

June 15, 2021
Joshua J. Gooley, Ph.D.

Joshua J. Gooley, Ph.D.
8 College Road, Singapore 169857
(+65) 6516 7430
joshua.gooley@duke-nus.edu.sg

Education

2005 Ph.D. Neurobiology, Harvard Medical School, Boston, USA
2000 B.A. Neuroscience and Behavior, Wesleyan University, CT, USA

Academic and Research Positions

2020-present Associate Professor (Joint Appointment), Center for Sleep and Cognition
Yong Loo Lin School of Medicine, Singapore
2018-present Neuroscience Theme Lead, Institute for Applied Learning Sciences and
Educational Technology, National University of Singapore
2017-present Director of Research, SingHealth Duke-NUS Sleep Center
2016-present Associate Professor, Neuroscience and Behavioral Disorders
Center for Cognitive Neuroscience (2016-2019)
Principal Investigator, Chronobiology and Sleep Laboratory
Duke-NUS Medical School, Singapore
2013-2016 Assistant Professor (Joint Appointment), Department of Physiology
Yong Loo Lin School of Medicine, Singapore
2014-2017 Adjunct Senior Lecturer, School of Psychological Sciences
Biomedical & Psychological Sciences; Medicine, Nursing & Health Sciences
Monash University, Melbourne, Australia
2008-2016 Assistant Professor, Neuroscience and Behavioral Disorders
Principal Investigator, Chronobiology and Sleep Laboratory
Duke-NUS Graduate Medical School, Singapore
2008-2011 Associate Neuroscientist
Division of Sleep and Circadian Disorders
Brigham and Women's Hospital, Boston, MA, USA
2008-2015 Lecturer in Medicine, Harvard Medical School (Academic, part-time)
Lecturer, Division of Sleep and Circadian Disorders, Brigham and Women's
Hospital, Boston, MA, USA
2005-08 Research Fellow in Sleep Medicine
Harvard Medical School, Boston, MA, USA
2005-08 Research Fellow in Sleep Medicine, Division of Medicine
Brigham and Women's Hospital, Boston, MA, USA

Publications

Refereed original publications

1. Yeo SC, Lai CKY, Tan J, **Gooley JJ**. A targeted e-learning approach for keeping universities open during the COVID-19 pandemic while reducing student physical interactions. *PLoS One*. 2021;16(4):e0249839.
2. Selvalatchmanan J, Rukmini AV, Ji S, Triebel A, Gao L, Bendt AK, Wenk MR, **Gooley JJ***, Torta F*. Variability of lipids in human milk. *Co-corresponding authors. *Metabolites*. 2021;11(2):104.

June 15, 2021

Joshua J. Gooley, Ph.D.

