Reference list for the poster | **Control of sleep in mammals**
Ronald McGregor and Jerome Siegel

1. Bjorness, T. E. & Greene, R. W. Adenosine and sleep. *Curr. Neuropharmacol.* **7**, 238–245 (2009).
2. Porkka-Heiskanen, T. Sleep regulatory factors. *Arch Ital. Biol.* **152**, 57–65 (2014).
3. Brown, R. E., Basheer, R., McKenna, J. T., Strecker, R. E. & McCarley, R. W. Control of sleep and wakefulness. *Physiol. Rev.* **92**, 1087–1187 (2012).
4. Borbely, A. A. & Achermann, P. in *Principles and Practice of Sleep Medicine* (eds Kryger, M. H., Roth, T. & Dement, W. C.) 405–417 (Elsevier Saunders, 2005).
5. Krueger, J. M., Obal, F. J. & Fang, J. Why we sleep: a theoretical view of sleep function. *Sleep Med. Rev.* **3**, 119–129 (1999).
6. Tononi, G. & Cirelli, C. Sleep and the price of plasticity: from synaptic and cellular homeostasis to memory consolidation and integration. *Neuron* **81**, 12–34 (2014).
7. Xie, L. *et al.* Sleep drives metabolite clearance from the adult brain. *Science* **342**, 373–377 (2013).
8. Opp, M. R. Sleeping to fuel the immune system: mammalian sleep and resistance to parasites. *BMC Evol. Biol.* **9**, 8 (2009).
9. Siegel, J. M. Clues to the functions of mammalian sleep. *Nature* **437**, 1264–1271 (2005).
10. Ackermann, S., Hartmann, F., Papassotiropoulos, A., de Quervain, D. J. & Rasch, B. No associations between interindividual differences in sleep parameters and episodic memory consolidation. *Sleep* **38**, 951–959 (2014).
11. Rasch, B., Pommer, J., Diekelmann, S. & Born, J. Pharmacological REM sleep suppression paradoxically improves rather than impairs skill memory. *Nat. Neurosci.* **12**, 396–397 (2009).
12. Siegel, J. M. in *Principles and Practice of Sleep Medicine* (eds Kryger, M. H., Roth, T. & Dement, W. C.) 92–111 (Elsevier, 2011).
13. Siegel, J. M. The REM sleep-memory consolidation hypothesis. *Science* **294**, 1058–1063 (2001).
14. Partch, C. L., Green, C. B. & Takahashi, J. S. Molecular architecture of the mammalian circadian clock. *Trends Cell Biol.* **24**, 90–99 (2014).
15. Edgar, D. M., Dement, W. C. & Fuller, C. A. Effect of SCN lesions on sleep in squirrel monkeys: evidence for opponent processes in sleep–wake regulation. *J. Neurosci*. **13**, 1065–1079 (1993).
16. Lee, M. L., Swanson, B. E. & de la Iglesia, H. O. Circadian timing of REM sleep is coupled to an oscillator within the dorsomedial suprachiasmatic nucleus. *Curr. Biol.* **19**, 848–852 (2009).
17. Santhi, N. *et al.* The spectral composition of evening light and individual differences in the suppression of melatonin and delay of sleep in humans. *J. Pineal Res.* **53**, 47–59 (2012).

