### Michael D. Rugg - Curriculum Vitae

Name: Michael Derek Rugg Orcid ID: 0000-0002-0397-5749

## **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 – July 2016. Volunteer Faculty, Department of Psychiatry, University of Texas Southwestern.

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

Jan 2011 – June 2014. Co-Director, Center for Vital Longevity, University of Texas at Dallas.

June 2014 - present. Director, Center for Vital Longevity, University of Texas at Dallas.

July 2016 – present. Professor (fractional), Department of Psychiatry, University of Texas Southwestern Medical Center.

November 2018 – present. Professor (fractional), School of Psychology, University of East Anglia, United Kingdom.

#### **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 Psychological Science (2010)

## Awarded Peer-Reviewed Research Grants (Principal Investigator only)

 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).

 Medical Research Council. Cognitive functioning in poor readers of normal and below average intelligence (with R. S. Johnston). September 1982 - August 1985. £21,500.
 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 2003. £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 2015. \$1,250,000 direct costs.

30. National Institute of Mental Health. Retrieval processing in human memory: ERP and fMRI investigations. June 2010-May 2016. \$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 – April 2017. \$1,250,000 direct costs.

32. National Science Foundation. Effects of age on specificity and control of recollected content. Aug 2016 – July 2019. \$355,266 direct costs.

33. National Institute on Aging. Effects of age and resource depletion on post-retrieval monitoring and individual differences in memory performance. Sep 2016 – Aug 2019. \$275,000 direct costs.

34. National Institute on Aging. Relationship between the neural correlates of episodic memory encoding, age, and memory performance. April 2017–March 2022. \$1,900,000 direct costs.

**35.** National Institute on Aging. Effects of age on the control of recollected content. March 2021 - February 2024. \$275,000 direct costs.

#### **Publications**

## **Edited Books**

1. Milner, A.D., and Rugg, M.D. (Eds). The Neuropsychology of Consciousness. Academic Press, 1991.

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

3. Rugg, M.D. (Ed.). Cognitive Neuroscience. Psychology Press (UK), MIT Press (USA), 1997.

## **Peer-Reviewed Publications**

1. Beaumont, J. G., Mayes, A. R. and Rugg, M. D. Asymmetry in EEG alpha coherence and power: effects of task and sex. Electroencephalography and clinical Neurophysiology, 1978, 45, 393-401.

2. Rugg, M. D. and Beaumont, J. G. Interhemispheric asymmetries in the visual evoked response: effects of stimulus lateralisation and task. Biological Psychology, 1978, 6, 283-92.

3. Rugg, M. D. and Beaumont, J. G. Visual evoked responses to visual-spatial and verbal stimuli: evidence of differences in cerebral processing. Physiological Psychology, 1978, 6, 501-04.

4. Beaumont, J. G. and Rugg, M. D. The specificity of intrahemispheric EEG alpha coherence asymmetry related to psychological task. Biological Psychology, 1979, 9, 237-48.

5. Rugg, M. D. and Beaumont, J. G. Late positive component correlates of verbal and visuospatial processing. Biological Psychology, 1979, 9, 1-11.

6. Rugg, M. D. and Venables, P. H. EEG correlates of the acquisition of high- and low-imagery words. Neuroscience Letters, 1980, 16, 67-70.

7. Beaumont, J. G., Thomson, M. and Rugg, M. D. An intrahemispheric integration deficit in dyslexia. Current Psychological Research, 1981, 1, 185-89.

8. Rugg, M.D. and Dickens, A.M.J. Dissociation of alpha and theta activity as a function of verbal and visuospatial tasks. Electroencephalography and clinical Neurophysiology, 1982, 53, 201-07.

9. Rugg, M. D. Further study of the electrophysiological correlates of lexical decision. Brain and Language, 1983, 19, 142-52.

10. Lines, C. R., Rugg, M. D. and Milner, A. D. The effect of stimulus intensity on visual evoked potential estimates of interhemispheric transmission time. Experimental Brain Research, 1984, 57, 89-98.

11. Rugg, M. D. Event-related potentials and the phonological matching of words and non-words. Neuropsychologia, 1984, 22, 435-43.