3. Rukmini AV, Jos A, Yeo SC, Lee N, Mo D, Karamchedu S, **Gooley JJ**. Circadian regulation of breath alcohol concentration. *Sleep*. 2020; Dec 11:zsaa270. *Online ahead of print*.
4. Van Lee L, Chia A, Phua D, Colega M, Padmapriya, Bernard JY, Cai S, Tham EKH, Teoh OH, Goh D, **Gooley JJ**, Gluckman PD, Yap F, Shek LP, Godfrey KM, Tan KH, Chong YS, Mueller-Riemenschneider F, Broekman B, Meaney M, Chen H, Chong MF. Multiple modifiable lifestyle factors and the risk of perinatal depression during pregnancy: Findings from the GUSTO cohort. *Compr Psychiatry*. 2020;103:152210.
5. Lo JC, Leong R, Ng A, Azrin JS, Ong JL, Shohreh G, Lau TY, Chee N, **Gooley JJ**, Chee M. Cognitive effects of split and continuous sleep schedules in adolescents differ according to total sleep opportunity. *Sleep*. 2020;43(12):zsaa129.
6. Yeo SC, Tan J, Lo JC, Chee MWL, **Gooley JJ**. Associations of time spent on homework or studying with nocturnal sleep behavior and depression symptoms in adolescents from Singapore. *Sleep Health*. 2020;6(6):758-766.
7. Lee PY, Liu LH, Ho C, Ang AJF, Huang HX, Teoh OH, Tan KH, Lee YS, Yap F, **Gooley JJ**, Chan SY, Cai S. Antenatal sleep quality associates with perinatal outcomes in women of advanced maternal age. *Sleep Health*. 2020;6(1):60-64.
8. Grant LK, **Gooley JJ**, St Hilaire MA, Rajaratnam SMW, Brainard GC, Czeisler CA, Lockley SW, Rahman SA. Menstrual phase-dependent differences in neurobehavioral performance: The role of temperature, progesterone and the progesterone/estradiol ratio. *Sleep*. 2020;43(2):zsz227.
9. van Rijn E, Koh, SYJ, Ng ASC, Vinogradova K, Chee NIYN, Lee SM, Lo JC, **Gooley JJ**, Chee MWL. Evaluation of an interactive school-based sleep education program: A cluster-randomized controlled trial. *Sleep Health*. 2020;6(2):137-144.
10. St Hilaire MA, Kristal BS, Rahman SA, Sullivan JP, Quackenbush J, Duffy JF, Barger LK, **Gooley JJ**, Czeisler CA, Lockley SW. Using a single daytime performance test to identify most individuals at high-risk for performance impairment during extended wake. *Sci Rep*. 2019;9(1):16681.
11. Rahman SA, Grant LK, **Gooley JJ**, Rajaratnam SMW, Czeisler CA, Lockley SW. Endogenous circadian regulation of female reproductive hormones. *J Clin Endocrinol Metab*. 2019;5(3):257-265.
12. ECP Chua, Sullivan JP, Duffy JF, Klerman EB, Lockley SW, Kristal B, Czeisler CA, **Gooley JJ**. Classifying attentional vulnerability to total sleep deprivation using baseline features of Psychomotor Vigilance Test performance. *Sci Rep*. 2019;9(1):12102.
13. Tham EKH, Richmond J, **Gooley JJ**, Jafar NK, Chong YS, Yap F, Teoh OH, Goh DYT, Broekman BFP, Rifkin-Graboi A. Variations in habitual sleep and relational memory in 6-month-olds. *Sleep Health*. 2019;5(3):257-265.
14. Chang, AM, Duffy JF, Buxton OM, Lane JM, Aeschbach D, Anderson C, Bjornes AC, Cain SW, Cohen DA, Frayling TM, **Gooley JJ**, Jones SE, Klerman EB, Lockley SW, Munch M, Rajaratnam SMW, Rueger M, Santhi N, Scheuermaier K, Weedon MN, Van Reen E, Czeisler CA, Scheer FAJL, Saxena R. Chronotype genetic variant in *PER2* influences intrinsic circadian period in humans. *Sci Rep*. 2019;9(1):5350.
15. Rukmini AV, Chew MC, Finkelstein M, Atalay E, Baskaran M, Nongpiur ME, **Gooley JJ**, Aung T, Milea D, Najjar RP. Effects of low and moderate refractive errors on chromatic pupillometry. *Sci Rep*. 2019;9(1):4945.
16. Lo JC, Twan DCK, Karamchedu S, Lee XK, Ong JL, van Rijn E, **Gooley JJ***, Chee MWL*. Differential effects of split and continuous sleep on vigilance and glucose tolerance in sleep-restricted adolescents. *Sleep*. 2019;42(5):zsz037. *Co-corresponding authors.

June 15, 2021

Joshua J. Gooley, Ph.D.

