BIOGRAPHICAL SKETCH

NAME: Kenneth P. Wright Jr., PhD

eRA COMMONS USER NAME (credential, e.g., agency login): kennethwright

POSITION TITLE: Professor of Distinction

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
University of Arizona, Tucson Az	B.A.	05/1990	Psychology
Bowling Green State Univ. Bowling Green, OH	M.A.	05/1994	Psychology/Behavioral Neuroscience
Bowling Green State Univ. Bowling Green, OH	Ph.D.	05/1996	Psychology/Behavioral Neuroscience
Bowling Green State Univ. Bowling Green, OH	Postdoc	07/1997	Sleep and Circadian Rhythms
Harvard Medical School, Boston, MA	Postdoc	07/2000	Sleep and Circadian Medicine

A. Personal Statement

I have over 25 years of experience in the sleep and circadian fields, have led individual and multicenter/team research grants, participated in multicenter clinical trials, and participated on five T32s (one as PI/PD) and one diversity R25 as PI/PD. My research program is primarily aimed at understanding the physiology of sleep and circadian rhythms in humans and the health and safety consequences of sleep and circadian disruption—such as, cardiometabolic dysregulation and impaired cognitive function. A component of my research is designed to develop biomarkers for sleep and circadian disruption and their consequences. My research also explores strategies to promote sleep, enhance alertness and maintain health and safety when sleep and circadian rhythms are challenged (e.g., shift workers), as well as treatment strategies for patients with circadian rhythm disorders (e.g., Aging, Shift Work Disorder, Delay Sleep wake Phase Disorder, Jet Lag Disorder).

I have served in leadership, consulting, and advisory roles for government, professional, community, and commercial stakeholders. I currently serve on the NIH-National Heart, Lung, and Blood Institute (NHLBI) Board of External Experts to NHLBI Advisory Council, on the Governmental Affairs Committee of the Society for Research on Biological Rhythms (SRBR), and as Chair of the American Academy of Sleep Medicine (AASM) Clinical Practice Guideline for the Treatment of Adults with Shift Work Disorder and Jet Lag Disorder Workgroup. I have served on the NIH Sleep Disorders Research Advisory Board (SDRAB) of the NIH, and as co-chair of the Chronomedicine: Applying Circadian Biology Discovery to Heart, Lung and Blood Therapeutics NHLBI Workshop.

Ongoing and recently completed projects that I would like to highlight include:

R56 HL165343 / R01 HL165343
Wright (PI)
09/20/22 - 08/31/27
Biomarkers for Peripheral Circadian Clocks in Humans

R01 HL159647
Wright (MPI)
08/15/2023 - 07/31/2028
Pathophysiology of Circadian Rhythm Delayed Sleep Wake Phase Disorder

T32 HL149646
Wright (PI/PD)
03/1/20 - 02/28/25
Transdisciplinary Training in Sleep and Circadian Rhythms

R25 NS125603
Wright (PI/PD)
02/15/2023 - 01/31/2028
Multi-Institutional Summer Undergraduate Research Program to Promote Diversity and Excellence in Sleep and Circadian Research Careers

