

Kiriana K. Cowansage, Ph.D

Postdoctoral Research Associate

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Credentials

Ph.D, 2010, Neuroscience, New York University, New York, NY

B.A., 2005, Neuroscience, Vassar College, Poughkeepsie, NY

Research Experience

<u>Position</u>	<u>Dates</u>	<u>Area</u>	<u>Institution</u>	<u>Lab Head</u>
▪ Post-doc	01/11 - Current	Neuroscience	TSRI, La Jolla	Mark Mayford, Ph.D
▪ Post-doc (Collaboration)	09/10 – 12/10	Neuroscience	NYU Langone	Charles Hoeffler, Ph.D
▪ Doctoral Research	09/05 – 07/10	Neuroscience	NYU/CNS	Joseph LeDoux, Ph.D; Eric Klann, Ph.D
▪ Internship	05/05 – 08/05 12/04 – 01/05 05/04 – 08/04	Neuroscience	NIH/NICHD	Mark Stopfer, Ph.D
▪ Assistantship	09/02 – 05/03	Biology; Psychology	Vassar College	David Jemiolo, Ph.D; Michele Tugade, Ph.D
▪ Internship	05/02 – 08/02	Pharmacology	NIH/NCI	Yves Pommier, M.D., Ph.D
▪ Internship	06/01 – 08/01	Pharmacology	USC	Nouri Neamati, Ph.D
▪ Internship	06/00 – 06/01	Pharmacology	NIH/NCI	Yves Pommier, M.D., Ph.D

Awards and Fellowships

Oct 2014 — Oct 2015	California Institute for Regenerative Medicine (CIRM) Interdisciplinary Stem Cell Training Award.
July 2012 — Aug 2012	RIKEN Brain Science Institute, Summer program on learning and memory
Sept 2008 — Sept 2010	Ruth L. Kirschstein National Research Service Award (NRSA), NIMH
May 2005 — Aug 2005	National Institutes of Health, National Institute of Child Health and Human Development Student Summer Intramural Research Training Award (IRTA)
June 2002 — Aug 2002	National Institutes of Health, National Cancer Institute Summer Research Training Award (CRTA)
June 2001 — Aug 2001	Elizabeth Glaser Pediatric AIDS Foundation Research Award
June 2000 — June 2001	Howard Hughes Medical Institute/National Institutes of Health/Montgomery County Public Schools Student Internship

Publications

1. **Cowansage K**, Shuman T, Dillingham B., Chang A, Golshani P & Mayford M. (2014). Direct reactivation of a coherent neocortical memory of context. *Neuron*, In Press.
[http:// dx.doi.org/10.1016/j.neuron.2014.09.022](http://dx.doi.org/10.1016/j.neuron.2014.09.022). PMID: 25308330
2. **Cowansage K**, Bush DEA, Josselyn S, Klann E & LeDoux JE (2013). Basal variability in CREB phosphorylation predicts trait-like differences in amygdala-dependent memory. *Proc Natl Acad Sci*. 110(41): 16645-50. PMID 24062441.
3. Hoeffler CA, Wong H, Cain P, Levenga J, **Cowansage K**, Choi Y, Davy C, Majmundar N, McMillan DR, Rothermel BA, Klann E (2013). Regulator of calcineurin 1 modulates expression of innate anxiety and anxiogenic responses to selective serotonin reuptake inhibitor treatment. *J Neurosci*. 33(43): 16930-44. PMID: 24155299.
4. Sanders J, **Cowansage K**, Baumgärtel K & Mayford M (2012). Elimination of dendritic spines with long-term memory is specific to active circuits. *J Neurosci* 32(36): 12570-8. PMID 22956846.
5. Kaphzan H, Hernandez P, Jung JI, **Cowansage K**, Deinhardt K, Chao MV, Abel T & Klann E (2012). Reversal of impaired hippocampal long-term potentiation and contextual fear memory deficits in Angelman syndrome model mice by ErbB inhibitors. *Biol Psychiatry* 72(3): 182-90. PMID 22381732
6. Hoeffler CA*, **Cowansage K***, Arnold EC, Banko JL, Moerke NJ, Rodriguez R, Schmidt EK, Klosi E, Chorev M, Lloyd RE, Pierre P, Wagner G, Ledoux JE & Klann E (2011). Inhibition of the interactions between eukaryotic initiation factors 4E and 4G impairs long-term associative memory consolidation but not reconsolidation. *Proc Natl Acad Sci* 108(8): 3383-3388. *Authors contributed equally PMID 21289279.
7. **Cowansage K**, LeDoux JE & Monfils M-H (2010). BDNF: A dynamic gatekeeper to plasticity. *Cur Mol Pharmacol* 3(1): 12-29. PMID 20030625.
8. Monfils M-H, **Cowansage K**, Klann E & LeDoux JE (2009). Behavioral blockade of reconsolidation prevents return of fear. *Science*. 324(5929): 951-5. PMID 19342552.
9. Monfils M-H, **Cowansage K** & LeDoux JE (2007). BDNF: linking fear learning to memory consolidation. *Mol Pharmacol* 72(2): 235-7. PubMed PMID 17522182.
10. Marchand C, Johnson AA, Karki RG, Pais GC, Zhang X, **Cowansage K**, Patel TA, Nicklaus MC, Burke TR Jr & Pommier Y (2003). Metal-dependent inhibition of HIV-1 integrase by β -diketo acids and resistance of the soluble double mutant, (F185K/C280S). *Mol Pharmacol* 64(3): 600-609. PMID 12920196.
11. Marchand C, Zhang X, Pais GC, **Cowansage K**, Neamati N, Burke TR Jr & Pommier Y (2002). Structural determinants for HIV-1 integrase inhibition by beta-diketo acids. *J Biol Chem* 277(15): 12596-12603. PMID 11805103.
12. Pais GC, Zhang X, Marchand C, Neamati N, **Cowansage K**, Svarovskaia ES, Pathak VK, Tang Y, Nicklaus M, Pommier Y & Burke TR Jr. (2002). Structure activity of 3-aryl-1,3-diketo-containing compounds as HIV-1 integrase inhibitors. *J Med Chem* 45(15): 3184-3194. PMID 12109903
13. Neamati N, Lin Z, Karki RG, Orr A, **Cowansage K**, Strumberg D, Pais GC, Voigt JH, Nicklaus MC, Winslow HE, Zhao H, Turpin JA, Yi J, Skalka AM, Burke TR Jr & Pommier Y (2002). Metal-dependent inhibition of HIV-1 integrase. *J Med Chem* 45(26): 5661-5670. PMID 12477350.