17. St. Hilaire MA, Rahman SA, **Gooley JJ**, Witt-Enderby P, Lockley SW. Relationship between melatonin and bone resorption rhythms in premenopausal women. *J Bone Miner Metab.* 2019;37(1):60-71.
18. Yeo SC, Jos AM, Erwin C, Lee SM, Lee XK, Lo JC, Chee MWL, **Gooley JJ**. Associations of sleep duration on school nights with self-rated health, overweight, and depression symptoms in adolescents: Problems and possible solutions. *Sleep Medicine.* 2019;60:96-108.
19. Vidafar P, **Gooley JJ**, Burns AC, Rajaratnam SMW, Rueger M, Van Reen E, Czeisler CA, Lockley SW, Cain SW. Increased vulnerability to attentional failure during acute sleep deprivation in women depends on menstrual phase. *Sleep.* 2018; 41(8):zsy098.
20. Lo JC, Lee SM, Lee XK, Sasmita K, Chee NIYN, Tandi J, Cher WS, **Gooley JJ**, Chee MWL. Sustained benefits of delaying school start time on adolescent sleep and well-being. *Sleep.* 2018;41(6):zsy098.
21. Najjar R, Sharma S, Atalay E, Rukmini A, Sun C, Lock JZ, Baskaran M, Perera S, Husain R, Lamoureux E, **Gooley JJ**, Aung T, Milea D. Pupillary responses to full-field chromatic stimuli are reduced in patients with early-stage primary open-angle glaucoma. *Ophthalmology.* 2018;125(9):1362-1371.
22. Patanaik A, Ong JL, **Gooley JJ**, Ancoli-Israel S, Chee MWL. An end-to-end framework for real-time automatic sleep stage classification. *Sleep.* 2018;41(5):zsy041.
23. Chua ECP, Fang E, **Gooley JJ**. Effects of total sleep deprivation on divided attention performance. *PLoS One.* 2017;12(11):e0187098.
24. Rukmini AV, Najjar RP, Atalay E, Sharma S, Lock JZ, Baskaran M, Nongpiur M, **Gooley JJ**, Aung T, Milea D. Pupillary responses to light are not affected by narrow irido-corneal angles. *Sci Rep.* 2017;7:10190.
25. Ong JL, Lo JC, **Gooley JJ**, Chee MWL. EEG changes accompanying successive cycles of sleep restriction with and without naps in adolescents. *Sleep.* 2017;40(4):zsw030.
26. Rukmini AV, Milea D, Aung T, **Gooley JJ**. Pupillary responses to short-wavelength light are preserved in aging. *Sci Rep.* 2017;7:43832.
27. Lo JC, Lee SM, Teo LM, Lim J, **Gooley JJ**, Chee MW. Neurobehavioral impact of successive cycles of sleep restriction with and without naps in adolescents. *Sleep.* 2017;40(2):zsw042.
28. Cai S, Tan S, Gluckman PD, Godfrey KM, Saw SM, Teoh OH, Chong YS, Meaney MJ, Kramer MS, **Gooley JJ**. Sleep quality and nocturnal sleep duration in pregnancy and risk of gestational diabetes mellitus. *Sleep.* 2017;40(2):zsw058.
29. Bullock B, Murray G, Anderson JL, Cooper-O'Neill T, **Gooley JJ**, Cain SW, Lockley SW. Constraint is associated with earlier circadian phase and morningness: Confirmation of relationships between personality and circadian phase using a constant routine protocol. *Pers Individ Dif.* 2017;104:69-74.
30. Jafar K, Tham KH, **Gooley JJ**, Chong YS, Gluckman P, Yap KP, Meaney M, Zenghong DE, Lee YS, Teoh OH, Shek PC, Goh YT, Broekman B. The association between chronotype and sleep problems in preschool children. *Sleep Med.* 2017;30:240-244.
31. Hung SM, Milea DM, Vienot F, Tan JH, Rukmini DV, Dubail M, Tow SLC, Aung T, **Gooley JJ**, Hsieh PJ. Cerebral neural correlates of differential melanopic photic stimulation in humans. *Neuroimage.* 2017;146:763-769.
32. Loo JL, Singhal S, Rukmini AV, Tow S, Amati-Bonneau P, Procaccio V, Bonneau D, **Gooley JJ**, Reynier P, Ferre M, Milea D. Multiethnic involvement in autosomal dominant optic atrophy in Singapore. *Eye (Lond).* 2017;31(3):475-480.

June 15, 2021

Joshua J. Gooley, Ph.D.

