. Professor of Psychology and Head of School, School of Psychology, University of St Andrews.

Oct 1994 – Aug 1998. Professor of Psychology and Wellcome Trust Research Fellow, School of Psychology, University of St Andrews.

Sep 1998 – June 2003. Professor of Cognitive Neuroscience and Wellcome Principal Research Fellow, Institute of Cognitive Neuroscience and Department of Psychology, University College London.

Oct 2001 – Sep 2002. Acting Director, Institute of Cognitive Neuroscience, University College London.

July 2003 – Dec 2010. Professor, Department of Neurobiology and Behavior, and Fellow, Center for the Neurobiology of Learning and Memory, University of California, Irvine. Sep 2004 – July 2010. Director, Center for the Neurobiology of Learning and Memory, University of California, Irvine.

Aug 2010 – Volunteer Faculty, Department of Psychiatry, University of Texas Southwestern.

Jan 2011 – Distinguished Chair in Behavioral and Brain Sciences, University of Texas at Dallas.

Jan 2011 – Co-Director, Center for Vital Longevity, University of Texas at Dallas.

Honors/Awards

Henri Hecaen Award for Contributions to Neuropsychology (1989)Fellow of the Royal Society of Edinburgh (1996)Fellow of the American Association for the Advancement of Science (2009)Fellow of the Association for Psychologial Science (2010)

External Peer-Reviewed Research Grants

 Wellcome Trust. Interhemispheric transfer of visual information in normal subjects and cases of callosal pathology (with A. D. Milner). March 1983 - October 1984. £13,250.
 Medical Research Council. Title as (1) above (with A. D. Milner). March 1983 -September 1984. £2,750 (Equipment).

3. Medical Research Council. Cognitive functioning in poor readers of normal and below average intelligence (with R. S. Johnston). September 1982 - August 1985. £21,500.

4. Wellcome Trust. Research Leave Fellowship -Electrophysiological investigation of the neuropsychological basis of higher visual processing, particularly reading. October 1983 - September 1984. £9,300.

5. Medical Research Council. Establishment of MRC Cognitive Neuroscience Research Group (with R. Byrne, G. Cottrell, M. Jeeves, R. Johnston, R. Morris, A.D. Milner, D. Perrett). October 1983 - September 1988. £173,000.

6. Wellcome Trust. Electrophysiological investigation of language and related processes in normal subjects and cases of language impairment. August 1985 - July 1988. £29,000.

7. Mental Health Foundation. An electrophysiological and behavioural study of the functional consequences of callosal damage in closed head injury (with A. D. Milner). October 1985 - April 1988. £18,000.

8. Medical Research Council. An electrophysiological and behavioural study of the functional consequences of callosal damage in closed head injury (with A. D. Milner and D. N. Brooks). February 1985 - April 1988. £48,000.

9. Medical Research Council, Senior Research Leave Fellowship - Event-related potentials and the investigation of human memory. April 1986 - Dec 1988. £27,000.

10. European Science Foundation. Twinning grant with Universities of Padua (Psychology) and Verona (Human Physiology) - Electrophysiological and behavioural study of visual selective attention. Jan. 1987 - Dec. 1989. 10,700 French francs.

11. Wellcome Trust. A research programme for the electrophysiological, behavioural and neurological study of cognitive processing and its impairment (with R.C. Roberts). August 1988 - July 1993. £282,078.

12. Wellcome Trust. Wellcome Prize Studentship - The physiological measurement of face processing in man and monkey (with D.I Perrett). October 1988 - September 1991. £23,400..
13. Wellcome Trust. Investigation of the brain regions and cognitive processes necessary for the generation of the 'P300' brain potential (with R.C. Roberts). July 1990 - June 1993. £54.273..

14. Medical Research Council. EEG and cognitive event-related potentials from foramen ovale electrodes in patients with temporal lobe epilepsy (with R.C. Roberts). June 1991 - May 1992. £11,000..

15. Wellcome Trust. Wellcome Prize Studentship - Fractionation of human memory with event-related brain potentials. January 1993 - Dec 1995. £43,715.

16. Wellcome Trust. A research programme for the electrophysiological, behavioural and neurological study of cognitive processes underlying memory, and their impairment

in neurological populations (with R.C. Roberts). September 1993 - August 1998. £434,800. 17. Wellcome Trust. Research Leave Fellowship. 'The neuropsychology of normal human memory: parallel ERP and PET studies'. January 1994 - December 1997. £82,100.

18. Wellcome Trust. Wellcome Prize Studentship 'Investigation of human memory with event-related brain potentials'. July 1995-June 1998. £52,717.

19. Scottish Home and Health Department. 'Prognosis after head injury: the use of eventrelated potentials to predict outcome' (with S. Chaudry-Dijkerman, D. Gentleman, J. Gilchrist). May 1996-Dec 1999. £101,975.