Abstracts, Invited Talks & Contributions

1. **Cowansage K** (Dec. 2014.). Invited Talk. Workshop in Memory of Rita Levi-Montalcini. European Brain Research Institute (EBRI). Rome, Italy.
2. **Cowansage K** & Mayford M (2013). Downstream circuit analysis of an optogenetically reactivated memory. *Society for Neuroscience Abstracts*, 190.13, San Diego, CA.
3. **Cowansage K** (2013). Invited Talk. Genetic tracking and manipulation of active neural circuits. *Society for Neuroscience Minisymposium*, San Diego, CA.
4. **Cowansage K** & Mayford M (2012). Retrieval of contextual fear by optogenetic reactivation of a stable cortical representation. *Society for Neuroscience Abstracts*, 200.08, New Orleans, LA.
5. **Cowansage K** & Mayford M (2011). Invited Talk. Re-exposure to a known context induces a refined pattern of cellular activation in bitransgenic mice expressing a novel dual-color fluorescent timer. *Molecular and Cellular Cognition Society*, Washington, DC.
6. **Cowansage K**, Diaz-Mataix L, Monfils M-H & LeDoux JE (2010). Extinction and synapse-specific disruption of Pavlovian fear memories without emotional expression. *Society for Neuroscience Abstracts*, 914.20, San Diego, CA.
7. Hoeffler CA, Cain P, **Cowansage K**, Wong H, Rothermel E & Klann E (2010). Developmental expression of RCAN 1 regulates innate anxiety via inhibition of phosphatase signaling. *Society for Neuroscience Abstracts*, 265.16, San Diego, CA.
8. Trinh M A, Kaphzan H, Van Driesche S, **Cowansage K**, Cavener DR, Darnell JC & Klann E (2010). Enhanced perseverative behaviors in mice lacking the eIF2a kinase PERK: links to schizophrenia. *Society for Neuroscience Abstracts*, 471.13, San Diego, CA.
9. **Cowansage K**, Klann E & LeDoux JE (2009). Stable fear memory phenotypes predict basal differences in CREB. *Society for Molecular and Cellular Cognition*, Chicago, IL.
10. **Cowansage K**, Klann E & LeDoux JE (2009). Pre-training exposure to novelty enhances performance in memory-impaired individuals. *Society for Neuroscience Abstracts*, 479.24, Chicago, IL.
11. Cain P, Hoeffler C, **Cowansage K**, Wong H, Rothermel B & Klann E (2009). RCAN1 regulates general anxiety via inhibition of phosphatase signaling. *Society for Neuroscience Abstracts*, 343.12, Chicago, IL.
12. **Cowansage K**, Bush DEA, Klann E & LeDoux JE (2008) Individual differences in biochemical modulators of fear acquisition, consolidation, and regulation. *Society for Neuroscience Abstracts* 591.18, Washington, DC
13. Hoeffler CA, **Cowansage K**, Arnold EC, Ledoux JE, Moerke N, Wagner G & Klann E (2008). Effects of small molecule inhibition on the interaction between initiation factors eIF4E and eIF4G following associative fear conditioning. *Society for Neuroscience Abstracts* 591.25, Washington, DC
14. Monfils M-H, **Cowansage K**, Klann EK & LeDoux JE (2008). Behavioral blockade of reconsolidation prevents return of fear. *Society for Neuroscience Abstracts* 591.17, Washington, DC
15. **Cowansage K**, Monfils M-H & LeDoux JE (2007). The sound of silence: when the signal for danger is no signal at all. *Society for Neuroscience Abstracts*. San Diego, CA
16. **Cowansage KK**, Monfils M-H & LeDoux JE (2007). The sound of silence: when the signal for danger is no signal at all. *Pavlovian Society Abstracts*. Austin, TX

17. Hoeffler CA, **Cowansage K**, LeDoux JE, Wagner G & Klann E (2007). Effects of small molecule inhibition on the interaction between initiation factors eIF4E and eIF4G following fear conditioning. *Society for Neuroscience Abstracts*. San Diego, CA
18. Monfils M-H, **Cowansage K**, Chao MV & LeDoux JE (2007). Brain-derived neurotrophic factor mediates fear memory consolidation and induces potentiation of thalamo-amygdala synapses. *Society for Neuroscience Abstracts*. San Diego, CA
19. Monfils MH, Diaz-Mataix L, **Cowansage K**, Doyère V, Dèbiec J & LeDoux JE (2007). *Pavlovian Society Abstracts*. Austin, TX.
20. **Cowansage K**, Bush DEA, McEwen BS & LeDoux JE (2006). Comparison of the effects of acute swim, restraint and shock stress on fear conditioning. *Society for Neuroscience Abstracts 370.6*, Atlanta, GA.

Membership in Societies

Society for Neuroscience

Molecular and Cellular Cognition Society