33. Huang S, Deshpande A, Yeo SC, Lo JC, Chee MWL, **Gooley JJ**. Sleep restriction impairs vocabulary learning when students cram for an exam: The Need for Sleep Study. *Sleep*. 2016;39(9):1681-1690.
34. Chang AM, Bjornes A, Aeschbach D, Buxton OM, **Gooley JJ**, et al. Circadian gene variants influence sleep and the sleep electroencephalogram in humans. *Chronobiol Int*. 2016;33(5):561-573.
35. Ong JL, Lo JC, **Gooley JJ**, Chee MW. EEG changes across multiple nights of sleep restriction and recovery in adolescents: The Need for Sleep Study. *Sleep*. 2016;39(6):1233-1240.
36. Sharma S, Baskaran M, Rukmini AV, Nongpiur M, Htoon HM, Cheng CY, Perera SA, **Gooley JJ**, Aung T, Milea D. Factors influencing the pupillary light reflex in healthy individuals. *Graefes Arch Clin Exp Ophthalmol*. 2016;254(7):1353-1359.
37. Lane JM, Chang AM, Bjornes AC, Aeschbach D, Anderson C, Cade BE, Cain SW, Czeisler CA, Gharib SA, **Gooley JJ**, et al. Impact of common diabetes risk variant MTNR1B on sleep, circadian, and melatonin physiology. *Diabetes*. 2016;65(6):1741-1751.
38. Lo JC, Ong JL, Leong RL, **Gooley JJ**, Chee MW. Cognitive performance, sleepiness, and mood in partially sleep deprived adolescents: The Need for Sleep Study. *Sleep*. 2016;39(3):687-698.
39. Zhou Y, Aris IM, Tan SS, Cai S, Thway M, Krishnaswamy G, Meaney M, Godfrey KM, Kwek K, Gluckman PD, Chong YS, Yap FKP, Lek N, **Gooley JJ***, Lee YS*. Sleep duration and growth outcomes across the first 2 years of life: the GUSTO study. *Sleep Medicine*. 2015;16(10):1281-86. *Co-corresponding authors.
40. Chua ECP, Shui G, Cazenave-Gassiot A, Wenk MR, **Gooley JJ**. Changes in plasma lipids during exposure to total sleep deprivation. *Sleep*. 2015;38(11):1683-91.
41. Rukmini AV, Milea D, Baskaran M, How A, Perera S, Aung T, **Gooley JJ**. Pupillary responses to high-irradiance blue light correlate with glaucoma severity. *Ophthalmology*. 2015;122(9):1777-85.
42. Vujovic N, **Gooley JJ**, Zhou TC, Saper CB. Projections from the subparaventricular zone define four channels of output from the circadian timing system. *J Comp Neurol*. 2015;523(18):2714-37.
43. Patanaik A, Kwok CK, Chua ECP, **Gooley JJ**, Chee MW. Classifying vulnerability to sleep deprivation using baseline measures of psychomotor vigilance. *Sleep*. 2015;38(5):723-34.
44. Chua ECP, Yeo SC, Lee I, Tan LC, Lau P, Tan S, Ho Mien I, **Gooley JJ**. Individual differences in physiologic measures are stable across repeated exposures to total sleep deprivation. *Physiol Rep*. 2014;2(9):e12129.
45. Ho Mien I, Chua ECP, Lau P, Tan LC, Lee I, Yeo SC, Tan S, **Gooley JJ**. Effects of exposure to intermittent versus continuous red light on human circadian rhythms, melatonin suppression, and pupillary constriction. *PLoS One*. 2014;9(5):e96532.
46. Chua EC, Yeo SC, Lee I, Tan LC, Lau P, Cai S, Zhang X, Puvanendran K, **Gooley JJ**. Sustained attention performance during sleep deprivation associates with instability in behavior and physiologic measures at baseline. *Sleep*. 2014;37(1):27-39.
47. Chua EC, Shui G, Lee I, Lau P, Tan LC, Yeo SC, Lam BD, Bulchand S, Summers SA, Puvanendran K, Rozen SG, Wenk MR, **Gooley JJ**. Extensive diversity in circadian regulation of plasma lipids and evidence for different circadian metabolic phenotypes. *Proc Natl Acad Sci USA*. 2013;110(35):14468-73.
48. Lee Y, Chong MF, Liu JC, Libedinsky C, **Gooley JJ**, Chen S, Wu T, Tan V, Zhou M, Meaney MJ, Lee YS, Chee MW. Dietary disinhibition modulates neural valuation of food in fed and fasted states. *Am J Clin Nutr*. 2013;97(5):919-25.

June 15, 2021

Joshua J. Gooley, Ph.D.