12. Rugg, M. D. Event-related potentials in phonological matching tasks. Brain and Language, 1984, 23, 225-40.

13. Rugg, M. D., Lines, C. R. and Milner, A. D. Visual evoked potentials to lateralized visual stimuli and the measurement of interhemispheric transmission time. Neuropsychologia, 1984, 22, 215-25.

14. Rugg, M. D. Commentary on Libet - Unconscious cerebral initiative and the role of conscious will in voluntary action. Behavioral and Brain Sciences, 1985, 8, 552.

15. Rugg, M. D. The effects of handedness on event-related potentials in a rhymematching task. Neuropsychologia, 1985, 23, 765-76.

16. Rugg, M. D. The effects of word repetition and semantic priming on event-related potentials. Psychophysiology, 1985, 22, 642-47.

17. Rugg, M. D., Lines, C. R. and Milner, A. D. Further investigation of visual evoked potentials elicited by lateralized stimuli: effects of stimulus eccentricity and reference site. Electroencephalography and clinical Neurophysiology, 1985, 62, 81-87.

18. Rugg, M. D., Milner, A. D. and Lines, C. R. Visual evoked potentials to lateralized stimuli in two cases of callosal agenesis. Journal of Neurology, Neurosurgery and Psychiatry, 1985, 48, 367-73.

19. Johnston, R. S., Rugg, M. D. and Scott, T. The influence of phonology on good and poor readers when reading for meaning. Journal of Memory and Language, 1987, 26, 57-68.

20. Johnston, R. S., Rugg, M. D. and Scott, T. Phonological similarity effects, memory span and developmental reading disorders: The nature of the relationship. British Journal of Psychology, 1987, 78, 205-11.

21. Rugg, M. D. Dissociation of semantic priming, word and non-word repetition by event-related potentials. Quarterly Journal of Experimental Psychology, 1987, 39A, 123-48.

22. Rugg, M. D. and Barrett, S. E. Event-related potentials and the interaction between orthographic and phonological information in a rhyme-judgement task. Brain and Language, 1987, 32, 336-61.

23. Rugg, M. D. and Nagy, M. E. Lexical contribution to non-word repetition effects: Evidence from event-related potentials. Memory and Cognition, 1987, 15, 473-81.

24. Rugg, M. D., Milner, A. D., Lines, C. R. and Phalp, R. Modulation of visual eventrelated potentials by spatial and non-spatial visual selective attention. Neuropsychologia, 1987, 25, 85-96.

25. Barrett, S. E., Rugg, M. D. and Perrett, D. I. Event-related potentials and the matching of familiar and unfamiliar faces. Neuropsychologia, 1988, 26, 105-18.

26. Johnston, R.S., Rugg, M.D. and Scott, T. Pseudohomophone effects in 8 and 11 year old good and poor readers. Journal of Research in Reading, 1988, 11, 110-32.

27. Robinson, D.L. and Rugg, M.D. Latencies of visually responsive neurons in various regions of the rhesus monkey brain and their relation to human visual responses. Biological Psychology, 1988, 26, 111-16.

28. Rugg, M.D., Furda, J. and Lorist, M. The effects of task on the modulation of event-related potentials by word repetition. Psychophysiology, 1988, 25, 55-63.

29. Rugg, M.D., Cowan, C.P., Nagy, M.E., Milner, A.D., Jacobson, I., and Brooks, D.N. Event-related potentials from closed head injury patients in an auditory 'oddball' task - evidence for a dysfunction in stimulus categorisation. Journal of Neurology, Neurosurgery and Psychiatry, 1988, 51, 691-98.

30. Rugg, M.D. Event-related potentials and psychological explanation. (Commentary on Verlager - Event-related potentials and memory: A critique of the context updating hypothesis and an alternative interpretation of P3.) Behavioral and Brain Sciences, 1988, 25, 55-63.

31. Barrett, S.E., and Rugg, M.D. Asymmetries in event-related potentials during rhymematching: Confirmation of the null effects of handedness. Neuropsychologia, 1989, 27, 539-48.

32. Barrett, S.E. and Rugg, M.D. Event-related potentials and the semantic matching of faces. Neuropsychologia, 1989, 27, 913-22.