18. Coindet, J., Chouvet, G. & Mouret, J. Effects of lesions of the suprachiasmatic nuclei on paradoxical sleep and slow wave sleep circadian rhythms in the rat. *Neurosci. Lett*. **1**, 243–247 (1975).
19. Shiromani, P. J. *et al.* Sleep rhythmicity and homeostasis in mice with targeted disruption of mPeriod genes. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* **287**, R47–R57 (2004).
20. Aston-Jones, G. & Bloom, F. E. Activity of norepinephrine-containing locus coeruleus neurons in behaving rats anticipates fluctuations in the sleep–waking cycle. *J. Neurosci.* **1**, 876–886 (1981).
21. McGinty, D. J. & Harper, R. M. Dorsal raphe neurons: depression of firing during sleep in cats. *Brain Res.* **101**, 569–575 (1976).
22. Nitz, D. & Siegel, J. M. GABA release in the posterior hypothalamus of the cat as a function of sleep/wake state. *Amer. J. Physiol.* **40**, R1707–R1712 (1996).
23. Nitz, D. & Siegel, J. M. GABA release in the dorsal raphe nucleus: role in the control of REM sleep. *Amer. J. Physiol.* **273**, R451–R455 (1997).
24. Nitz, D. & Siegel, J. M. GABA release in the cat locus coeruleus as a function of the sleep/wake state. *Neuroscience* **78**, 795–801 (1997).
25. McGregor, R., Wu, M.-F., Barber, G., Ramanathan, L. & Siegel, J. M. Highly specific role of hypocretin (orexin) neurons: differential activation as a function of diurnal phase, operant reinforcement vs. operant avoidance and light level. *J. Neurosci.* **31**, 15455–15467 (2011).
26. Blouin, A. M. *et al.* Human hypocretin and melanin-concentrating hormone levels are linked to emotion and social interaction. *Nat. Commun*. **4**, 1547 (2013).
27. Baimel, C. *et al.* Orexin/hypocretin role in reward: implications for opioid and other addictions. *Br. J. Pharmacol.* **172**, 334–348 (2015).
28. Siegel, J. M. & Tomaszewski, K. S. Behavioral organization of reticular formation: studies in the unrestrained cat. I. Cells related to axial, limb, eye, and other movements. *J. Neurophysiol.* **50**, 696–716 (1983).
29. Siegel, J. M., Tomaszewski, K. S. & Wheeler, R. L. Behavioral organization of reticular formation: studies in the unrestrained cat: II. Cells related to facial movements. *J. Neurophysiol.* **50**, 717–723 (1983).
30. Jones, B. E. Modulation of cortical activation and behavioral arousal by cholinergic and orexinergic systems. *Ann. N. Y. Acad Sci.* **1129**, 26–34 (2008).
31. Lapierre, J. L. *et al.* Cortical acetylcholine release is lateralized during asymmetrical slow-wave sleep in northern fur seals. *J. Neurosci.* **27**, 11999–12006 (2007).
32. Steriade, M., Pare, D., Datta, S., Oakson, G. & Curro, D. Different cellular types in mesopontine cholinergic nuclei related to ponto-geniculo-occipital waves. *J. Neurosci.* **10**, 2560–2579 (1990).

33. Steriade, M., Datta, S., Pare, D., Oakson, G. & Curro, D. Neuronal activities in brain-stem cholinergic nuclei related to tonic activation processes in thalamocortical systems. *J. Neurosci.* **10**, 2541–2559 (1990).
34. Siegel, J. M. Behavioral relations of medullary reticular formation cells. *Exp. Neurol.* **65**, 691–698 (1979).
35. Siegel, J. M. *et al.* Activity of medial mesopontine units during cataplexy and sleep-waking states in the narcoleptic dog. *J. Neurosci.* **12**, 1640–1646 (1992).
36. Luppi, P. H. *et al.* The neuronal network responsible for paradoxical sleep and its dysfunctions causing narcolepsy and rapid eye movement (REM) behavior disorder. *Sleep Med. Rev.* **15**, 153–163 (2011).
37. Eguchi, K. & Satoh, T. Characterization of the neurons in the region of solitary tract nucleus during sleep. *Physiol. Behav.* **24**, 99–102 (1980).
38. Eguchi, K. & Satoh, T. Convergence of sleep-wakefulness subsystems onto single neurons in the region of cat's solitary tract nucleus. *Arch. Ital. Biol.* **118**, 331–345 (1980).
39. Golanov, E. V. & Reis, D. J. Neurons of nucleus of the solitary tract synchronize the EEG and elevate cerebral blood flow via a novel medullary area. *Brain Res*. **892**, 1–12 (2001).
40. Key, B. & Mehta, V. Changes in electrocortical activity induced by the perfusion of 5-hydroxtryptamine into the nucleus of the solitary tract. *Neuropharm.* **16**, 99–106 (1977).
41. Magnes, J., Moruzzi, G. & Pompeiano, O. Synchronization of the EEG produced by low-frequency electrical stimulation of the region of the solitary tract. *Arch. Ital. Biol.* **99**, 33–67 (1961).
42. Lai, Y. Y. & Siegel, J. M. Pontomedullary glutamate receptors mediating locomotion and muscle tone suppression. *J. Neurosci.* **11**, 2931–2937 (1991).
43. Lai, Y. Y., Clements, J. & Siegel, J. Glutamatergic and cholinergic projections to the pontine inhibitory area identified with horseradish peroxidase retrograde transport and immunohistochemistry. *J. Comp. Neurol.* **336**, 321–330 (1993).
44. Lai, Y. Y. *et al.* Brainstem projections to the ventromedial medulla in cat: retrograde transport horseradish peroxidase and immunohistochemical studies. *J. Comp. Neurol.* **408**, 419–436 (1999).
45. Villablanca, J. & Salinas-Zeballos, M. E. Sleep–wakefulness, EEG and behavioral studies of chronic cats without the thalamus: The 'athalamic' cat. *Arch. Ital. Biol.* **110**, 383–411 (1972).
46. Steriade, M. Sleep, epilepsy and thalamic reticular inhibitory neurons. *Trends Neurosci.* **28**, 317–324 (2005).
47. Jego, S. *et al.* Optogenetic identification of a rapid eye movement sleep modulatory circuit in the hypothalamus. *Nat. Neurosci.* **16**, 1637–1643 (2013).