49. Li LJ, Ikram MK, Broekman L, Cheung YL, Chen H, **Gooley JJ**, Soh SE, Gluckman P, Kwek K, Meaney M, Wong TY, Saw SM. Antenatal mental health and retinal vascular caliber in pregnant women: Growing Up in Singapore Towards Healthy Outcomes (GUSTO) study. *Transl Vis Sci Technol.* 2013;2(2):1-10.
50. Shekleton JA, Rajaratnam SM, **Gooley JJ**, Van Reen E, Czeisler CA, Lockley SW. Improved neurobehavioral performance during the wake maintenance zone. *J Clin Sleep Medicine.* 2013;9(4):252-62.
51. **Gooley JJ**, Ho Mien I, St. Hilaire MA, Yeo SC, Chua EC, Van Reen E, Hanley CJ, Hull JT, Czeisler CA, Lockley SW. Melanopsin and rod-cone photoreceptors play different roles in mediating pupillary light responses during exposure to continuous light in humans. *J Neurosci.* 2012;32(41):14242-53.
52. St. Hilaire MA, **Gooley JJ**, Khalsa SB, Kronauer RE, Czeisler CA, Lockley SW. Human phase response curve to a 1 h pulse of bright white light. *J Physiol.* 2012;590(Pt 13):3035-45.
53. Klerman H, St. Hilaire MA, Kronauer RE, **Gooley JJ**, Gronfier C, Hull JT, Lockley SW, Santhi N, Wang W, Klerman EB. Analysis method and experimental conditions affect computed circadian phase from melatonin data. *PLoS One.* 2012;7(4):e33836.
54. Chua EC, Tan WQ, Yeo SC, Lau P, Lee I, Mien IH, Puvanendran K, **Gooley JJ**. Heart rate variability can be used to estimate sleepiness-related decrements in psychomotor vigilance during total sleep deprivation. *Sleep.* 2012;35(3):325-34.
55. **Gooley JJ**, Chamberlain K, Smith KA, Khalsa SB, Rajaratnam SM, Van Reen E, Zeitzer JM, Czeisler CA, Lockley SW. Exposure to room light before bedtime suppresses melatonin onset and shortens melatonin duration in humans. *J Clin Endocrinol Metab.* 2011;96(3):E463-72.
56. **Gooley JJ**, Rajaratnam SM, Brainard GC, Kronauer RE, Czeisler CA, Lockley SW. Spectral responses of the human circadian system depend on the irradiance and duration of exposure to light. *Sci Transl Med.* 2010;2(31)31ra33.
57. Nosedá R, Kainz V, Jakubowski M, **Gooley JJ**, Saper CB, Digré K, Burstein R. A neural mechanism for exacerbation of headache by light. *Nat Neurosci.* 2010;13(2):239-45.
58. Zaidi FH, Hull JT, Peirson SN, Wulff K, Aeschbach D, **Gooley JJ**, Brainard GC, Gregory-Evans K, Rizzo III JF, Czeisler CA, Foster RG, Moseley MJ, Lockley SW. Short-wavelength light sensitivity of circadian, pupillary and visual awareness in blind humans lacking a functional outer retina. *Curr Biol.* 2007;17(24):2122-8.
59. **Gooley JJ**, Schomer A, Saper CB. The dorsomedial hypothalamic nucleus is critical for the expression of food-entrainable circadian rhythms. *Nat Neurosci.* 2006;9(3):398-407.
60. Lu C, Huang X, Ma HF, **Gooley JJ**, Aparacio J, Roof DJ, Chen C, Chen DF, Li T. Normal retinal development and retinofugal projections in mice lacking the specific variant of actin-binding LIM domain protein. *Neuroscience.* 2003;120(1):121-31.
61. Chou TC, Scammell TE, **Gooley JJ**, Gaus SE, Saper CB, Lu J. Critical role of the dorsomedial hypothalamic nucleus in a wide range of behavioral circadian rhythms. *J Neurosci.* 2003;23(33):10691-702.
62. **Gooley JJ**, Lu J, Fischer D, Saper CB. A broad role for melanopsin in nonvisual photoreception. *J Neurosci.* 2003;23(18):7093-106.
63. **Gooley JJ**, Lu J, Chou TC, Scammell TE, Saper CB. Melanopsin in cells of origin of the retinohypothalamic tract. *Nat Neurosci.* 2001;4(12):1165.

[Review articles, commentaries, and editorials](#)

June 15, 2021

Joshua J. Gooley, Ph.D.

1. Rukmini AV, Milea D, **Gooley JJ**. Chromatic pupillometry methods for assessing photoreceptor health in retinal and optic nerve diseases. *Front Neurol*. 2019;10:76. [Review Article].
2. **Gooley JJ**, Mohapatra L, Twan CK. The role of sleep duration and sleep disordered breathing in gestational diabetes mellitus. *Neurobiol Sleep Circadian Rhythms*. 2018;4:34-43. [Review article]
3. **Gooley JJ**. Light-induced resetting of circadian rhythms in humans. *Journal of Science and Technology in Lighting*. 2017;41:3-10. *First presented at the 15th International Symposium on the Science and Technology of Lighting (LS); LS:15 Proceedings. Illuminating Engineering Institute of Japan. May 22-27, 2016. [Review article]
4. **Gooley JJ**. Circadian regulation of lipid metabolism. *Proc Nutr Soc*. 2016;75(4):440-450. [Review article]
5. **Gooley JJ**. How much day-to-day variability in sleep timing is unhealthy? *Sleep*. 2016;39(2):269-270. [Commentary]
6. **Gooley JJ** and Chua ECP. Diurnal regulation of lipid metabolism and applications of circadian lipidomics. *J Genet Genomics*. 2014;41(5)231-250. [Review article]
7. **Gooley JJ**. Applications of circadian metabolomics. *Curr Metabolomics*. 2014;2:2-14. [Review article]
8. **Gooley JJ**. Good sleep and good health are natural bed partners. *Ann Acad Med Singapore*. 2014;43(3):134-135. [Editorial]
9. **Gooley JJ**. Treatment of circadian rhythm sleep disorders with light. *Ann Acad Med Singapore*. 2008;37(8):669-676. [Review article]
10. Saper CB, **Gooley JJ**. Is food-directed behavior an appropriate measure of circadian entrainment to restricted daytime feeding? *J Biol Rhythms*. 2007;22(6):479-483. [Commentary]
11. Czeisler CA, **Gooley JJ**. Sleep and circadian rhythms in humans. *Cold Spring Harb Symp Quant Biol*. 2007;72:579-597. [Review article]
12. Fuller PM, **Gooley JJ**, Saper CB. Neurobiology of the sleep-wake cycle: Sleep architecture, circadian regulation, and regulatory feedback. *J Biol Rhythms*. 2006;21(6):482-93. [Review article]
13. Lockley SW and **Gooley JJ**. Circadian photoreception: spotlight on the brain. *Curr Biol*. 2006;16(18):R795-7. [Commentary]
14. Saper CB, Lu J, Chou TC, **Gooley J**. The hypothalamic integrator for circadian rhythms. *Trends Neurosci*. 2005;28(3):152-7. [Review article]