33. Johnston, R.S., and Rugg, M.D. Rhyme judgement ability in good and poor readers. Language and Education, 1989, 3, 233-43.

34. Nagy, M.E., and Rugg, M.D. Modulation of event-related potentials by word repetition: the effects of inter-item lag. Psychophysiology, 1989, 26, 431-36.

35. Rugg, M.D., Cowan, C.P., Nagy, M.E., Milner, A.D., Jacobson, I., and Brooks, D.N. CNV abnormalities following closed head injury. Brain, 1989, 112, 489-06.

36. Rugg, M.D., and Nagy, M.E. Event-related potentials and recognition memory for words. Electroencephalography and Clinical Neurophysiology, 1989, 72, 395-06.

37. Barrett, S.E. and Rugg, M.D. Event-related potentials and the phonological matching of pictures. Brain and Language, 1990, 38, 424-37.

38. Barrett, S.E. and Rugg, M.D. Event-related potentials and the semantic matching of pictures. Brain and Cognition, 1990, 14, 201-12.

39. Rugg, M.D. ERPs and the fate of unattended stimuli (commentary on Naatanen - The role of attention in auditory information- processing as revealed by event-related potentials and other brain measures of cognitive function). Behavioral and Brain Sciences, 1990, 13, 251-52.

40. Rugg, M.D. Event-related potentials dissociate repetition effects of high and low frequency words. Memory and Cognition, 1990, 18, 367-79.

41. Rugg, M.D., Roberts, R.C., Potter, D.D., Nagy, M.E., and Pickles, C.D. Endogenous event-related potentials from sphenoidal electrodes. Electroencephalography and Clinical Neurophysiology, 1990, 76, 331-38.

42. Rugg, M.D., Pickles, C.D., Potter, D.D., and Roberts, R.C. Normal P300 in a case of extensive unilateral medial temporal lobe damage. Journal of Neurology, Neurosurgery, and Psychiatry, 1991, 54, 217-22.

43 Rugg, M.D., Roberts, R.C., Potter, D.D., Pickles, C.D., and Nagy, M.E. Event-related potentials related to recognition memory: effects of temporal lobectomy and unilateral temporal lobe epilepsy. Brain, 1991, 114, 2313-32.

44. Rugg, M.D., and Doyle, M.C. Event-related potentials and recognition memory for lowand high-frequency words. Journal of Cognitive Neuroscience, 1992, 4, 69-79.

45. Potter, D.D., Pickles, C.D., Roberts, R.C., and Rugg, M.D. The effects of scopolamine on event-related potentials in a continuous recognition memory task. Psychophysiology, 1992, 29, 29-38.

46. Young, M.P. and Rugg, M.D. Word frequency and multiple repetition as determinants of the modulation of ERPs in a semantic classification task. Psychophysiology, 1992, 29, 664-76.

47. Rugg, M.D., Brovedani, P., and Doyle, M.C. Modulation of event-related potentials by word repetition in a task with inconsistent mapping between repetition and response. Electroencephalography and clinical Neurophysiology, 1992, 84, 521-31.

48. Rugg, M.D., Pickles, C.D., Potter, D.D., Doyle, M.C., Pentland, B., and Roberts, R.C. Cognitive Brain Potentials in a Three-Stimulus Auditory 'Oddball' Task after Closed Head Injury. Neuropsychologia, 1993, 31, 373-93.

49. Otten, L.J., Rugg, M.D., and Doyle, M.C. Modulation of event-related potentials by word repetition: the role of selective attention. Psychophysiology, 1993, 30, 559-71.

50. Rugg, M.D., Doyle, M.C., and Melan, C. An event-related potential study of the effects of within- and across-modality word repetition. Language and Cognitive Processes, 1993, 8, 357-77.

51. Rugg, M.D., Pearl, S., Walker, P., Roberts, R.C., and Holdstock, J.S. Word repetition effects on event-related potentials in healthy young and old subjects, and in patients with Alzheimer-type dementia. Neuropsychologia, 1994, 32, 381-98

52. Rugg, M.D., Doyle, M.C., and Holdstock, J.S. Modulation of Event-Related Brain Potentials by Word Repetition: Effects of Local Context. Psychophysiology, 1994, 31, 447-59.