48. Konadhode, R. R. *et al.* Optogenetic stimulation of MCH neurons increases sleep. *J. Neurosci.* **33**, 10257–10263 (2013).
49. Luppi, P. H., Clement, O. & Fort, P. Paradoxical (REM) sleep genesis by the brainstem is under hypothalamic control. *Curr. Opin. Neurobiol.* **23**, 786–792 (2013).
50. Szymusiak, R., Gvilia, I. & McGinty, D. Hypothalamic control of sleep. *Sleep Med.* **8**, 291–301 (2007).
51. Siegel, J. M. *et al.* Neuronal activity in narcolepsy: identification of cataplexy-related cells in the medial medulla. *Science* **252**, 1315–1318 (1991).
52. John, J., Wu, M.-F., Boehmer, L. N. & Siegel, J. M. Cataplexy-active neurons in the posterior hypothalamus: implications for the role of histamine in sleep and waking behavior. *Neuron* **42**, 619–634 (2004).
53. Wu, M. F. *et al.* Locus coeruleus neurons: cessation of activity during cataplexy. *Neuroscience* **91**, 1389–1399 (1999).
54. Peyron, C. *et al.* Neurons containing hypocretin (orexin) project to multiple neuronal systems. *J. Neurosci.* **18**, 9996–10015 (1998).
55. Peyron, C. *et al.* A mutation in a case of early onset narcolepsy and a generalized absence of hypocretin peptides in human narcoleptic brains. *Nat. Med.* **6**, 991–997 (2000).
56. Thannickal, T. C. *et al.* Reduced number of hypocretin neurons in human narcolepsy. *Neuron* **27**, 469–474 (2000).
57. Schwarz, P. B., Mir, S. & Peever, J. H. Noradrenergic modulation of masseter muscle activity during natural rapid eye movement sleep requires glutamatergic signalling at the trigeminal motor nucleus. *J. Physiol.* **592**, 3597–3609 (2014).
58. Mileykovskiy, B. Y., Kiyashchenko, L. I., Kodama, T., Lai, Y. Y. & Siegel, J. M. Activation of pontine and medullary motor inhibitory regions reduces discharge in neurons located in the locus coeruleus and the anatomical equivalent of the midbrain locomotor region. *J. Neurosci.* **20**, 8551–8558 (2000).
59. Schenck, C. H. Rapid eye movement sleep behavior disorder: current knowledge and future directions. *Sleep Med.* **14**, 699–702 (2013).
60. Buysse, D. J. Insomnia. *JAMA* **309**, 706–716 (2013).
61. Donovan, L. M., Boeder, S., Malhotra, A. & Patel, S. R. New developments in the use of positive airway pressure for obstructive sleep apnea. *J. Thorac. Dis.* **7**, 1323–1342 (2015).
62. Hogl, B. & Comella, C. Therapeutic advances in restless legs syndrome (RLS). *Mov. Disord.* **30**, 1574–1579 (2015).
63. Thorpy, M. Update on therapy for narcolepsy. *Curr. Treat. Options Neurol.* **17**, 1–12 (2015).
64. John, J. *et al.* Greatly increased numbers of histamine cells in human narcolepsy with cataplexy. *Ann. Neurol.* **74**, 786–793 (2013).

65. Valko, P. O. *et al.* Increase of histaminergic tuberomammillary neurons in narcolepsy. *Ann. Neurol.* **74**, 794–804 (2013).