Book chapters

1. **Gooley JJ**, Fuller PM, Saper CB. Anatomy of the mammalian circadian system. In: *Principles and Practice of Sleep Medicine*, 7th edition (Kryger, Roth, Dement, eds). Elsevier; *In press*.
2. **Gooley JJ**. Light resetting and entrainment of human circadian rhythms. In: *Biological Timekeeping: Clocks, Rhythms and Behavior* (Kumar, ed.). Springer; 2017. Pg. 297-313.
3. **Gooley JJ**. Jet Lag. In: *Sleep Medicine* (Mansfield, Naughton, Antic, Rajaratnam, eds). IP Communications; 2017. Pg 353-358.
4. **Gooley JJ** and Saper CB. Anatomy of the mammalian circadian system. In: *Principles and Practice of Sleep Medicine*, 6th edition (Kryger, Roth, Dement, eds). Elsevier; 2017. Pg. 343-350.
5. **Gooley JJ** and Saper CB. Anatomy of the mammalian circadian system. In: *Principles and Practice of Sleep Medicine*, 5th edition (Kryger, Roth, Dement, eds). Elsevier; 2011. pg. 376-389.

June 15, 2021

Joshua J. Gooley, Ph.D.

6. Wright, Jr., KP and **Gooley JJ**. Chronobiology mechanisms and circadian sleep disorders. In: Basics of Sleep Guide (Amlaner, Fuller, eds). Sleep Research Society; 2009. pg. 223-234.
7. **Gooley JJ** and Saper CB. Anatomy of the mammalian circadian system. In: Principles and Practice of Sleep Medicine, 4th edition (Kryger, Roth, Dement, eds). Elsevier; 2005. pg. 351-362.

Research support

1. A national study on adolescents' chronotype, sleep length, time-use on technology devices, sedentary activity, and physical activity. National Institute of Education, Office of Educational Research, Educational Research Funding Program (OER 11/20 JWCK). Jan 2021 – Jan 2023; \$509,400. Role: Co-PI.
2. Singapore Airlines-National University of Singapore Digital Aviation Corporate Laboratory. A*STAR Industry Alignment Fund Industry Collaboration Projects (I2001E0059). Oct 2020 – Sep 2025; \$14,322,600. Role: Co-I, Lead of sleep research projects under Work Package 4: Passenger Comfort, Sleep, and Cabin Service (\$3,769,500 from A*STAR).
3. Sleep problems and depression symptoms in NUS students; barriers to learning. NUS Institute for Applied Learning Sciences & Education Technology. Oct 2020 – Sep 2021; \$20,000 SGD. Role: PI.
4. Effects of chronotype and class start time on learning-related outcomes. Ministry of Education, Singapore (MOE2019-T2-2-074). Jul 2020 – Jun 2023; \$655,500 SGD. Role: PI.
5. Optimizing sleep and learning time to unlock learners' potential. National Research Foundation, Science of Learning (NRF2016-SOL002-001). Nov 2017 – Oct 2022; \$5,603,923.20 SGD. Role: co-PI (co-author of proposal, \$1.1 million in direct research costs for projects on sleep-related strategies for improving learning).
6. Let's put a deadline on improving students' sleep. The Behavioral Insights Team, Singapore. Jul 2019 – Jun 2020: £60,000 (cancelled due to COVID-19). Role: co-PI.
7. Combined effects of sleep loss and alcohol on nighttime driving performance. Ministry of Education, Singapore (MOE2015-T2-2-077). Sep 2016 – Aug 2019; \$645,868 SGD. Role: PI.
8. A frontier in learning science educational research across two nations – Learning to Learn Better (L2LB). Universite Sorbonne Paris Cite (USPC)-National University of Singapore (NUS) Joint Innovative Projects in Higher Education. Jul 2018 – Jun 2019; \$23,925 SGD & \$14,500 Euros. Role: co-PI.
9. Development of an improved psychometric test battery for fatigue detection. Defence Science & Technology Agency, Republic of Singapore Air Force (PA/9016104043). Mar 2017 – Mar 2019; \$686,022 SGD. Role: PI.
10. Improving sleep behavior and well-being in medical students. Academic Medicine Education Institute, Duke-NUS SingHealth (EING 1707). Feb 2017 – Mar 2018; \$14,968 SGD. Role: PI.
11. The Singapore Colour Pupillometry Evaluation (SCOPE): A novel detection test for glaucoma. National Medical Research Council, Singapore; Individual Research Grant (NMRC/CIRG/1401/2014). Feb 2015 – Feb 2018; PI: Dan Milea; \$1,035,050 SGD (Direct costs). Role: Co-I.
12. Navy shift work study. Defence Science & Technology Agency, Republic of Singapore Navy (PA/9016102471). Jul 2016 – Jun 2017; \$277,032 SGD. Role: PI.