53. Ebmeir, K.P., Steele, J.D., MacKenzie, D.M., O'Caroll, R.E., Kydd, R.R., Glabus, M.F., Blackwood, D.H.R., Rugg, M.D., and Goodwin, G.M. Cognitive brain potentials and regional cerebral blood flow equivalents during two- and three-sound auditory oddball tasks. Electroencephalography and clinical Neurophysiology, 1995, 95, 434-43.

54. Holdstock, J.S., and Rugg, M.D. The effect of attention on the P300 deflection elicited by novel sounds. Journal of Psychophysiology, 1995, 9, 18-31.

55. Rugg, M.D., Cox, C.J.C., Doyle, M.C., and Wells, T. Event-related potentials and the recollection of low and high frequency words. Neuropsychologia, 1995, 33, 471-84.

56. Rugg, M.D., Doyle, M.C., and Wells, T. Word and non-word repetition within- and across-modality: An event-related potential study. Journal of Cognitive Neuroscience, 1995, 7, 209-27.

57. Rugg, M.D. Memory and consciousness: a selective review of issues and data. Neuropsychologia, 1995, 33, 1131-42.

58. Rugg, M.D., Soardi, M., and Doyle, M.C. Modulation of event-related potentials by the repetition of drawings of novel objects. Cognitive Brain Research, 1995, 3, 17-24.

59. Wilding, E.L., Doyle, M.C. and Rugg, M.D. Recognition memory with and without retrieval of context: an event-related potential study. Neuropsychologia, 1995, 33, 743-67.

60. Allan, K., Doyle, M.C., and Rugg, M.D. An event-related potential study of word-stem cued recall. Cognitive Brain Research, 1996, 4, 251-62.

61. Doyle, M.C., Rugg, M.D., and Wells, T. A comparison of the electrophysiological effects of formal and repetition priming. Psychophysiology, 1996, 33, 132-47.

62. Friston, K.J., Stephan, K.M., Heather, J.D., Frith, C.D., Ioannides, A.A., Liu, L.C., Rugg, M.D., Vieth, J., Keber, H., Hunter, K., and Frackowiak, R.S.J. A multivariate analysis of evoked responses in EEG and MEG data. Neuroimage, 1996, 3, 167-74.

63. Rugg, M.D., Schloerscheidt, A.M., Doyle, M.C., Cox, C.J.C., and Patching, G.R. Event-related potentials and the recollection of associative information. Cognitive Brain Research, 1996, 4, 297-304.

64. Rugg, M.D., Fletcher, P.C., Frith, C.D., Frackowiak, R.S.J., and Dolan, R.J. Differential activation of the prefrontal cortex in successful and unsuccessful memory retrieval. Brain,1996, 119, 2073-83.

65. Wilding, E.L. and Rugg, M.D. An event-related potential study of recognition memory with and without retrieval of source. Brain, 1996, 119, 889-906.

66. Allan, K., and Rugg, M.D. An event-related potential study of explicit memory on tests of cued recall and recognition. Neuropsychologia, 1997, 35, 387-97.

67. Fletcher, P.C., Frith, C.D., and Rugg, M.D. The functional neuroanatomy of episodic memory. Trends in Neurosciences, 1997, 20, 213-18.

68. Rugg, M.D., Fletcher, P.C., Frith, C.D., Frackowiak, R.S.J., and Dolan, R.J. Brain regions supporting intentional and incidental memory: a PET study. NeuroReport, 1997, 8, 1283-87.

69. Rugg, M.D., Mark, R.E., Gilchrist, J., and Roberts, R.C. ERP repetition effects in indirect and direct tasks: effects of age and inter-item lag. Psychophysiology, 1997, 34, 572-86.

70. Schloerscheidt, A.M. and Rugg, M.D. Recognition memory for words and pictures: an event-related potential study. NeuroReport, 1997, 8, 3281-85.

71. Tendolkar, I., Doyle, M.C., and Rugg, M.D. An event-related potential study of retroactive interference in memory. NeuroReport, 1997, 8, 501-06.