Positions and Scientific Appointments

2023 -	Member, NIH/NHLBI Board of External Experts (BEE) to NHLBI Advisory Council
2023 -	Grant Reviewer/member, NHLBI Institutional Training Mechanism Study Section (NITM), Heart, Lung, and Blood Initial Review Group (HLB)
2023	Expert witness – Impact of Artificial Light on Human Health, House of Lords Science and Technology Committee – UK Parliament
2023	Session Chair, Chrononutrition: Elucidating the Role of Circadian Biology and Meal Timing in Cardiometabolic Health. National Heart, Lung, and Blood Institute (NHLBI) Virtual Workshop
2022 -	Data and Safety Monitoring Board (DSMB) for the Nutritional Interventions Planning Projects NIH - National Institute on Aging (NIA)
2022 -	Grant Reviewer, NIH LRP Review Group (NHLBI)
2021	Co-Chair, Chronomedicine: Applying Circadian Biology Discovery to Heart, Lung and Blood Therapeutics. National Heart, Lung, and Blood Institute (NHLBI) Virtual Workshop
2021 -	Assoc Chair of Graduate Affairs, Dept Integrative Physiology, Univ of Colorado Boulder, CO
2020	Chair, NIH Special Emphasis Panel/Scientific Review Group ZHL1 CSR-Z (M2) 1
2019 -	Professor of Distinction, Dept of Integrative Physiology, Univ of Colorado Boulder, CO
2019 -	Chair, American Academy of Sleep Medicine Clinical Practice Guideline for the Treatment of Adults with Shift Work Disorder (SWD) and Jet Lag Disorder (JLD) Workgroup
2019	Grant Reviewer, NIH Special Emphasis Panel/Scientific Review Group ZRG1 BBBP-J 52
2019	Grant Reviewer, The Indo-U.S. Science and Technology Forum, India
2019	Grant Reviewer, Diabetes Fonds, The Netherlands
2019	Grant Reviewer, Wellcome Trust, United Kingdom
2018, 20	Grant Reviewer, Temporary Member, NIH CIDO study section (Feb, Oct 2018; Oct 2020)
2017	Grant Reviewer, The Royal Society, United Kingdom
2016 - 2020	Board of Directors, Sleep Research Society
2016	Grant Reviewer, NIH Special Emphasis Panel/Scientific Review Group ZRG1 BCMB-A
2016 - 2022	Editorial Board, Neurobiology of Sleep and Circadian Rhythms
2015 - 2018	Member, Sleep Disorders Research Advisory Board (SDRAB) of the NIH/NHLBI
2015	Invited participant NIDDK Workshop-Impacts of Sleep and Circadian Disruption on Energy Balance and Diabetes
2015 -	Professor Div Endocrin, Metab. Diab. CU-Anschutz Medical Campus, Aurora, CO
2015 - 2019	Professor, Department of Integrative Physiology, Univ of Colorado Boulder, CO
2014 -	Editorial Board, Journal of Biological Rhythms
2014	Grant Reviewer, Biomedicine & F.I.R.S.T. Program Israel Science Foundation
2014	Grant Reviewer, Temporary Member, NIH ZRG1 IFCN-C
2013, 18, 19	Grant Reviewer, National Science Centre, Poland
2013, 14, 16, 17	Grant Reviewer, Fund for Scientific Research, la Fédération Wallonie-Bruxelles, Belgium
2013	Grant Reviewer, NIH/NIA Special Emphasis Panel: Circadian Clocks and Aging ZAG1 ZIJ-5
2012	Grant Reviewer, Swiss National Science Foundation
2012	Chair, NIH Special Emphasis Panel/Scientific Review Group ZRG1 BBBP-L
2012	Grant Reviewer, Temporary Member, NIH EMNR study section
2011, 12	Grant Reviewer, Temporary Member, NIH ZRG1 BBBP-L Sleep and Social Environment
2011 - 2013	Member: “Circadian Rhythm Disorders” International Classification of Sleep Disorders Revision 3 (ICSD-3) Workgroup. American Academy of Sleep Medicine
2010	Grant Reviewer, Canadian Institutes of Health Research
2010	Grant Reviewer, National Science Foundation
2010, 17, 21-22	Grant Reviewer, United Kingdom Biotechnology and Biological Sciences Research Council
2010	Workgroup Member, Lighting the International Space Station (ISS) NASA
2009 - 2015	Adjunct Assoc. Prof, Div Endocrin, Metab. Diab. CU-Anschutz Medical Campus, Aurora, CO