June 15, 2021

Joshua J. Gooley, Ph.D.

13. A novel pupillometry-based device for evaluating visual function in ophthalmic diseases. Singapore National Eye Center Ophthalmic Technologies Incubator Program (R1354/40/2016) & the Duke-NUS Center for Technology and Commercial Development Award (CTeD-CD/2016/0001). Sep 2016 – Aug 2017; \$100,000 SGD. Role: Collaborator (co-designed study and co-authored proposal).
14. Evaluation of the efficacy of the Fatigue Avoidance Scheduling Tool (FAST) in improving the submarine work-rest cycle. Defence Science & Technology Agency, Republic of Singapore Navy (PA/9015102650). Dec 2015 – May 2017 (1-year extension); \$80,448 SGD. Role: PI.
15. Model for predicting impaired driving performance. Defense Science Organization National Laboratories (DSOCL15007). Jun 2015 – Dec 2016; \$97,650 SGD. Role: PI.
16. Sleeping your way to the top: better learning outcomes through improving adolescent sleep and time management. National Research Foundation, Singapore (NRF2015-SOL001-004). Dec 2015 – Nov 2016; \$99,600 SGD. Role: Co-PI.
17. Chronobiological effects of blocking blue light – the BLUES study. Essilor, through a subcontract with the Singapore Eye Research Institute. May 2014 – Dec 2015; PI: Dan Milea; \$164,057 SGD. Role: Site PI.
18. Project Lightbeam: Testing blue-enriched white light as an intervention for improving alertness and performance. Defense Science Technology Agency, Singapore (PA/9B12100786). Jul 2012 – Jan 2015; \$714,048 SGD. Role: PI.
19. Development of a novel test for assessing photoreceptor dysfunction in patients with glaucoma using the pupillary light reflex. Singapore National Eye Center Health Research Endowment Fund (R1005/20/2013). Jul 2013 – Jun 2014; \$19,971 SGD. Role: Collaborator (designed the study & primary author of the proposal).
20. Development of an algorithm for predicting which individuals are highly vulnerable versus highly resilient to the effects of sleep loss on performance. Defense Advanced Research Projects Agency, USA (N66001-13-C-4035). Aug 2013 – May 2014; \$300,000 USD. Role: Co-PI.
21. Identifying the neural and cognitive mechanisms that may predict risk for the development of obesity. Singapore Institute of Clinical Sciences (SICS-10/1/2/001). Oct 2010 – Sep 2013; \$750,000 SGD. Role: Co-I.
22. Development of a clinical method for measuring internal body time: a novel approach to improve chronotherapy and for diagnosis of circadian sleep disorders. SingHealth Foundation, Singapore (FG410P/2009). Apr 2010 – Mar 2012; \$199,951 SGD. Role: Co-PI (designed the study & primary author of the proposal).
23. Improving the efficacy of light therapy: A comparative study to determine whether exposure to intermittent light enhances circadian, neuroendocrine, and alerting responses relative to exposure to continuous light. National Medical Research Council, Singapore; New Investigator Grant (NIG/1000/2009). Jan 2010 – Dec 2011; \$159,000 SGD. Role: PI.
24. Characteristics of light exposure necessary for development of optimal countermeasures to facilitate circadian adaptation and enhance alertness and cognitive performance in space. National Space Biomedical Research Institute Human Performance Factors (HPF01301). Oct 2007 – Sep 2011; \$1,260,000 USD. Role: co-I.
25. Training Program in Sleep, Circadian, and Respiratory Neurobiology. National Institutes of Health T32-HL07901. Nov 2005 – Oct 2007; PI: Charles A. Czeisler; \$73,144 USD. Role: Post-doctoral Research Fellow (Salary and training support).
26. Characterization of cells in the retina that contain melanopsin. Ruth L. Kirschstein National Research Service Award (F31-MH067413). Sep 2002 – Sep 2005; \$85,818 USD. Role: PI (Pre-doctoral research fellow salary and training support).