72. Wilding, E.L., and Rugg, M.D. Event-related potentials and the recognition memory exclusion task. Neuropsychologia, 1997, 35, 119-28.

73. Wilding, E.L., and Rugg, M.D. An event-related study of memory for spoken and heard information. Neuropsychologia, 1997, 35, 1185-95.

74. Allan, K., and Rugg, M.D. Neural correlates of cued recall with and without retrieval of source memory. NeuroReport, 1998, 9, 3463-66

75. Allan, K., Wilding, E.L., and Rugg, M.D. Electrophysiological evidence for dissociable processes contributing to recollection. Acta Psychologica, 1998, 98, 231-52.

76. Friston, K.J., Fletcher, P., Josephs, O., Holmes, A., Rugg, M.D., and Turner, R. Eventrelated fMRI: Characterizing differential responses. Neuroimage, 1998, 7, 30-40.

77. Mark, R.E. and Rugg, M.D. Age effects on brain activity associated with episodic memory retrieval: an electrophysiological study. Brain, 1998, 121, 861-73.

78. Donaldson, D.I. and Rugg, M.D. Recognition memory for new associations: Electrophysiological evidence for the role of recollection. Neuropsychologia, 1998, 36, 377-95.

79. Doyle, M.C., and Rugg, M.D. Word repetition within and across visual fields: an event-related potential study. Neuropsychologia, 1998, 36, 1403-15.

80. Rugg, M.D., Mark, R.E., Walla, P., Schloerscheidt, A.M., Birch, C.S., and Allan, K. Dissociation of the neural correlates of implicit and explicit memory. Nature, 1998, 392, 595-98.

81. Rugg, M.D., Schloerscheidt, A.M., and Mark, R.E. An electrophysiological study of two indices of recollection. Journal of Memory and Language, 1998, 39, 47-69.

82. Rugg, M.D. Convergent approaches to electrophysiological and haemodynamic investigations of memory. Human Brain Mapping, 1998, 6, 394-98.

83. Rugg, M.D., Fletcher, P.C., Allan, K., Frith, C.D., Frackowiak, R.S.J., and Dolan, R.J. Neural correlates of memory retrieval during recognition memory and cued recall. NeuroImage, 1998, 8, 262-73.

84. Rugg, M.D., Walla, P., Schloerscheidt, A.M., Fletcher P.C., Frith, C.D., and Dolan, R.J. Neural correlates of depth of processing effects on recollection: evidence from brain potentials and PET. Experimental Brain Research, 1998, 123, 18-23.

85. Tendolkar, I. and Rugg, M.D. Electrophysiological dissociation of recency and recognition memory. Neuropsychologia, 1998, 36, 477-90.

86. Donaldson, D.I., and Rugg M.D. An event-related potential study comparing associative recognition and associative recall. Cognitive Brain Research, 1999, 8, 1-16.

87. Henson, R.N.A., Rugg, M.D., Shallice, T., Josephs, O., and Dolan, R.J. Recollection and familiarity in recognition memory: an event-related fMRI study. Journal of Neuroscience, 1999, 19, 3962-72.

88. Rugg, M.D., and Nieto-Vegas, M. Modality-specific effects of immediate word repetition: electrophysiological evidence. NeuroReport, 1999, 10, 2661-64.

89. Rugg, M.D., Fletcher, P.C, Chua, P M-L, and Dolan, R.J. The role of the prefrontal cortex in recognition memory and memory for source: an fMRI study. Neuroimage, 1999, 10, 520-29.

90. Allan, K., Dolan, R.J., Fletcher, P.C., and Rugg, M.D. The role of the anterior right prefrontal cortex in episodic memory retrieval. Neuroimage, 2000, 11, 217-27.

91. Allan, K., Robb, W.G K., Rugg, M.D. Neural correlates of cued recall: Depth of processing and modality effects. Neuropsychologia, 2000, 38, 1188-05.

92. Henson, R.N.A., Rugg, M.D., Shallice, T., and Dolan, R.J. Confidence in recognition memory for words: dissociating right prefrontal roles in episodic retrieval. Journal of Cognitive Neuroscience, 2000, 12, 913-23.