2009 - 2015	Associate Professor, Department of Integrative Physiology, Univ of Colorado Boulder, CO
2009, 12	Grant Reviewer, Technology Foundation of The Netherlands
2009	Grant Reviewer, Australian Antarctic Division
2009	Participant Aircraft Noise Impacts Research Roadmap Workshop, FAA
2008, 11	Grant Reviewer, The Royal Society of New Zealand
2008 - 2016	Member Program Committee, Associated Professional Sleep Societies (Chair 2014-2016)
2008 - 2009	Guest Editor Sleep Medicine Clinics: Basics of Circadian Bio & Circadian Rhythm Sleep Dis.
2007, 2010	Grant Reviewer, J. Christian Gillin, M.D., Research Grant Program, Sleep Research Society
2007 - 2009	Circadian Rhythms Section Head – Sleep Research Society
2007 - 2009	Member, Sleep Research Society, Committee on Committees
2007 - 2022	Editorial Board, SLEEP (2013-2022 Associate Editor)
2007 - 2008	Member, Sleep Research Society Presidential Task Force on Research Funding
2006 - 2007	Grant Reviewer, Air Force Office for Scientific Review (AFOSR)
2006, 11,12	Grant Reviewer, United Kingdom Medical Research Council (MRC)
2006 - 2008	Trainee Organizing Committee Chair – Society for Research on Biological Rhythms
2006 - 2007	Scientific Committee & Co-Chair Trainee Comm– World Fed Sleep Res and Sleep Med Soc
2006 - 2007	Member: “Therapy of Circadian Sleep Disorders Task Force” American Academy Sleep Med
2006 - 2007	Grant Reviewer, Temporary Member, National Institute of Health (NIH) PRDP study section.
2006,07,09-11	Grant Reviewer, Temporary Member, National Institute of Health (NIH) MESH Study Section.
2005 -	Co-Chair (2008-), Institutional Review Board (IRB)-Biomedical Panel, Univ. of Colorado
2004 - 2007	Editor, Sleep Research Society Bulletin; Vice Chair Publications Committee.
2003 - 2004	Society for Research on Biological Rhythms ad hoc Trainee Program Organizing Committee
2002 - 2009	Assistant Professor, Dept of Integrative Physiology, Univ. of Colorado, Boulder, CO
2002 -	Director, Sleep & Chronobiology Lab, Dept Integrative Physiology, Univ. of Colorado
2002 -	Member Center for Neuroscience, University of Colorado Boulder, CO
2001	Grant Reviewer, National Institute of Health (NIH) SBIR Study Section, NIH IFCN 8-10
2001	Grant Reviewer, Special Emphasis Panel, NIH/NIOSH
2000 - 2002	Instructor in Medicine, Endocrinology & Sleep Medicine Divisions, Harvard Medical School
2000 - 2002	Associate Neuroscientist, Circadian, Neuroendocrine and Sleep Disorders Section, Div of Endocrinology, and Division of Sleep Medicine Brigham and Women’s Hospital, Boston, MA
1998 - 2000	Association for Professional Sleep Societies Trainee Program Organizing Committee
1999 - 2002	Editor; Trainee Manual in Sleep Research; APSS http://www.hms.harvard.edu/sleep/tmanual
1995-06,10	Grant Reviewer, Australian Research Council (ARC) 95, 96, 97, 99, 00, 04, 06, 10
1990 - 1991	Res. Assist. Psychoneurophysiology Lab, Psychology Dept, Univ of Arizona,Tucson, AZ
1989 - 1991	Res. Assist. Sleep and Cognition Unit, Psychology Dept, Univ of Arizona, Tucson, Az

Honors

2022	Mary A. Carskadon Outstanding Educator Award, Sleep Research Society
2021	Top 1% of its academic field, Essential Science Indicators Highly cited papers Curr Biol
2019	Integrative Physiology Faculty Excellence in Research – University of Colorado Boulder
2019	Professor of Distinction–University of Colorado Boulder
2018	Boulder Faculty Assembly Excellence in Research, Scholarly and Creative Work
2016	Top 1% of Clinical Medicine (2 papers), Top 1% of Neuroscience and Behavior (1 paper) Essential Science Indicators Highly cited papers as of Nov/Dec 2015
2015	*Science*—Insights/Perspective Article September 2015
2013, 17, 19	Current Biology - Most Frequently Read Articles
2013	Provost's Faculty Achievement Award
2011	Journal of Physiology - Top Three Most Frequently Read Articles
2007	Marius Smith Award, University of Colorado Parents Association
2007, 20	Distinguished Service Award, Sleep Research Society
2005	J. Christian Gillin, M.D. Research Award, Sleep Research Society Foundation
2003	Young Investigator, William C. Dement Sleep & Chronobiology Apprenticeship-Brown Univ
2002	Science—Physiology News Focus Article July 2002
2002	Am J Physiology-Top Ten Most Frequently Read Articles and Editorial Focus Article
2000	Young Investigator Award of American Academy of Sleep Medicine – Honorable mention