20. Biotechnology and Biological Sciences Research Council. 'An electrophysiological study of interactions between memory representations and retrieval cues'. Oct 1996 - Jan 2000. £93,645.

21. Wellcome Trust. 'The functional and neural basis of human memory: electrophysiological and functional neuroimaging studies'. Sep 1998 - Aug 2008. \pounds 1,232,709.

22. Wellcome Trust. Wellcome Prize Studentship. 'The fractionation of human memory: ERP and fMRI studies'. Oct 1999 - Sep 2002. £57,178.

23. Wellcome Trust. 'The functional and neural basis of human memory: electrophysiological and functional neuroimaging studies'. Supplement. July 2000 - June 2003. £93,079.

24. Medical Research Council (with T. Shallice, U. Frith, J. Driver, J. O'Keefe, J. Atkinson, J. Blair and N. Burgess). Analysis of cognitive impairments and the imaging of cognition. Co-operative grant. Sep 2000-Aug 2005. £711,364.

25. Wellcome Trust (with T. Shallice, B. Butterworth, J. Driver, and P. Haggard). Funds for establishment of a TMS laboratory. Equipment grant. Jan 2001-Dec 2004. £38,795.

26. National Institute on Aging. Neural correlates of episodic memory in older adults. Apr 2005- Mar 2010. \$664,000 direct costs.

27. National Institute of Mental Health. Episodic memory encoding: fMRI investigations. Aug 2005-July 2009. \$558,000 direct costs.

28. National Institute of Mental Health. Retrieval processing in human memory: ERP and fMRI investigations. Oct 2005-May 2010. \$1,000,000 direct costs.

29. National Institute of Mental Health. Episodic memory encoding: fMRI investigations. Aug 2009-July 2014. \$1,250,000 direct costs.

30. National Institute of Mental Health. Retrieval processing in human memory: ERP and fMRI investigations. June 2010-April 2015. \$1,250,000 direct costs.

31. National Institute on Aging. Relationship between the neural correlates of episodic memory encoding, age, and memory performance. Aug 2011 – July 2016. \$1,250,000 direct costs.

Book Chapters

 Rugg, M.D., Fletcher, R.P. and Lykken, D.T. Computers in psychophysiological research. In I. Martin and P.H. Venables (eds.), Techniques in Psychophysiology. John Wiley, 1980.
 Rugg, M. D. Electrophysiological studies. In J.G. Beaumont (ed.), Divided Visual Field Studies of Cerebral Organisation. Academic Press, 1982.

3. Rugg, M. D. The relationship between evoked potentials and lateral asymmetries of processing. In A. W. K. Gaillard and W. Ritter (eds.), Tutorials in ERP Research: Endogenous Components. Elsevier, 1983.

4. Rugg, M. D. Constraints on cognitive performance: some problems with and alternatives to resource theory. In R. Hockey, A. W. K. Gaillard and M. Coles (eds.), Energetics and Human Information Processing. Nijhoff, 1986.

5. Rugg, M. D., Kok, A., Barrett, G. and Fischler, I. ERPs associated with language and hemisphere specialisation. In W. C. McCallum, R. Zappoli and F. Denoth (eds.), Cognitive Psychophysiology: Studies in ERPs. Elsevier, 1986.

6. Milner, A.D. and Rugg, M.D. Interhemispheric transmission times. In J. Crawford and D. Parker (Eds.) Developments in Clinical and Experimental Neuropsychology. Plenum Press, 1989.

7. Rugg, M.D. Event-related potentials and selective attention: commentary. In C.H.M. Brunia, G. Mulder, and M.N. Verbaten (Eds.), Event-Related Brain Research, Elsevier, 1991.

8. Rugg, M.D. Conscious and unconscious processes in language and memory: commentary. In A.D. Milner, and M.D. Rugg (Eds), The Neuropsychology of Consciousness. Academic Press, 1991.

9. Rugg, M.D. Event-related potentials in Clinical Neuropsychology. In J.R. Crawford, W.A. McKinlay, and D.M. Parker. (Eds.) The Handbook of Neuropsychological Assessment. L. Erlbaum, 1992.

10. Rugg, M.D., and Doyle, M.C. Event-related potentials and stimulus repetition in indirect and direct tests of memory. In H. Heinze, T. Munte, and G.R. Mangun (Eds), Cognitive Electrophysiology. Birkhauser Boston, 1994.

11. Rugg, M.D. Event-related potential studies of human memory. In M.S. Gazzaniga (Ed.), The Cognitive Neurosciences. MIT Press, 1995.

12. Rugg, M.D. Cognitive event-related potentials: Intracerebral and lesion studies. In F. Boller and J. Grafman (Eds.), Handbook of Neuropsychology, Volume 10. Elsevier, 1995.

13. Coles, M.G.H., and Rugg, M.D. Event-related brain potentials: An introduction. In M.D. Rugg, and M.G.H. Coles, (Eds.), Electrophysiology of Mind: Event-Related Brain Potentials and Cognition. Oxford University Press, 1995.