93. Maratos, E.J., and Rugg, M.D. Recognition memory for emotionally negative and neutral words: An ERP study. Neuropsychologia, 2000, 38, 1452-65.

94. Picton, T.W, Bentin, S., Berg, P., Donchin, E., Hillyard, S.A., Johnson, R. Jr., Miller, G.A., Ritter, W., Ruchkin, D.S., Rugg, M.D., Taylor, M.J. Guidelines for using human event-related potentials to study cognition: recording standards and publication criteria. Psychophysiology. 2000, 37, 127-52.

95. Potter, D.D., Pickles, C.D., Roberts, R.C. and Rugg, M.D. Scopolamine impairs memory performance and reduces frontal but not parietal visual P3 amplitude. Biological Psychology, 2000, 52, 37-52.

96. Potter, D.D., Pickles, C.D., Roberts, R.C. and Rugg, M.D. The effect of cholinergic receptor blockade by scopolamine on memory performance and the auditory P3. Journal of Psychophysiology, 2000, 14, 11-23.

97. Rugg, M.D. and Wilding, E.L. Retrieval processing and episodic memory. Trends in Cognitive Sciences, 2000, 4, 108-15.

98. Rugg, M.D., Allan, K., and Birch, C.S. Electrophysiological evidence for the modulation of retrieval orientation by depth of study processing. Journal of Cognitive Neuroscience, 2000, 12, 664-78.

99. Tendolkar, I., Rugg, M.D, Fell, J., Vogt, H., Scholz, M., Hinrichs, H., and Heinze, H.J. A magnetoencephalographic study of brain activity related to recognition memory in healthy young human subjects. Neuroscience Letters, 2000, 280, 69-72.

100. Allan, K., Wolf, H.A., Rosenthal, C.R., and Rugg, M.D. The effect of retrieval cues on post-retrieval monitoring in episodic memory: An electrophysiological study. Cognitive Brain Research, 2001, 12, 289–99

101. Maratos, E.J., Dolan, R.J., Morris, J.S., Henson, R.N.A., and Rugg, M.D. Neural activity associated with episodic memory for emotional context. Neuropsychologia, 2001, 39, 910-20.

102. Maratos, E.J., and Rugg, M.D. Electrophysiological correlates of the retrieval of emotional and non-emotional context. Journal of Cognitive Neuroscience, 2001, 13, 877-91.

103. Otten, L.J., Henson, R.N.A., and Rugg, M.D. Depth of processing effects on neural correlates of memory encoding: relationship between findings from across- and within-task comparisons. Brain, 2001, 124, 399-12.

104. Otten, L.J., and Rugg, M.D. Electrophysiological correlates of memory encoding are task-dependent. Cognitive Brain Research, 2001, 12, 11-18.

105. Otten, L.J., and Rugg, M.D. When more means less: neural activity related to unsuccessful memory encoding. Current Biology, 2001, 11, 1528-30.

106. Otten, L.J., and Rugg, M.D. Task-dependency of the neural correlates of episodic encoding as measured by fMRI. Cerebral Cortex, 2001, 11, 1150–60.

107. Tsivilis, D., Otten, L.J., and Rugg, M.D. Context effects on the neural correlates of recognition memory: an electrophysiological study. Neuron, 2001, 31, 497-505.

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282. Hill, P.F., de Chastelaine, M., and Rugg, M.D. Patterns of retrieval-related corticostriatal connectivity are stable across the adult lifespan. Cerebral Cortex, in press.

#### **Book Chapters**

1. 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.

2. 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.

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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. (Eds.), Functional neuroimaging and psychological theories of brain function, Oxford University Press, 2009.

26. Rugg, M.D., Johnson, J.D., and Uncapher, M.R. Encoding and retrieval in episodic memory: Insights from fMRI. In Duarte, A., Barense, M., & Addis, D.R. (Eds.), Handbook on the Cognitive Neuroscience of Memory. Wiley-Blackwell, 2015.

27. Rugg, M.D. Interpreting age-related differences in memory-related neural activity. In Cabeza, R., Nyberg, L., and Park, D.C. (Eds.), Cognitive Neuroscience of Aging: Linking Cognitive and Cerebral Aging – 2nd Edition. Oxford University Press, 2016.