1999 - 2001	Fellowship Clinical & Community Health Res., Med Found Harold Whitworth Pierce Trust
1998 - 2000	Distinction in Teaching; Derek Bok Center for Teaching and Learning, Harvard University
1997 - 1999	National Institutes of Health National Research Service Award
1996	Charles E. Shanklin Award for Research Excellence of the Bowling Green State University
1993	Sigma Xi Graduate Student Excellence in Res Competition Award (Second Place) BGSU
1992 -97,99	Sleep Research Society/Am Sleep Disorders Assoc. Travel Fellowship for Res Excellence
1991	National Science Foundation Graduate Research Fellowship - Honorable mention

C. Contributions to Science

My research has contributed to our understanding of the physiology of sleep and circadian rhythms in humans, explaining the health and safety consequences of sleep deficiency loss and circadian misalignment, and applying knowledge gained to improve public health and safety. This research effort has resulted in over 140 peer-reviewed publications. Citations provided for each contribution have been selected to demonstrate my *sustained impact* on the field as well as *new contributions.*

Cardiometabolic Consequences of Sleep Loss and Circadian Misalignment. Insufficient sleep is an independent risk factor for obesity and diabetes, yet the physiological and behavioral mechanisms underlying this risk are largely unknown. As PI, I developed a transdisciplinary component of my research program that combines my expertise with that of colleagues in obesity, diabetes, cardiovascular and omics research. Our overall aims are to improve understanding of how sleep and the circadian clock influence metabolism and vascular health, and to determine how sleep and circadian disruption contribute to cardiometabolic disorders such as obesity, diabetes and heart disease. Our findings demonstrate insufficient sleep increased 24-hour energy expenditure and that during insufficient sleep schedules, food intake increased, especially at night. Eating at night is reported in the epidemiological literature to be a risk factor for weight gain, and our results provide experimental evidence in support of such findings. Thus, increased food intake during insufficient sleep schedules appears to be a physiological adaptation to provide the body with the energy needed to be awake longer. However, in the modern obesogenic environment of readily accessible food, weight gain occurs because food intake is more than necessary to offset the energy demands of sleep loss. We further demonstrated that weekend recovery sleep is not an effective strategy to maintain metabolic health. We have also examined how circadian misalignment, such as is common in shift work, contributes to weight gain and changes in the human proteome that may mechanistically contribute to cardiometabolic dysregulation and risk of other age-related disorders such as Alzheimer's Disease, and cancer.

a. Markwald RR, Melanson EL, Smith MR, Higgins J, Perreault L, Eckel RH, Wright KP Jr. Impact of insufficient sleep on total daily energy expenditure, food intake and weight gain. ***Proc. Natl. Acad. Sci. USA.*** 2013. 110(14):5695-700. PMID 23479616.
b. McHill AW, Melanson EL, Higgins J, Connick E, Moehlman TM, Stothard ER, Wright KP Jr. Impact of Circadian Misalignment on Energy Metabolism During Simulated Nightshift Work. ***Proc. Natl. Acad. Sci. USA.*** 2014; 111:17302-7. PMID: 25404342.
c. Depner CM, Melanson EL, McHill AW, Wright KP Jr. Mistimed food intake and sleep alters 24 hour time-of-day patterns of the human plasma proteome. ***Proc. Natl. Acad. Sci. USA.*** 2018;115:E5390-E5399.
d. Depner CM, Melanson EL, Eckel RH, Snell-Bergeon JK, Perreault L, Bergman BC, Higgins JA, Guerin MK, Stothard ER, Morton SJ, Wright KP Jr. Ad libitum Weekend Recovery Sleep Fails to Prevent Metabolic Dysregulation during a Repeating Pattern of Insufficient Sleep and Weekend Recovery Sleep. **Curr Biol**. 2019; 29(6):957-967.e4. PMID: 30827911