June 15, 2021

Joshua J. Gooley, Ph.D.

27. Training Program in Sleep, Circadian, and Respiratory Neurobiology. National Institutes of Health T32-HL07901. Sep 2000 – Sep 2002; PI: Charles A. Czeisler; \$72,000 USD. Role: Pre-doctoral Research Fellow (Salary and training support).

Research Fellows and graduate students

Postdoctoral fellows

- 2020-21 Li Cheng, Ph.D., Program in Neuroscience and Behavioral Disorders, Duke-NUS Medical School
- 2018-present A.V. Rukmini, Ph.D., Program in Neuroscience and Behavioral Disorders, Duke-NUS Medical School
- 2014-15 Huang Sha, Ph.D., Program in Neuroscience and Behavioral Disorders, Duke-NUS Medical School
- 2009-14 Chern Pin Chua, Ph.D., Program in Neuroscience and Behavioral Disorders, Duke-NUS Medical School

Ph.D. students

- 2021-present Rachel Seng Charoenthammanon, Ph.D. candidate, Program in Integrated Biology and Medicine, Duke-NUS Medical School
- 2019-present Loke Yng Miin, Ph.D. candidate, Program in Integrated Biology and Medicine, Duke-NUS Medical School.
- 2018-present Sing Chen Yeo, Ph.D. candidate, Program in Integrated Biology and Medicine, Duke-NUS Medical School.
- 2013-16 A.V. Rukmini, Ph.D. student, Program in Integrated Biology and Medicine, Duke-NUS Medical School. “Assessment of photoreceptor function using the pupillary light reflex”. Recipient of the 2017 Wang Gungwu Medal and Prize for “Best PhD thesis in the natural sciences”, National University of Singapore
- 2009-13 Ivan Ho, NUS Graduate School for Integrative Sciences & Engineering. “Human circadian rhythm modulation and its effect on physiological and behavioral responses”.

Masters students

- 2012-2015 Ivan Lee, Masters Student, Dept. of Psychology, National University of Singapore. “The combined effects of a moderate dose of alcohol and partial sleep loss on simulated driving performance and cognition”.

Medical students with thesis

- 2020-21 Derek Chao Kuan Twan, Scholarly Development Project, Duke-NUS Medical School. “Diabetogenic MTNR1B allele and GDM risk – interaction with sleep”.
- 2013-14 Zhou Yi, 3rd year MD student, Duke-NUS Graduate Medical School. “Association between sleep duration and growth outcomes across the first 2 years”.
- 2011-12 Sara Shuhui Tan, 3rd year MD student, Duke-NUS Graduate Medical School. “The effects of poor quality sleep and short sleep duration on cardiometabolic function and pregnancy outcomes in pregnant women”.

June 15, 2021
Joshua J. Gooley, Ph.D.

Professional service

Editorial board (peer-reviewed journals)

2018-present Member, Neurobiology of Sleep and Circadian Rhythms

2019-present Member, Sleep Health

2020-present Associate Editor, Sleep Advances

Ad-hoc reviewer

Journal of Comparative Neurology; Journal of Biological Rhythms; Annals Academy of Medicine Singapore; Behavioral Sleep Medicine; Journal of Neuroscience; Proceedings of the National Academy of Sciences USA; Physiology and Behavior; Neurology Asia; Sleep; Journal of Sleep Research; PLoS One; Journal of Light & Visual Environment; Sleep Health; Frontiers Neurology; Neuroscience and Biobehavioral Reviews

Grant reviewer

Duke-NUS Graduate Medical School Khoo Discovery Project Award; United States Army Medical Research and Materiel Command; Human Frontier Science Program; Israel Science Foundation Individual Research Grant; Sleep Research Society Foundation Career Development Award; Swiss National Science Foundation Ambizione Grant; United Kingdom Medical Research Council; National Medical Research Council, Singapore, Healthy Longevity Catalyst Award; National Institute of Education, Education Research Funding Program, Singapore; Ministry of Education Tertiary Research Fund, Singapore (NUS internal reviewer); Ministry of Education Academic Research Fund, Tier2 (NUS internal reviewer)