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Education: Ph.D. 1994, Psychology/Behavioral Neuroscience
University of Southern California
Los Angeles, California

B.S. 1988, Psychology
Regis College
Denver Colorado

Professional Memberships: Society for Neuroscience
American Psychological Society
Psi Chi National Honor Society

Professional Experience:

11/01-- Assistant Professor in Residence, Department of
Psychiatry, UCSD and Non-Clinician Ph.D., Research
Service, Veterans Administration Medical Center, San
Diego. Fellow, Center for the Neurobiology of Learning
and memory, UC Irvine.

1/00 to 10/01 Assistant Project Scientist, Department of Psychiatry,
UCSD

03/94 to 2/99 Postdoctoral Fellow, Department of Psychiatry, UCSD

Research:

1994-present: University of California, San Diego and Veterans
Administration Medical Center, San Diego

Medial temporal lobe memory system in nonhuman
primates. Classical conditioning in humans and monkeys
with brain damage. Neurobiology of visual recognition
memory in rats.

1989- 1994: University of Southern California
Neural substrates underlying classical eyeblink conditioning. Reversible lesion by cooling, electrophysiological stimulation and recording. Rabbits

1987-1989: Regis College
Facilitative affects of cross-modality transfer training in rats with posterior cortical aspirations.

Awards

Current Grant Support:

2003: National Science Foundation (PI) 0237053
*Memory and Hippocampus:
Analysis of Retrograde Amnesia*
1/2003 thru 12/2005 \$75,000 annual

2003: Alzheimer's Disease Research Center Grant (Co-PI).
Olfactory and visual memory span in humans and rats with hippocampal lesions: Responding to recent challenges to animal models of memory impairment in Alzheimer's Disease.
1/2003 thru 12/2003 \$30,000 annual

2003: VA Merit Review
Neuropsychology of Retrograde Amnesia
1/2003 thru 12/2005 \$193,000 annual

2002: James S. McDonnell Foundation (PI) 21002077
21st Century Research Award
Bridging Brain, Mind & Behavior
Learning, Storage, and Retrieval: An Improved Approach to Hippocampal Function.
1/2003 thru 12/2007 \$90,000 annual

Past:

2002: Academic Senate Grant UCSD. (PI). RB089M-CLARK
Memory in the rodent brain.

2001: Alzheimer's Disease Research Center Grant (PI). 5PSOAG05131
Time-dependent Contribution of the Hippocampus to Memory

1995: Individual National Research Service Award (PI). F32MH11154-01
Cooling Lesions Effects on Declarative Memory.

- 1995: Postdoctoral Fellowship:
UCSD training grant II.
Neuroplasticity of Aging.
- 1994: Postdoctoral Fellowship: UCSD
training grant I.
Neuroplasticity of Aging.
- 1994: *Outstanding Dissertation Award*
Department of Psychology,
University of Southern California.
- 1992-1994 Research Assistantship.
University of Southern California.
- 1989-1994 Teaching Assistantship.
University of Southern California.
- 1988: Magna Cum Laude:
Regis College
- 1987 Psi Chi Nation Honor Society:
Founding Member, Regis College.

Publications:

Research Articles:

1. **Clark, R.E.**, and Delay, E.R. (1991). Reduction of lesion-induced deficits in visual reversal learning following cross-modal training. *Restorative Neurology and Neuroscience*. **3**: 247-255.
2. **Clark, R.E.**, Zhang, A.A. & Lavond, D.G. (1992). Reversible lesions of the cerebellar interpositus nucleus during acquisition and retention of a classically conditioned behavior. *Behavioral Neuroscience*. **106**: 879-888.
3. **Clark, R.E.** & Lavond, D.G. (1993). Reversible lesions of the red nucleus during acquisition and retention of a classically conditioned behavior in rabbits. *Behavioral Neuroscience*. **107**: 264-270.
4. **Clark, R.E.** and Lavond, D.G. (1994) Reacquisition of classical conditioning after removal of cerebellar cortex in Dutch Belted rabbits. *Behavioral Brain Research*. **61**: 101-106.
5. Lavond, D.G., Kanzawa, S.A., Ivkovich, D. and **Clark, R.E.** (1994). Transfer of learning but not memory after unilateral cerebellar lesion. *Behavioral Neuroscience*. **108**: 284-293.
6. **Clark, R.E.** and Lavond, D.G. (1995). Neural unit activity in the trigeminal complex with interpositus or red nucleus inactivation during classical eyeblink conditioning. *Behavioral Neuroscience*. **109**: 13-21.
7. Kim, J.J., **Clark, R.E.** and Thompson, R.F. (1995). Hippocampectomy impairs the memory of recently, but not remotely, acquired trace eyeblink responses. *Behavioral Neuroscience*. **109(2)**: 195-203.
8. **Clark, R.E.**, Zhang, A.A. and Lavond, D.G. (1997). The importance of cerebellar cortex and facial nucleus in acquisition and retention of eyeblink/NM conditioning: Evidence for critical unilateral regulation of the conditioned response. *The Neurobiology of Learning and Memory*. **67(2)**: 96-111.
9. **Clark, R.E.**, Gohl, E.B. & Lavond, D.G. (1997). The learning related activity that develops in the pontine nuclei during classical eyeblink conditioning is dependent on the interpositus nucleus. *Learning and Memory*. **3**: 532-544.
10. **Clark, R.E.** and Squire, L.R. (1998). Classical conditioning and brain systems: A key role for awareness. *Science*. **280**: 77-81.

11. **Clark, R.E.** and Zola, S. (1998). Trace eyeblink classical conditioning in the monkey: A nonsurgical method and behavioral analysis. *Behavioral Neuroscience*. **112**: 1062-1068.
12. **Clark, R.E.** and Squire, L.R. (1999). Human eyeblink classical conditioning: Effects of manipulating awareness of the stimulus contingencies. *Psychological Science*. **10**: 14-18.
13. Buffalo, E.A., Ramus, S.J., **Clark, R.E.**, Teng, E., Squire, L.R., and Zola, S.M. (1999). Dissociation between the effects of damage to perirhinal cortex and area TE. *Learning and Memory*. **6(6)**: 572-599.
14. Zola, S.M., Squire, L.R., Teng, E., Stefanacci, L., Buffalo, E.A. and **Clark, R.E.** (2000). Impaired recognition memory in monkeys after damage limited to the hippocampal region. *Journal of Neuroscience*. **20**: 451-463.
15. Manns, J.R., **Clark, R.E.**, and Squire, L.R. (2000). Awareness predicts the magnitude of single-cue trace eyeblink conditioning. *Hippocampus*. **10**: 181-186..
16. Thompson, R.F., Swain, R., **Clark, R.E.**, and Shinkman, P. (2000). Intracerebellar conditioning—Brogden and Gantt revisited. *Behavioural Brain Research*, **110**: 3-11..
17. Manns, J.R., **Clark, R.E.**, and Squire, L.R. (2000). Parallel acquisition of awareness and trace eyeblink classical conditioning. *Learning and Memory*, **7**: 267-272.
18. **Clark, R.E.**, Zola, S.M. and Squire, L.R. (2000). Impaired Recognition Memory in Rats after Damage to the Hippocampus. *Journal of Neuroscience*, **20**: 8853-8860.
19. Squire, L.R., **Clark, R.E.**, and Knowlton, B.J. (2001). Retrograde Amnesia. *Hippocampus*, **11**: 50-55.
20. **Clark, R.E.**, West, A.N., Zola, S.M., and Squire, L.R. (2001). Rats with lesions of the hippocampus are impaired on the delayed nonmatching-to-sample task. *Hippocampus*, **11**: 176-186.
21. **Clark, R.E.**, Manns, J.R., and Squire, L.R. (2001). Trace and delay eyeblink conditioning: Contrasting phenomena of declarative and nondeclarative memory. *Psychological Science*, **12**: 304-308.
22. Manns, J.R., **Clark, R.E.**, and Squire, L.R. (2001). Single-cue delay eyeblink conditioning is unrelated to awareness. *Cognitive, Affective, and Behavioral Neuroscience*, **2**: 192-198.