Entrainment and Phase Shifting the Human Circadian Clock. The internal clock coordinates much of our physiology and behavior including when we eat, when we perform at our best, and when we sleep. Effective resetting of the internal circadian clock is necessary for adaptation to jet lag, for treatment of circadian rhythm disorders, and for maintaining optimal sleep and circadian timing relative to work and school demands. Later bedtimes are associated with morning sleepiness, greater difficulties at work and school, and increased risk for some health problems such as mood disorders and obesity. I have conducted a series of studies designed to understand basic principles of human circadian physiology and contributing factors to late sleep timing (e.g., circadian period, phase resetting with light, entrainment to modern light exposure patterns versus the natural light-dark cycle) and developing treatment strategies circadian rhythm disorders and late sleep timing.

a. Wright KP Jr., Czeisler CA. Absence of Circadian Phase Resetting in Response to Bright Light Behind the Knees. ***Science*.** 2002; 297:571. PMCID: 12142528.

b. Wright KP Jr, McHill AW, Birks BR, Griffin BR, Rusterholz T, Chinoy ED. Entrainment of the human circadian clock to the natural light-dark cycle. ***Curr. Biol.*** 2013;23:1554-8. PMID: 23910656
c. Burke TM, Markwald RR, McHill AW, Chinoy ED, Snider JA, Bessman SC, Jung CM, O'Neill JO*, Wright KP Jr.* Effects of caffeine on the human circadian clock in vivo and in vitro. ***Science Transl. Med.*** 2015. 7(305):305ra146. *co-corresponding authors. PMID: 26378246
d. Stothard ER, McHill AW, Depner CM, Birks BR, Moehlman TM, Ritchie HK, Guzzetti JR, Chinoy ED, LeBourgeois MK, Axelsson J, Wright KP Jr. Circadian Entrainment to the Natural Light-Dark Cycle Across Seasons and the Weekend. ***Curr. Biol.*** 2017; 27; 1-6. PMID: 28162893.

Neurocognitive Consequences and Impaired Brain Function due to Sleep Loss and Circadian Misalignment. My research to understand the influence of sleep loss and circadian misalignment on neurocognitive function and to assess the efficacy, effectiveness and safety of countermeasures to promote sleep and wakefulness has resulted in the following key findings: a) cognitive impairments associated with awakening from sleep are more severe than those in response to total sleep deprivation. This finding has important implications for individuals such as physicians, fire fighters, paramedics, security and military personnel whom are all required to perform immediately upon awakening from sleep; b) sleep inertia, time awake and circadian phase interact to modulate cognition; c) melatonin agonists improve daytime sleep, including in patients with jet lag disorder; d) modafinil improve wakefulness at night, including in patients with shift work disorder; e) sleep medication use during space flight is high in astronauts, yet does not result in sufficient sleep, thus more effective countermeasures are needed; f) caffeine improves performance at night but disturbs subsequent daytime sleep with implications for shift workers; g) the most commonly used sleep medication worldwide—zolpidem—improves sleep but impairs walking stability in older adults and cognition, especially in younger adults.

a. Czeisler CA, Walsh JK, Roth T, Hughes RJ, Wright KP Jr. Kingbury L, Arora S, Schwartz JRL, Niebler GE, Dinges DF. Modafinil for Excessive Sleepiness Associated With Shift Work Sleep Disorder. ***New Engl. J. Med.*** 2005; 353:476-486. PMCID: 16079371
b. Wertz AT, Ronda JM, Czeisler, CA, Wright KP Jr. The Influence of Sleep Inertia on Cognition. ***JAMA***, 2006; 295:163-164. PMCID: 16403927
c. Wright KP Jr, Linton SK, Withrow D, Casiraghi L, Lanza SM, Iglesia H, Vetter C, Depner CM. Sleep in university students prior to and during COVID-19 Stay-at-Home orders. **Curr Biol.** 2020 30(14):R797-R798. PMID: 32693068
d. McHill AW, Wright KP Jr. Cognitive Impairments during the Transition to Working at Night and on Subsequent Night Shifts. **J Biol Rhythms**. 2019 Aug;34(4):432-446. doi: 10.1177/0748730419848552. Epub 2019 May 9. PMID: 31072264

Complete List of Published Work in MyBibliography:
http://www.ncbi.nlm.nih.gov/myncbi/browse/collection/41150600/?sort=date&direction=ascending