28. Rugg, M.D. Frontoparietal contributions to retrieval. In Kahana, M.J., and Wagner, A.D. (Eds.), Handbook on Human Memory, Oxford University Press, in press.

### **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 Danish Council for Independent Research 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 Institutes of Health National Science Foundation Natural Sciences and Engineering Research Council of Canada NATO Scientific Affairs Division Research into Ageing (UK) SANE (schizophrenia: a national emergency) (UK) Science Foundation Ireland Swiss National Science Foundation United States-Israel Binational Science Foundation. Wellcome Trust World Health Organisation

## **Editing/Reviewing**

Editor-in-Chief *Neuropsychologia* (2009-2017). 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* (2005-).
Member of Editorial Board *PLOS Biology* (2005-2009).
Member of Editorial Board *Journal of Cognitive Neuroscience* (2005-2015).

Ad Hoc reviewer for approximately 30 other journals.

## Invited Presentations at Conferences, Symposia and Workshops since 2017

International workshop – 'Stop me if you've heard this one before: novelty, repetition and the brain. Plenary speaker. 'Relationships between hippocampal and perirhinal novelty effects, age, and memory performance'. University of East Anglia, Norwich, UK, May 2017.

International workshop – 'Towards consensus definitions on key terms in the cognitive neuroscience of aging and dementia'. Invited speaker. 'Compensation: avoiding circularity and a preliminary classification scheme'. McGill University, Montreal, Canada, June 2017.

Cognitive Neuroscience Society. Chair and contributor to symposium: Neural Dedifferentiation and Age-Related Cognitive Decline. 'Age-Related Neural Dedifferentiation – Some Points for Discussion'. Boston, April 2018.

Cognitive Aging Conference. Symposiom contributor. 'Age-Related differences in the neural correlates of cognitive processing: from description to interpretation'. Atlanta, May 2018.

2nd Cambridge Representational Similarity Analysis and Advanced Computational Methods Workshop. 'MVPA: the Good, the Bad and the Ugly'. Cambridge, UK, May 2018.

Memory Disorders Research Society. Symposium organizer and contributor. 'The striatum and memory retrieval from a dual-process perspective'. Toronto, Canada, October 2018.

Cognitive Neuroscience Society. Invited symposium contributor. 'The role of semantic memory in memory for unique events'. San Francisco, March 2019.

McGill University: conference on Life Trajectories and Interventions that Support Successful Neurocognitive Aging. Invited contributor. 'Challenges in using functional neuroimaging to predict individual trajectories of age-related cognitive decline'. Montreal, Canada, September 2019.

Memory Disorders Research Society. Symposium contributor. 'Dedifferentiation as a moderator of age-related differences in specificity of retrieval-related reinstatement'. New York, October, 2019.

3rd Workshop on Research Definitions for Reserve and Resilience in Cognitive Aging and Dementia. Chair. 'Application of the framework: brain imaging'. Bethesda, October/November, 2021.

Cognitive Aging Conference. Symposium organizer and contributor. 'Neural selectivity and brain aging. Atlanta, March, 2022.

Cognitive Neuroscience of Aging Symposium. Plenary speaker. 'The cognitive neuroscience of aging: looking back and looking forward'. Dallas, May, 2022.

New Perspectives in Declarative Memory. Invited speaker. 'What puts the auto into autonoetic'? Norwich, UK, June, 2022.

UT Systemwide Brain Summit. Symposium speaker. 'Cognitive and brain decline in schizophrenia: a lifespan approach'. Austin, November, 2022.