14. Rugg, M.D., and Coles, M.G.H. The ERP and cognitive psychology: Conceptual issues. In M.D. Rugg, and M.G.H. Coles (Eds.), Electrophysiology of Mind: Event-Related Brain Potentials and Cognition. Oxford University Press, 1995.

15. Rugg, M.D. ERP studies of memory. In M.D. Rugg, and M.G.H. Coles (Eds.), Electrophysiology of Mind: Event-Related Brain Potentials and Cognition. Oxford University Press, 1995.

16. Rugg, M.D. Functional neuroimaging in cognitive neuroscience. In P. Hagoort and C. Brown (Eds.) Neurocognition of Language. Oxford: Oxford University Press, 1999.

17. Rugg, M.D., and Allan, K. Memory retrieval: an electrophysiological perspective. In M.S. Gazzaniga (Ed.) The Cognitive Neurosciences 2nd Ed., MIT press, 1999.

18. Rugg, M.D., and Allan, K. Event-related potential studies of long-term memory. In E. Tulving and F.I.M. Craik (Eds), The Oxford Handbook of Memory. Oxford University Press, 2000.

19. Rugg, M.D., Herron, J.E., and Morcom, A.M. Electrophysiological studies of retrieval processing. In L.R. Squire and D.L. Schacter (eds.), Neuropsychology of Memory, 3rd Edition. Guilford Press, 2002.

20. Rugg, M.D. Functional neuroimaging of memory. In A. Baddeley, B. Wilson, and M. Kopelman (Eds.), Handbook of Memory Disorders, 2nd Edition. Wiley, 2002.

21. Rugg, M.D., and Henson, R.N.A. Episodic memory retrieval: an (event-related) functional neuroimaging perspective. In A.E. Parker, E.L.Wilding, T. Bussey, (eds.) The cognitive neuroscience of memory encoding and retrieval. Psychology Press, 2002.

22. Otten, L. J., and Rugg, M. D. Interpreting event-related brain potentials. In T. C. Handy (Ed.), Event-related potentials: A methods handbook. Cambridge, MA: MIT Press, 2004. 23. Rugg, M.D., and Morcom, A.M. The relationship between brain activity, cognitive performance and aging: The case of memory. In Cabeza, R., Nyberg, L., and Park, D. (Eds.) Cognitive Neuroscience of Aging: Linking Cognitive and Cerebral Aging. Oxford University Press, 2004.

24. Rugg, M.D. Retrieval processing in human memory: Electrophysiological and fMRI evidence. In M.S. Gazzaniga (Ed.) The Cognitive Neurosciences 3rd Ed., MIT press, 2004. 25. Rugg, M.D. Functional neuroimaging and cognitive theory. In Rosler, F., Ranganath, C., Roder, B., and Kluwe, R.H. Functional neuroimaging and psychological theories of brain function, Oxford University Press, 2009.

Consultancy work for Grant Awarding Bodies

Ad Hoc consultant for:

Australian Research Council Austrian Research Foundation Biotechnology and Biological Sciences Research Council (UK) **British Council** European Community Human Capital Programme Dutch Medical Research Organisation (NWO) Economic and Social Research Council (UK) Foundation for Polish Science Human Frontiers Programme March of Dimes Birth Defects Association Medical Research Council (UK) Medical Research Council (Australia) Medical Research Council of Canada Mental Health Foundation (UK) National Science Foundation Natural Sciences and Engineering Research Council of Canada NATO Scientific Affairs Division Research into Ageing (UK) SANE (schizophrenia: a national emergency) Science Foundation Ireland Swiss National Science Foundation United States-Israel Binational Science Foundation. Wellcome Trust World Health Organisation

Editing/Reviewing/Refereeing

Editor-in-Chief *Neuropsychologia* (from 2009). Action Editor *Neuropsychologia* (2003-2006) Board of Editors *Neuropsychologia* (2001-2003) Associate Editor *Neuropsychologia* (1989-2001) Assistant Editor *Human Brain Mapping* (2000-2003). Associate Editor *Neuroscience* (2000-2003). Board of Editors *Biological Psychology* (1989-1992). Consulting Editor *Neuropsychology* (1996-2001). Member of Editorial Board *NeuroImage* (1995-2005). Member of Editorial Board *Neurobiology of Learning and Memory* (from 2005). Member of Editorial Board *PLOS Biology* (2005-2009). Member of Editorial Board *Journal of Cognitive Neuroscience* (from 2005).

Ad Hoc reviewer for approximately 30 other journals.

Membership of Professional Societies

American Association for the Advancement of Science (Fellow) Association for Psychological Science (Fellow) Cognitive Neuroscience Society Experimental Psychology Society Memory Disorders Research Society Royal Society of Edinburgh (Fellow) Society for Neuroscience