23. Manns, J.R., **Clark, R.E.**, and Squire, L.R. (2002). Standard delay eyeblink classical conditioning is independent of awareness. *Journal of Experimental Psychology: Animal Behavior Processes*, **28(1)**: 32-37.
24. **Clark, R.E.**, Broadbent, N.J., Zola, S., and Squire, L.R. (2002). Anterograde amnesia and temporally-graded retrograde amnesia for a nonspatial memory task following lesions of hippocampus and subiculum, *Journal of Neuroscience*, **22(11)**: 4663-4669.
25. **Clark, R.E.**, Manns, J.R., and Squire, L.R. (2002). Classical conditioning, awareness, and brain systems. *Trends in Cognitive Science*, **6(12)**: 524-531.
26. Stefanacci, L., **Clark, R.E.**, and Zola, S.M. (2003). Selective neurotoxic amygdala lesions in monkeys disrupts reactivity to food and object stimuli and has limited effects on memory. *Behavioral Neuroscience*, **117**: 1029-1043.
27. Squire, L.R., Stark, C.E.L, **Clark, R.E.** (2004). The medial temporal lobe. *Annual Review of Neurosciences*, **27**: 279-306.
28. **Clark, R.E.** and Squire, L.R. (2004). The Importance of Awareness for Eyeblink Conditioning Is Conditional: Theoretical Comment on Bellebaum and Daum (2004) *Behavioral Neuroscience*, **118(6)**: 1466-1468.
29. Broadbent N.J., Squire L.R., and **Clark, R.E.** (2004). Spatial memory, recognition memory, and the hippocampus. *Proc. Natl. Acad. Sci.* **101(40)**: 14515-14520.
30. **Clark, R.E.**, Broadbent N.J., and Squire L.R. (2005a). Hippocampus and remote spatial memory in rats. *Hippocampus*, **15(2)**: 260-272.
31. Smith, C.N., Manns, J.R., **Clark, R.E.**, and Squire, L.R. (2005). Acquisition of differential delay eyeblink classical conditioning is independent of awareness. *Behavioral Neuroscience*, **119(1)**: 78-86.
32. **Clark, R.E.**, Broadbent N.J., and Squire L.R. (2005b). Impaired remote spatial memory after hippocampal lesions despite extensive training beginning early in life. *Hippocampus*, **15**: 340-346.
33. **Clark, R.E.** (2004). The Classical Origins of Pavlov's Conditioning. *Integrative Physiological & Behavioral Science*, **39(4)**: 279-294.
34. **Clark, R.E.** (2005). Interrogating rodents regarding their object and spatial memory. *Current Opinion in Neurobiology*, **15**: (in press)

Book Chapters:

1. **Clark, R.E.** and Squire, L.R. (2000). Awareness and the conditioned eyeblink response. In D.S. Woodruff-Pak and J.E. Steinmetz (Eds.), *Eyeblink Classical Conditioning: Human*. Kluwer Academic Publishers.
2. **Clark, R.E.** (2002). Classical Conditioning. *Encyclopedia of the Human Brain*. Academic Press.
3. Broadbent, N., **Clark, R.E.**, Zola, S., and Squire, L.R. (2002). The Medial Temporal Lobe and Memory. In L.R. Squire and D.L. Schacter, (Eds.). *The Neuropsychology of Memory*, 3rd Edition.
4. Squire, L.R., Clark, R.E., and Bayley, P.J. (2004). Medial temporal lobe function and memory. In M. Gazzaniga (Ed.). *The Cognitive Neurosciences*, 3rd Edition.