# Past and Current Membership of External Committees (selected)

1) Local Secretary and national committee member of Brain Research Association (1981-84)

2) Evoked Potentials Review Subcommittee of the Neurosciences Board of the Medical Research Council (1986)

3) Committee member Psychophysiology Society (1987-88)

4) Committee member European Brain and Behaviour Society (1990-95)

5) Advisory Council of the International Association for the Study of Attention and Performance (1992-2000)

6) Committee member Experimental Psychology Society (1996-1998)

7) Nominations committee, Society for Psychophysiological Research (1996-1997)

8) Social and psychological studies sectional committee, Royal Society of Edinburgh (1997-1999)

9) Scientific advisory board, Max-Planck Institute for Cognitive Neuroscience, Leipzig (1997-2002)

10) Medical Research Council Advisory Board (1997-2003)

11) Department of Health working party on chronic health effects of low-level exposure to organophosphates (1998-1999). Report: 'Organophosphates'. Department of Health, HM Government, 1999

12) Program Committee, Cognitive Neuroscience Society (1999-2003); Chair of committee (2002-2003)

13) HM Government Independent Expert Group on Mobile Phones (1999-2000). Report: 'Mobile Phones and Health'. Independent Expert Group on Mobile Phones, 2000

14) Scientific Advisory Committee, Donders Institute for Functional Imaging, Nijmegen, Holland (2000-2005)

15) Programme Management Committee of the UK Mobile Telecommunications Health Research Programme (2000-2003; 2005-2008).

16) National Radiological Protection Board: Advisory Group on Non-Ionizing Radiation (2001-2002)

17) National Science Foundation. Human Social and Dynamics Panel (2004).

18) National Institutes of Health. Cognition and Perception Study Section, *ad hoc* member (2006).

19) National Institute of Mental Health. Conte Centers for Neuroscience Research Study Section (Chair) (2006-2007).

20). National Institutes of Health. Interdisciplinary Behavioral Science Centers for Mental Health Study Section (Chair). (2006).

21). National Institute of Mental Health. Special Emphasis Panel: Building Translational Research in Integrative Behavioral Science. (Chair). (2007).

22). National Institute of Mental Heath. Basic Centers Working Group (co-Chair) (2007).

23). National Institutes of Health. Cognition and Perception Study Panel, chartered member (2007-2009), Chair (2009-2011).

24) National Institute of Mental Health. Interdisciplinary Developmental Science Centers Study Section (Chair). (2007-2008).

25) National Institute of Mental Health. Conte Basic Neuroscience Centers Study Section (Chair). (2009, 2011).

26) National Institute of Mental Health. Conte Basic Neuroscience Centers Study Section (member). (2012).

27) National Steering Committee, Wayne State University Institute of Gerontology (member). (**2012 -** )

28) National Science Foundation. Member, Pre-Proposal Review Panel for Modulation II, Neural Systems. (2013).

29) Advisory Committee, Conte Center on the Neurobiology of Social Decision-Making, Caltech. (2013-)

30) National Institutes of Health. Neurobiology of Learning and Memory Study Section, chartered member, (2014-2017), Chair (2017-2019)

31) University of Texas System Advisory Board for Neuroscience and Neurotechnology Research Institute. (**2014-**).

32) National Institute of Mental Health. BRAIN initiative: Planning for next generation human brain imaging (Chair). (2015).

33) National Institute of Mental Health. BRAIN initiative: Foundations of non-invasive functional human brain imaging and recording - bridging scales and modalities. (Chair). (2016, 2018)

34) National Institute of Mental Health. *Ad hoc* review member of the NIMH Board of Scientific Counselors. (2016).

35) National Institutes of Health. Center for Scientific Review. Special Emphasis Panel.
'Novel Approaches to Diagnosing Alzheimer's Disease & Predicting Progression'. (2018).
36) National Institute on Aging. Special Emphasis Panel. 'Transition to Aging Research Award for Predoctoral Students'. (2020).

37). National Institutes of Health. Center for Scientific Review. Molecular, Cellular, and Behavior Neuroscience Fellowship Study Section. (Chair). (2020).

38). National Institute of Mental Health. *Ad Hoc* review member for Board of Scientific Counselors. (2021).

39). National Institute on Aging. NIA MSTEM: Advancing Diversity in Aging Research Through Undergraduate Education Study Section. Member.

39). National Institute of Neurological Disorders and Stroke. Special Emphasis Panel: BRAIN Initiative: Team-Research BRAIN Circuit Programs. (2021).

40). National Institute of Neurological Disorders and Stroke. *Ad Hoc* review member for Board of Scientific Counselors. (2022).

# **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